ADDENDUM #1

    1.1   PROJECT INFORMATION

       A.   Request for Proposal: Parking Access and Revenue Control System (PARCS) Replacement Project

       B.   Owner: Capital City Development Corporation

       C.   Date of Addendum: October 8, 2024

    1.2   NOTICE TO RESPONDENTS

       A.   This Addendum is issued pursuant to the Conditions of the Contract. This addendum serves to clarify, revise, and supersede information in the Request for Proposal. Portions of the Addendum affecting the Contract Documents will be incorporated in the Contract by enumeration of the Addendum in the Owner/Constructor Agreement.

       B.   The Respondent shall acknowledge receipt of this Addendum in the appropriate space on the Proposal Form.

       C.   The date for receipt of proposals is unchanged by this Addendum, at same time and location.

          1.   Proposal Due Date: October 21, 2024 by 3:00 pm

    1.3   REVISIONS TO ATTACHMENT A FUNCTIONAL SPECIFICATIONS

          1.   **DELETE** Functional Specifications in its entirety and replace with attached, revised, track changes version dated 10.8.2024. The modified sections are outlined below:

        Modified Sections in Specifications:

        Section 1.01.C
          -   **Removed the following language:** Substantial completion of construction shall be completed within the same amount of calendar days

        Section 1.04:
          -   **Added language:** Provide integration and hardware for the BikeBOI secured area in 9th and Main and <u>11th and Front.</u>

        Section 1.05:
          -   **Removed the following language due to vendors providing switches:** Vendor to also provide product data or requirements for switches.

Section 1.08:

- **Revised numbers for existing conditions to include BikeBoi locations:**

Deck Name / Access Point	Lanes			BikeBOI	User Type per Access Point			Payment Machines		
	# of Entry Lanes	# of Exit Lanes	# of Reverisble Lanes	BikeBOI Entrance	Visitors	Monthly	Hotel	Credit Card	Cash	CC + Cash
9th & Main										
Idaho Street or Main Street	1	0	0	-	x	x		1	-	3
Idaho Street or 9th Street	0	2	0	-	x	x				
Nested Area	3	3	0	-		x		-	-	-
BikeBOI	-	-	-	1		x		-	-	-
9th & Front										
Front Street	0	1	0	-	x	x		2	-	2
9th Street	1	0	1	-	x	x				
10th & Front										
Grove Street	0	2	0	-	x	x		-	-	1
10th Street	1	0	0	-	x	x	x			
11th & Front										
US-26	2	0	0	-	x	x	x	-	-	2
11th Street Alley Way	1	1	0	-	x	x	x			
Hilton Garden Inn Alley Way	1	1	0	-	x	x	x			
BikeBOI	-	-	-	1		x		-	-	-
Capitol & Main										
Idaho Street or Main Street	1	0	0	-	x	x		2	-	3
Capitol Boulevard	0	2	0	-	x	x				
Myrtle Street	0	0	0	-	x	x	x			
Capitol Boulevard	1	0	0	-	x	x	x	-	-	1
Alley Way	1	2	0	-	x	x	x			
Total:	13	14	1							

Section 1.10.A

- **Added language:**
  Vendor shall provide a list of standard maintenance activities that the operator may conduct that will not void the warranty.

Section 2.04.H:

- **Revised language to make it clear that vendors shall provide exit stations in current locations:**
  Vendors to provide exit stations at existing location of exit lanes and existing equipment. Several locations currently have exit stations cut out in panels of the existing booth. Vendors to include any work required to retrofit exit stations at the same locations. This might include:
    o Creating additional space in the existing walls (vendor to provide alternative that keeps existing booth and communication room weatherproofed).
    o Removal of part of the booth or full booth (will require vendor to provide alternatives for communication room equipment) is not permitted.
    o Vendor's solution shall keep the same functionality as other lanes. Equipment with limited functionalities will not be accepted.

Section 2.04.O

- **Revised Language: changed "proximity" to "AVI"**

Section 2.04.Q:

- **Revised language:** No offline ticket validation capabilities are needed.

Section 2.04.S:

- **Revised language for additional optional Credit Card Only: POF at 10th and Front:**

  One (1) at 10th and Front Garage

    o Vendors to provide optional cost for a possible additional pay station at this location.

Section 2.04.W:

- **Revised language for additional context:** YMCA integrations will be tested during the Factory Acceptance Test at an existing garage selected by the Owner since garage capabilities might not be able to be implemented in the early phase of the project.

Sections 2.04.AA and BB:

- **Added language to provide additional clarification on handheld and nest areas:**
- Nested areas:
    o Nested area with Zion Bank:
        ▪ Vendors to provide a nested area for the three levels that connect the CCDC garage and Zion Bank users.
        ▪ Vendors to provide option to have:
            • LPR in lanes and modifications needed for the site
            • Proximity card reader that matches entry and exit stations
            • Intercom capabilities
            • Barrier gates
            • Optional AVI if garage is not capable to have LPR installed
- Handheld devices:
    o Vendors to provide option to have roving cashiers/handheld devices. At least six devices are required as part of this project.
    o System shall reside and integrate with the PARCS system for reporting purposes.
    o The system shall be mobile, allowing cashiers to move around the store or event venue to serve customers wherever they are located.
    o The system should ensure secure and reliable payment processing, protecting customer's sensitive information and preventing fraud.
    o The roving cashier system should seamlessly integrate with the proposed POS system, allowing for real-time inventory updates and accurate sales reporting.
    o Inventory Management: The system should have the capability to track and manage inventory, allowing cashiers to check product availability and ensure accurate stock levels.

o The system should be able to operate offline in case of network outages, ensuring that cashiers can continue processing transactions without interruption.

o The system should support customizable pricing options, allowing cashiers to apply discounts, promotions, or special pricing based on customer requirements.

o The roving cashier system should provide comprehensive reporting and analytics capabilities, enabling managers to track sales, analyze customer behavior, and make data-driven decisions. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

Section 3.02:

- **Additional language to account for Zion building nested area**: Should additional construction be required within Zions Bank property or other nested areas, vendor shall provide detail construction information and impact to equipment installation within the proposal document.

Section 3.03:

- **Additional Language:** In locations where the equipment installation requires modifications to booths or kiosks, vendor shall provide cost estimates for additional construction work within the proposal document.

1.4   QUESTIONS

A.   See attached List of Questions and Answers

LIST OF DOCUMENTS   NO. OF PAGES

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Pre-Proposal Conference Agenda   1
Pre-Proposal Sign In Sheet   2
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Daktronics Datamaster DF-2053 Manufacturer Information   35
Revised Functional Specifications   77
Revised Cost Form (pdf)   8

END OF ADDENDUM

Parking and Revenue Access Control System (PARCS) Replacement Project

Pre-Proposal Conference Agenda
CCDC Offices, 121 N 9th St., Ste. 501, Boise, ID | Site Tour to follow

September 24, 2024 at 9:00 a.m.

A. Welcome and Introductions

   1. Introductions

      i. Kathy Wanner –CCDC Contracts Manager
      ii. Zach Piepmeyer – CCDC Project Manager

B. RFP Key Dates

   1. Final Day for Questions & Clarifications: October 2, 2024 3:00 p.m.

      Questions must be in writing to Kathy Wanner: kwanner@ccdcboise.com

   2. Addendum: October 8, 2024

   3. Proposal Due Date: **October 21, 2024 by 3:00 pm**

   4. Proposal Submission (signed pdfs): bids@ccdcboise.com

C. Submittal Requirements (Powerpoint Presentation)

D. Questions

E. Project Site Walk

CCDC CAPITAL CITY DEVELOPMENT CORP

PARKING AND REVENUE ACCESS CONTROL SYSTEM (PARCS) REPLACEMENT PROJECT

Pre-Proposal Conference September 24, 2024 9:00 am
CCDC Office – 121 N 9th St., Ste. 501, Boise | Site Tour to follow

Sign-In Sheet

Name	Company	Telephone Number	Email Address
Kathy Wanner	CCDC	208-391-7304	kwanner@ccdcboise.com
Zach Piepmeyer	CCDC	208-384-4264	
JEFF BECKEL	AMANO	314-703-0008	JEFF.BECKER@AMANOMCGHNN.Con
Mark Curtis	DEM Systems / Amano	360-607-1511	markc@parkingzone.com
Kristyna Schedine	Designa	619-787-3785	Kristyna.schedine@us.designa.com
Michael WILSON	DeSIGNA	314-971-2155	Michael.WILSON@US.DESIGNA.Com
Trae Giller	Advance Parking Systems	303-653-1858	Trae@APSDenver.net
Mike Telluik	Skidata	425-269-6455	temi@skidata.com
Ron Machne	SKIDATA	310-365-9690	RON.MACHNE@SKIDATA.com
Vayne Murphey	T2 systems	702-205-8484	wayne.murphey@t2systems.com
Neil Johnson	Flash	425-599-5052	neil.johnson@flashparking.com

Name	Company	Telephone Number	Email Address
Jonas Broth	S&B	512 980-3742	brothijonas@s-b-usa.com
Mike Lawter	S&B	662 7221578	mlawter@s-b-usa.com
Donald Davidson	Sloan Security Group	208-519-0424	donald.davidson@sloansg.com
Tom Bely	Lu Elect	208 5904462	Tom@leaElectric.com
Bill Geraghty	S&B	917-291-5071	geraghty@scheidt-bachmannUSA.com
Soraia Vaughn	Skidata	470-345-0038	soraia.marisavaughn@skidata.com
Dan Biscobing	S&B	414-517-1878	biscobing.daniel@s-b-usa.com
Kenneth Smith	Kimley Horn		

Request for Proposals:

PARKING ACCESS AND REVENUE CONTROL SYSTEM (PARCS) REPLACEMENT PROJECT

PARKBOI

Pre-Proposal Conference

9:00AM MT

September 26, 2024

Meeting Agenda

1. Introductions
2. CCDC & ParkBOI Overview
3. Project Overview
4. Request for Proposal Details
   - Submittal requirements and format
   - Schedule
5. Questions
6. Site Tour
   - 10:00am at the 9th & Main Garage (meet at the 9th Street vehicle exit, 1st floor)

Introductions

1. First/Last Name
2. Company
3. Add email address to sign-in sheet

On-Line Attendees:

Please send an email to Kathy Wanner (kwanner@ccdcboise.com) so we have your contact information.

Capital City Development Corporation

Founded by the City of Boise in 1965, CCDC is the redevelopment and urban renewal agency for Boise, Idaho.

CCDC serves as a catalyst for quality private development through infrastructure investment. The Agency's redevelopment activities include both public and private projects.

Public projects are used to leverage private development with 6 current urban renewal districts and have included transportation and street improvements, brick sidewalks and public plaza construction, street tree planting, construction of public buildings, partnerships with private developers, funding public art and **the construction and operation of six public parking garages under the ParkBOI name.**

www.ccdcboise.com

ParkBOI Overview

1. 3,154 Parking Stalls in 6 Garages
   - 28 lanes
2. Operator: The Car Park
3. Current Programs:
   - Hourly (625K visits over last 12 months)
     - First Hour Free
     - $3/Hour
     - Daily Max (Weekday vs Weekend)
   - Monthly (650K visits over last 12 months)
     - 2,850 Contract Parkers
   - Carpool
   - Hybrid Softpool
   - PM Parker
   - Valet
   - Hotels
   - Reserved Parking
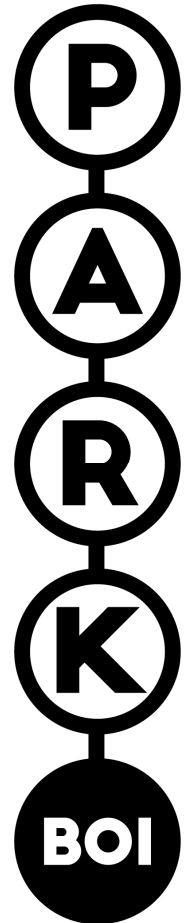
ParkBOI Overview

Existing PARCS Equipment:

Amano Overture (installed ~2018)

Credit Card Mag Stripe & Proximity Cards

Existing PARCS Equipment:

Scheidt & Bachmann Entervo (installed ~2014)

Credit Card Mag Stripe & Proximity Cards

Project Overview

Goal: Provide a complete, fully-integrated PARCS

Exit Gate @ 9th/Main

Entry Kiosk @ 9th/Main

Dynamic Sign @ 9th/Main (Integration with existing sign required. Existing sign structure to remain in place.)

POF @ 9th/Main
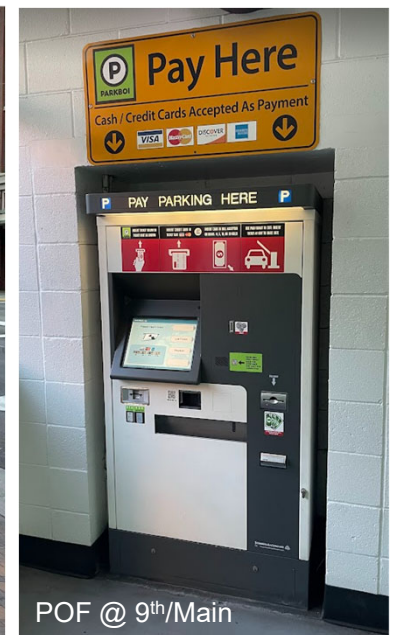
Project Overview – Desired PARCS

CCDC envisions implementation of a new PARCS which:

1. Makes use of state-of-the-art technology.
2. Provides a high level of system reliability, minimizing down-time for maintenance/repairs and system malfunction. Minor repairs can be addressed by the parking operator (with proper training) and parts are readily available.
3. Accepts multiple forms of payment, including digital wallets, cash and credit card.
4. Reduces or eliminates the need for physical paper tickets and receipts.
5. Reduces or eliminates the need for physical access cards.
6. Is easy for end users to understand and navigate, regardless of familiarity with ParkBOI facilities.
7. Processes entry/exits efficiently and consistently using LPR, AVI (bid option), Access Cards, Barcode/QR Code
8. Provides continuous and robust garage usage data and revenue data to CCDC and its operator in an easy-to-use format (e.g. dashboard).
9. Is expandable to future ParkBOI garage locations.

Project Overview – Considerations

1. Integrations:
    - Hotels
    - CARMA (ParkingBase)
    - Valet
    - YMCA (future development)
    - ParkMobile (Ticket Takeover)
2. Phasing & Implementation Plan
3. LPR
4. Long Range Proximity Card Readers
5. Validation System
6. Reduction in cash pay stations
7. Reporting/Data Analysis capabilities
8. Flexibility to create new pass products
9. Maintenance
10. Training Program

Wall-Mounted
Exit Kiosk
@ 9th/Front
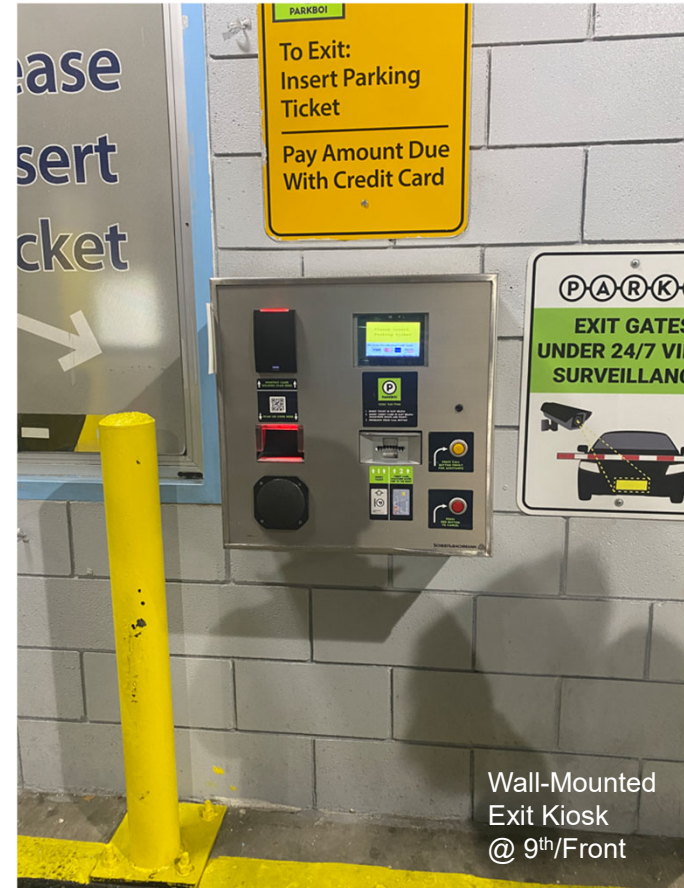
RFP – General Information

The RFP seeks to identify the most-qualified company with the best-value PARCS product.

Cost of the proposed PARCS will be a factor, but not the only factor.

Entry Gates @ 11th/Front

RFP – Required Submittal Format

Section A – Transmittal Letter

Section B – Respondent Qualifications and Experience

Section C – Technical Response to PARCS Functional Specifications

Section D – Key Personnel

Section E – Cost Proposal

Section F – Finance and Insurance Requirements

Section G – Proposed Amendments to the CCDC Contract Terms

Section H – Proposal Form

Section I – Waiver and Release Form

Refer to RFP Part 6 for detailed information about each Section above

RFP – Required Submittal Format

Section A – Transmittal Letter
Section B – Respondent Qualifications and Experience
Section C – Technical Response to PARCS Functional Specifications
Section D – Key Personnel
Section E – Cost Proposal
Section F – Finance and Insurance Requirements
Section G – Proposed Amendments to the CCDC Contract Terms
Section H – Proposal Form
Section I – Waiver and Release Form

Requires multiple items be submitted. Refer to Functional Specifications Section 1.05 ("Submittals")

Refer to RFP Part 6 for detailed information about each Section above

CCDC CAPITAL CITY DEVELOPMENT CORP

RFP – Required Submittal Format

Section A – Transmittal Letter

Section B – Respondent Qualifications and Experience

Section C – Technical Response to PARCS Functional Specifications

Section D – Key Personnel

Section E – Cost Proposal ← Excel spreadsheet available. Multiple tabs/tables required for submittal.

Section F – Finance and Insurance Requirements

Section G – Proposed Amendments to the CCDC Contract Terms

Section H – Proposal Form

Section I – Waiver and Release Form

Refer to RFP Part 6 for detailed information about each Section above

RFP – Required Submittal Format

Section A – Transmittal Letter
Section B – Respondent Qualifications and Experience
Section C – Technical Response to PARCS Functional Specifications
Section D – Key Personnel
Section E – Cost Proposal
Section F – Finance and Insurance Requirements
Section G – Proposed Amendments to the CCDC Contract Terms
Section H – Proposal Form
Section I – Waiver and Release Form   Included in the RFP

Refer to RFP Part 6 for detailed information about each Section above

CCDC CAPITAL CITY DEVELOPMENT CORP

RFP – Required Submittal Format

Functional Specifications Section 1.05 ("Submittals")
C.1 thru C.15

Contractor Submittal	Submittal Timing
(C.1) PARCS Replacement Executive Summary	Proposal*
(C.2) Proposed ParkBOI PARCS System Hardware	Proposal*
(C.3) Proposed ParkBOI PARCS System Software	Proposal*
(C.4) Phasing and Transition Plan	Proposal*
(C.5) Hotel and YMCA Integration Capabilities (including Valet Operations)	Proposal*
(C.6) Credit Card Processing Subsystem Plan	Proposal*
(C.7) List of Clearinghouses for which the Contractor has a certified interface	Proposal*
(C.8) Maintenance & Warranty Plan	Proposal*
(C.9) Training Program	Proposal*
(C.10) Milestone Payment Plan	Proposal*
(C.11) Nature and Impact of Exceptions	Proposal*
(C.12) Appendix A - Sample Set of Standard Reports	Proposal*
(C.13) Appendix B - Product Data for all hardware proposed including: Entry Station, Exit Station, Cash/Credit Pay Station, Credit Card Only Pay Station, EMV reader, Contactless Reader, QR Code Reader, Entry/Exit Vehicle Detection, Barrier Gate, Intercom, UPS, LPR System and Camera, AVI (Optional), Proximity Card Readers (Optional long-range readers), Pinhole Camera, Network Switches, Bollards, and Reservation System. Vendor to also provide product data or requirements for switches to be purchased by CCDC.	Proposal*
(C.14) Appendix C - PA DSS Report of Validation	Proposal*
(C.15) Appendix D - Third Party Escrow Agreement	Proposal*

RFP – Submittal Scoring

Item	Proposal Section	Section Description	Points Possible
1	Section A	Transmittal Letter	20
2	Section B	Respondent Qualifications and Experience	100
3	Section C	Technical Response to PARCS Functional Specifications	400
4	Section D	Key Personnel	100
5	Section E	Cost Proposal	200
6	Section F	Finance and Insurance Requirements	30
7	Section G	Proposed Amendments to the CCDC Contract Terms	50
		Subtotal:	**900**
8	Section 6.3	Presentation, Product Demonstration & Interview	100
		Subtotal:	**100**
		Maximum Total Points:	**1000**

Anticipated Nov 20-22, 2024

Location: CCDC offices in Boise, ID

CCDC CAPITAL CITY DEVELOPMENT CORP

Request for Proposals – Schedule

EVENT	DUE DATE / TIME
RFP issued	September 10, 2024
Pre-Proposal Conference and Site Tour 121 N 9th Street, Boise, ID 83702 or via Zoom ZOOM LINK	September 26, 2024, 9:00am-12:00pm
Last Day for Questions	October 2, 2024 by 3:00 pm
Addendum issued (if needed)	October 8, 2024
Due date for submissions	**October 21, 2024 by 3:00 p.m.**
Evaluations, Reference Investigations	October 22 to November 8, 2024
Evaluation Committee Meeting	November 8, 2024
Interviews with Proposers (if needed)	November 20-22, 2024
CCDC Board Meeting – decision to award contract.	December 9, 2024
Contract Negotiations	December 10, 2024 to January 30, 2025
Notice to Proceed	January 30, 2025 (Anticipated)
Final Completion (Desired)	Within 365 days of Notice to Proceed.

← **TODAY!**

← Submit all questions to:
Kathy Wanner, Contracts Manager
kwanner@ccdcboise.com

CCDC CAPITAL CITY DEVELOPMENT CORP

17

Questions?

RFP: Parking Access and Revenue Control System (PARCS) Replacement Project
Addendum No. 1 - Issued October 8, 2024

QUESTIONS	ANSWERS
General Questions	
Does CCDC want exceptions pertaining to the agreement in Attachment D to be listed under section C.11 Nature and Impact of Exceptions AND Section G –Proposed Amendments to the CCDC Contract Terms?	Vendor exceptions to CCDC Sample Agreement (included with RFP as Attachment D) go in Section G of the vendor proposal. Vendor exceptions to Functional Specifications go in Section C (specifically C.11) of the vendor proposal.
The RFP states that primary PARCS components proposed for this project (including LPR) will have been installed in five (5) or more "LOCAL" parking facilities of similar size and complexity in the past three (3) years in the United States. Can we assume that US installs satisfy the "Local" requirement?	The project references must be within the US, but CCDC would prefer to have references that are either in Idaho or adjacent states.
Can you provide contact details for all participants who attended the pre-bid meeting on September 26th?	Included as part of this Addendum.
Please advise if the project requires prevailing wage	Idaho is a right-to-work state. Prevailing wage is not required.
Please advise if the project is receiving federal funding	The project is funded in whole by CCDC. No federal funding is involved.
Insurance Provisions: 1. Our general liability does not include fire coverage 2. Our professional E&O and cyber are one and the same policy with one limit 3. Our crime insurance limit is $500K, not $1M 4. We do not have installation floaters	1. The general liability coverage of the awarded vendor must include fire coverage. 2. This is acceptable as long as the E&O and Cyber policy has the $5M limit. 3. A $500K limit on crime insurance is acceptable. 4. The awarded vendor will be required to provide an installation floater. Please reference the Functional Specifications Section 1.07.B.
Our policy provides Technology Errors and Omissions Insurance at $1,000,000 per claim and aggregate and Installation Floater at $300,000 per job and $1,000,000 aggregate. Will this be acceptable to the CCDC?	No. The awarded vendor will be required to provide the required insurance for E&O. The installation floater stands as is. Please reference Functional Specifications Section 1.07.B.
Is the main respondent of the RFP required to possess the Idaho business license or just the electrical contractor who will be performing the civil work?	The main respondent of the RFP must have an Idaho Business License when doing business in Idaho. It is the respondents responsibility to check with the Idaho Secretary of State and the Idaho Tax Commission to determine what constitutes doing business in Idaho. The electrical contractor is required to have the proper electrical license issued by the Idaho Division of Occupational and Professional licenses. If said electrical company will also perform the civil work (replacing detection loops) and that work is valued over $50,000, the company will also need a public works license. Two different licenses. All electricans must have an electrical license; however; all electrical companies may not have a public works license. A public works license is required when working on a public project (when work is valued over $50K). The PARCS project is a public project.
How many garages does the Agency anticipate adding in the next 10 years?	1 - 3 garages
Do you have a preferred electrical contractor?	No.
Is CCDC interested in E-Charging stations integration?	All garages have EV charging infrastructure already installed, but if vendor believes this will be of benefit they should include a la carte pricing.
Page 64, Section 14.a.1 references Monthly Reports / Monthly ISF Summary. Can we assume that this only pertains to Debit card Transactions, and that you do not plan on accepting checks as a form of payment?	Checks will not be accepted.
License Plate Recognition	
It states that Boise wants to "Reduce or Eliminate" the need for paper tickets and receipts. With the move to LPR, paper tickets provide redundancy / backup for the times when the LPR cameras cannot read a plate. If our Solution includes paper tickets on the Entry terminals, confirm that the provider will not be penalized.	CCDC understands the limitations of LPR and that it may not be possible with current technology to completely eliminate paper ticketing.
The RFP states that Boise wants to eliminate the need for physical access cards, yet it is stated that they want Proximity cards to be included. Please confirm that the provider is not expected to come up with a replacement solution that eliminates those cards.	Proximity cards or AVI will be required with the idea that LPR would be the main credential where possible. CCDC is also open to alternative solutions.

QUESTIONS	ANSWERS
License Plate Recognition	
The reduction of paper tickets and proximity cards was discussed. Does this indicate a preference for a fully ticketless system or a shift toward a more digital credential-based environment?	CCDC understands the limitations of LPR and that it may not be possible with current technology to completely eliminate paper ticketing and proximity cards.
For garages that do not currently support rear capture LPR, would front capture be sufficient for deployment?	Yes, vendors to provide options that are possible given the physical constraints of the garages. RFP Attachment B was provided showing locations where CCDC believes that front plate LPR will be needed. Vendors to evaluate site by site and propose best alternative since drawings are for reference only.
Pay Stations, Cashier Locations, Bollards	
Can said PARCS provider, implement temporary PoF pay stations if UL (Underwriter Laboratories) certification is not obtained before the system goes live, and replace all Wall mount pay stations as soon as that certification is received? We ask this because UL certification, when it comes to standards for sustainability and safety, is backlogged and may not be executed when the solution goes active.	UL certification will be required for project final acceptance.
Is CCDC interested in adding a pay station to 10th Street side of 10th & Front Garage?	Vendor to provide pricing for additional pay stations for CCDC to consider. Cost Form has been modified to reflect the additional quantity
What pay stations have the most usage?	See Paystation Usage Information (attached as a separate document)
Please confirm that "Fixed" Cashiers will not be staffed to accept payment at the Terminal, and that only cashiers ever staffed will use the Mobile payment acceptor and staffed solely to accept Parking payments for Events	Correct. Current cashier locations will not be staffed to accept payment except for during special events.
Can said PARCS provider replace identified Bollards with those with specifications of our own, that fit the needs of the Terminal / Barriers we recommend? The yellow powder-coat and 4" wide band of white 3M reflective tape will be honored.	It is reasonable that bollards may need to be replaced or relocated with this project to accommodate new PARCS equipment. CCDC does not have standard bollard specifications but will need to review the specifications for any new bollard (including size, material, foundation/mounting plate, color, retroreflective banding) being proposed by the vendor per Functional Specifications Section 1.05.E.3. See also the proposal submittal requirements of C.13 on page 16 of the Functional Specifications.
Hotel and Valet	
Could you confirm the current Hotel Valet Systems in use? During the RFP meeting, valet services were mentioned. Please describe any existing technology used by Oobeo, if any.	Oobeo is the current valet technology used for one off-site, non-partner hotel utilizing parking within the 11th & Front garage. No other valet technology is currently being used by hotels for this or other ParkBOI garages. CCDC desires to have Oobeo and PARCS integrate and Oobeo become the "book of record" for valet vehicle inventory as well as history of valet access to a given garage location. Vendor to propose how to leverage Oobeo with provided PARCS or provide alternatives to Oobeo.
Hotel Integration –Is this part of the base bid or to be listed as an option? Does the hotel integration need to work at all facilities or specific ones	CCDC prefers to integrate with all hotels listed in the RFP. It is desirable for all integrations identified in the RFP to work at any of the 6 ParkBOI garage locations. Vendor to provide costs for each.
Valet Operations – please describe what functionality you are looking for as for the integration with Oobeo	Oobeo is the current valet technology used for one off-site, non-partner hotel utilizing parking within the 11th & Front garage. No other valet technology is currently being used by hotels for this or other ParkBOI garages. CCDC desires to have Oobeo and PARCS integrate and Oobeo become the "book of record" for valet vehicle inventory as well as history of valet access to a given garage location. Vendor to propose how to leverage Oobeo with provided PARCS or provide alternatives to Oobeo.

QUESTIONS	ANSWERS
Hotel and Valet	

Integration Details:
a. Hotel: Please confirm the Hotel Property Management System in place, including the media being utilized for each hotel.
    i. Hotel 43
    ii. Hilton Garden Inn
    iii. Hampton Inn
b. CARMA: Kindly provide further details regarding billing processes and monthly system management.
	Existing known details are provided in the Functional Specifications section 2.04.A:
	1. Hotel 43 Cards – StayNTouch PMS
	2. Hampton Inn Cards - Onity HT24W/HT28 Smart version 3.3.5 – RFID Smart cards (not mag strip)
	3. Hilton Garden Inn Cards – Saflok & PEP (effective June 2024)
	
	See response to CARMA-related question under section labelled "CARMA" below.

Section 1.04 SYSTEM DESCRIPTION, Item 37 (Pg 38): "Provide an optional integration with all the current hotels that work with CCDC (3 hotels) and valet operations." a. Who are the three hotels? Are the valet operations part of the hotel or separate? If the latter, what are the expectations around integration with the valet operator?	Existing known details are provided in the Functional Specifications section 2.04.A: 1. Hotel 43 Cards – StayNTouch PMS 2. Hampton Inn Cards - Onity HT24W/HT28 Smart version 3.3.5 – RFID Smart cards (not mag strip) 3. Hilton Garden Inn Cards – Saflok & PEP (effective June 2024) Of these 3 hotels listed above, Valet is only operational at Hotel 43 and there is no current integration with PARCS for that valet (no technology used currently). The Hotel 43 valet is part of the hotel. A separate valet operated by The Car Park for a non-partner hotel currently utilizes the 11th & Front garage for parking.
Can you confirm the PMS and room key system at Hotel 43? Can you confirm the credential that is used for room keys?	Existing known details are provided in the Functional Specifications section 2.04.A: 1. Hotel 43 Cards – StayNTouch PMS 2. Hampton Inn Cards - Onity HT24W/HT28 Smart version 3.3.5 – RFID Smart cards (not mag strip) 3. Hilton Garden Inn Cards – Saflok & PEP (effective June 2024) Hampton Inn uses Hilton's PEP system for their folio management system. There isn't a software system as it is cloud based and regularly updated. We do not yet have the folio management system details for Hotel 43 or for Hilton Garden Inn. This information will be provided as an additional addendum, if received by October 14.
You mention an integration with OOBEO in the equipment and subsystem section. Can you explain what type of integration is required?	Oobeo is the current valet technology used for one off-site, non-partner hotel utilizing parking within the 11th & Front garage. No other valet technology is currently being used by hotels for this or other ParkBOI garages. CCDC desires to have Oobeo and PARCS integrate and Oobeo become the "book of record" for valet vehicle inventory as well as history of valet access to a given garage location. Vendor to propose how to leverage Oobeo with provided PARCS or provide alternatives to Oobeo.

QUESTIONS	ANSWERS
CARMA	
Please describe the integration to CARMA (contact point)	Monthly parking (CARMA/Parking Base as system of record- all permits, vehicles and access cards are pushed "down" to PARCS equipment. Including any updates like start/finish dates). CARMA/Parking Base ingests transient revenue which can be configured to daily, weekly, or monthly uploads/refreshes. CARMA/Parking Base ingests and creates invoices for validations that are billed in arrears. All of the above depends upon the PARCS equipment having an open API. TCP/ParkBOI will coordinate with vendor on vendor's integration. For the purpose of the RFP, please answer whether you have existing open API's or not. An open API would allow TCP/ParkBOI to integrate CARMA with your PARCS product. If you answer yes, please also answer whether your current API's provide an ability to: - Manage Accounts and Access Cards - Activate, Deactivate, Change/Manage Passback status, Change/Manage Access Groups - Export Transient Activity on a daily, weekly, or monthly schedule - Export Validations If you answer no, will you be willing and able to implement API's into your product that could handle, at minimum, the above 3 integration needs? If you would like more details about integrations with this product, please contact John Payne (john@parkingbase.com). CARMA is our version of this software. A representative from Parking Base may be able to answer technical questions in a more detailed fashion.

QUESTIONS	ANSWERS
CARMA	
Section 1.04 SYSTEM DESCRIPTION, Item 20 (Pg 37): "Provide integration of the new PARCS with the existing permit management system, CARMA, from The Car Park." a. Could the city/Car Park please provide more information around this requirement? What are the expectations on how the data is shared? b. Which system (CARMA or PARCS) will be responsible for selling and managing access credentials? Will CARMA be the primary system that sells permits and will be sharing data with PARCS to allow access or vice versa?	CARMA will be responsible for selling and managing credentials. Vendors can contact Parking Base for additional API requirements. a. CARMA, via Parking Base, will communicate with the selcted PARCS equipment via API. b. CARMA will, ultimately, be the primary system to sell, issue, create, terminate, bill, etc. monthly permits. Changes made in CARMA will "flow downstream" to the selected PARCS system. However, changes made in the PARCS system will "not flow upstream" into the CARMA system regarding monthly permits. Transient/hourly parker transactions will be ingested by CARMA. For the purpose of the RFP, please answer whether you have existing open API's or not. An open API would allow TCP/ParkBOI to integrate CARMA with your PARCS product. If you answer yes, please also answer whether your current API's provide an ability to: - Manage Accounts and Access Cards - Activate, Deactivate, Change/Manage Passback status, Change/Manage Access Groups - Export Transient Activity on a daily, weekly, or monthly schedule - Export Validations If you answer no, will you be willing and able to implement API's into your product that could handle, at minimum, the above 3 integration needs? If you would like more details about integrations with this product, please contact John Payne (john@parkingbase.com). CARMA is our version of this software. A representative from Parking Base may be able to answer technical questions in a more detailed fashion.

QUESTIONS	ANSWERS
CARMA	
CARMA: Kindly provide further details regarding billing processes and monthly system management.	Hotels may have multiple billing types during a billing cycle including: 1) monthly permited employees, 2) valeted vehicles, and 3) self-parked overnight hotel guests. 1) Employees with monthly access paid by the hotel employer would be billed in the traditional quantity times cost equation for each month and/or pro-rated amount, if necessary. 2) Valeted vehicles may be billed by usage (ex. per exit), or may use Reserved spaces billed on a monthly basis. 3) Hotel software integration for hotel overnight self-park guests is critical to the new PARCS. API integration to the respective hotel reservation system will be necessary to create appropriate use invoices to be generated per billing cycle. For the purpose of the RFP, please answer whether you have existing open API's or not. An open API would allow TCP/ParkBOI to integrate CARMA with your PARCS product. If you answer yes, please also answer whether your current API's provide an ability to: - Manage Accounts and Access Cards - Activate, Deactivate, Change/Manage Passback status, Change/Manage Access Groups - Export Transient Activity on a daily, weekly, or monthly schedule - Export Validations If you answer no, will you be willing and able to implement API's into your product that could handle, at minimum, the above 3 integration needs? If you would like more details about integrations with this product, please contact John Payne (john@parkingbase.com). CARMA is our version of this software. A representative from Parking Base may be able to answer technical questions in a more detailed fashion.
During the in-person meeting it was mentioned that we could get the contact information for a representative from CARMA; can that be provided?	John Payne (john@parkingbase.com)

RFP: Parking Access and Revenue Control System (PARCS) Replacement Project
Addendum No. 1 - Issued October 8, 2024

QUESTIONS	ANSWERS
Daktronics Parking Space Counter	
Are the Daktronics signs currently functioning as a stand-alone system, or are they integrated with the existing PARCS infrastructure?	The Daktronics signs are currently integrated with the existing Scheidt & Bachmann system at 9th & Main, Capitol & Main, 9th & Front, 10th & Front and Capitol & Myrtle. The Dactronics signs at 11th & Front are not currently integrated with the existing Amano system at that location.
Integrate to existing Daktronics signs – can you provide the sign specifications of what is existing? Are these all of the existing monument signs?	See Daktronics Datamaster DF-2053 Manufacturer Information (attached).
RFP Section: 1.04 A 26. Integrate with Existing Daktronics Signs Question: What is the approximate age of the existing Daktronics system?	Approximate age is 7-8 years old. See Daktronics Datamaster DF-2053 Manufacturer Information (attached).
Question: Do the existing Daktronics signs utilize the Venus Control GUI or other Daktronics GUI's?	Unfortunately, we do not have information on the GUI. Vendor should contact Daktronics. See Daktronics Datamaster DF-2053 Manufacturer Information (attached).
RFP Section: Pg 46, F 2. d. There is a parking space counter located at the Front Street access point. However, this is currently non-functioning due to incompatibility with the existing PARCS equipment. Question: What type of sign is this currently, and does it have any special requirements to connect to it?	This space counter sign is the same as the others signs, but it is our understanding the sign is not compatible with the existing Amano PARCS at this location. See Daktronics Datamaster DF-2053 Manufacturer Information (attached).
Can you provide the measurements of the current 4-digit sign panel that is used on all of your facility count towers located outside of the facilities?	Units are approximately 10.5" tall by 19.5" wide, including frame insert. See Daktronics Datamaster DF-2053 Manufacturer Information (attached).
Event Parking	
Event Parking: It was mentioned that credit card payments are accepted upon entry along with cash. Would CCDC be open to eliminating cash payments for events? a. How many total units are required for event operations?	6 units are required. See Cost Form. Functional Specifications section 2.04.BB was added in addendum to provide additional clarification.
9th and Front specifically calls out for event pre-pay parking. Is this the only location that requires this functionality?	Vendor to provide 6 handheld units that could be used for any of the locations based on event locations. Currently 9th & Front is the main location for event parking, but the new system shall work with other parking decks. 6 units are required. Functional Specifications section 2.04.BB was added in addendum to provide additional clarification.
Fiberoptic / Internet Network	
Could you confirm the type of fiber connection linking each garage? Is the network a private, CCDC-owned system, or is it part of a public network? Could CCDC confirm the specifications of the fiber connection used to interconnect each garage, including details on bandwidth, protocol, and redundancy? Additionally, is the network architecture a dedicated, privately managed system owned by CCDC, or does it integrate with a broader public or third-party network infrastructure? Our main goal is to understand if all facilities are truly connected and not segmented.	Everything behind the firewall (private) is managed by Stability Networks. Outside the firewall (public) is provided by Syringa/Zayo/CenturyLink/Lumen. Garages are currently being upgraded to fiberoptic network connections through CenturyLink/Lumen or Syringa (public networks) Stability Networks is the IT services provider and network administrator for the garages.
What are the current internet upload and download speeds for each garage?	New Fiberoptic internet service is being installed by the service provider at several garages with initial speeds being assessed at 20 Mbps download and +40 Mbps upload.
Who will provide the wireless access points for handheld devices?	ParkBOI has WiFi system
Where are the servers located?	Servers located in CCDC office. Review Subsection 1.08.D. for additional information.
Switches at each facility does CCDC have any requirements/types	At least 24-port with preference for a 48-port. Cisco is preferred but other brands are acceptable.

QUESTIONS	ANSWERS
Fiberoptic / Internet Network	
Who provides the network switch?	PARCS vendor to provide the network switch. ParkBOI providing the cabinet and Vendors to provide networking equipment including switches needed from the field location of the devices up to the communication room where the cabinet will be provided (network switches required at cabinet shall be included in the vendor's proposal). CCDC will provide connection to the proposed switch at each communication room.
YMCA	
YMCA Membership cards – can you provide a contact number for them?	We do not have a contact number for YMCA membership card manager or vendor.
Section 1.04 SYSTEM DESCRIPTION, Item 38 (Pg 38): "Provide integration with YMCA membership cards." a. What are the expectations of integrating with YMCA membership cards? What type of credentials do they use?	YMCA integrations will be tested during the Factory Acceptance Test at an existing garage selected by the Owner since garage capabilities might not be able to be implemented in the early phase of the project. YMCA uses use Genetec for Access Controls, and the CRM is Reclique Core that has API access on AmazonWS per the Functional Specifications Section 2.04.A.1.e.
RFP Section: 1.04 A 38. Provide integration with YMCA membership cards Question: Can you provide a sample picture of a YMCA membership card? Do they utilize a Barcode?	We do not have an example card to provide but, according to the YMCA, there is a 2D barcode representing a 9-digit member number. The YMCA member uses a key fob tag or a phone app to display the barcode for an optical scan at entry to the YMCA.
Signage	
Is vendor to provide wayfinding signage? Typically this is done in partnership with on site management to make sure proper locations and specifications are met. Can you clarify if this is the vendors responsibility?	Vendors to furnish and install basic instructional signage necessary to communicate to customers how to pay for parking at entry gates, exit gates and POF. Additional way-finding signage will be implemented by CCDC with input from vendor or negotiated as a change order with the selected vendor following award. All signage installed with this project shall meet the CCDC/ParkBOI branding requirements and shall be approved by CCDC. Vendor to assume all signs shall be aluminum sign blades with retroreflective legends/sheeting and tamper-resistant mounting hardware.
Warranty	
Warranty Services years 3 though 10 – is this for hardware only or does this include onsite support and service (labor)	Wording on specs reference to post-warranty services. Warranty is understood to only be applicable for years 1 and 2. Functional Specifications Section 1.12 for Post Warranty refers to both hardware and software support.
2 Year Warranty – can CCDC confirm expectation is 7 days a week 6 AM – 11 PM as standard and covered as part of the warranty? We are trying to get a clear understanding of the exact level of support and services that need to be provided under the warranty service. We are looking for exact days and times that warranty work will need to be provided. We are also looking to clarify the emergency service response as well since these types of services are not covered under warranty.	Functional Specifications Section 1.11 deals with the initial 2-year warranty period. Functional Specifications Section 1.12 deals with support services for years 3-10, including emergency support services that identifies the time periods referenced in the question. Response times shall follow Functional Specifications Section 1.13. Functional Specifications Section 1.13.J.2 also requires vendors to propose hourly rates by day and by time of day for Emergency Service calls.
Maintenance	
Emergency Service Maintenance Performance Requirements – What are the hours associated with this requirement. As there are "penalties", should this scope of work not be included as part of the warranty and be an on-going billable service? We are trying to get a clear understanding of the exact level of support and services that need to be provided under the warranty service. We are looking for exact days and times that warranty work will need to be provided. We are also looking to clarify the emergency service response as well since these types of services are not covered under warranty.	Vendors to provide options for maintenance services but service hours will be considered as part of the evaluation when comparing vendor proposals. Functional Specifications Section 1.13.J.2 requires vendors to propose hourly rates by day and by time of day for Emergency Service calls.
If we agree to work through "The car Park" so they can setup and maintain our system (Level 1) in support of the CCDC, does the CCDC also want us to identify a local provider to function as a backup to "The Car Park"?	The Car Park will provide first level maintenance (based on what each vendor is comfortable training them while maintaining the warranty on the equipment), but vendor shall provide any other type of maintenance required. Vendor to provide options that can meet the response times outlined in the specificications.

QUESTIONS	ANSWERS
Maintenance	
Maintenance Where is the line between what vendor provides and operator provides?	Several sections in the specifications provide recommended training such as sections 1.10, 1.13 and 3.05.B. Vendors to provide information on certification and items that can be maintained by the operator. Additional wording added in section 1.10: "Vendor shall provide a list of standard maintenance activities that the operator may conduct that will not void the warranty."
Credit Cards and Proximity Cards	
Credit Card Processing – Elavon – is customer going to continue using Elavon or are alternatives acceptable and open	Preference is to keep Elavon but vendors may suggest substitutes.
CC on file – is this for monthly or transient per use parkers?	Any users that might desire to use this functionality.
Proximity Card Reader with a minimum read range of forty-eight inches integrated into the face of the Entry Terminal – can an additional reader be mounted outside the face of the terminal. To meet these read ranges, a device would be too large to accommodate. Typical read range for integrated into the terminals max out at about 8"	CCDC preference is for card readers to be integrated into the face of the entry terminal to minimize clutter and opportunities for vandalism. Vendors may provide alternatives and provide datasheets for any proposed equipment.
RFP Section: Pg 77, N 1. a In several locations, the RFP states that 48" read range is to be provided as an option, but on page 77 it is listed as a requirement.	Vendors to propose either long range proximity cards or AVI. It might show as optional since it's not envisioned that the system will utilize both. Long Range Proximity Cards and LPR is the preferred solution.
Could you please clarify if long range readers are required or to be provided as optional hardware?	Vendors to propose either long range proximity cards or AVI. It might show as optional since it's not envisioned that the system will utilize both. Long Range Proximity Cards and LPR is the preferred solution.
Barrier Arms and Loops	
Barrier Arms – reference LED Lights, and articulated as needed (as well as breakaway flanges). Can you confirm you desire the breakaway flange. Most gate manufacturers do not recommend breakaway flanges with a folding/articulating gate arm	Functional Specifications Section 2.04.K.2 details requirements for breakaway device. CCDC desires to have breakaway features due to volume of gate lifts and other vanadalism that occurs to gate arms.
Does CCDC have a desired length of gate arm?	Barrier gates section in 2.04K requires vendor to provide options for straight gate arms/articulated gates as well as recommended lengths based on their system design and field observations.
Most of the areas where loops are installed looked to be sealed. When we are replacing the loops, do we need to make the area look as it is now or simply cut the loops in and seal the cut only?	Loops cut shall be sealed after loop installation.
Would CCDC be acceptable to reusing the existing loop coils as long as the vendor was willing to warranty the loops for the 2 year warranty period?	CCDC desires to have new loops installed with this project.
Can CCDC confirm that all safety loops must be replaced as per the RFP	Yes, all in-pavement ground loops shall be replaced.
BikeBOI	
Section 1.04 SYSTEM DESCRIPTION, Item 39 (Pg 38): "Provide integration and hardware for the BikeBOI secured area in 9th and Main." a. What are the expectations of integrating with BikeBOI? What type of data is being shared?	Vendor to provide both the hardware needed to access ParkBOI facilities as well as integration with the PARCS system. Goal is that same proximity cards or credentials used by monthly users can also be utilized for BikeBOI. Information provided in System Description 1.04 where it states that vendors need to provide integration with PARCS and hardware needed. It is expected that the vendors will provide a solution so access cards for PARCS can be used with ParkBOI locations. This is also included in the required groups needed for access cards in section 2.04.N.

QUESTIONS	ANSWERS
Nested Parking	
Some nesting locations currently have intercoms and others do not. Should intercoms be provided at all locations with the new system to provide consistent customer service levels to all patrons?	Intercoms to be provided in only the nested areas in 9th and Main. Other nested areas such as residents in Aspen Lofts at 9th & Front will continue using their existing clicker system managed by their property and these nested areas at 9th & Front will not be part of the PARCS project.

Nested Area - Discussion at walk through around the two properties (ParkBOI Garage an Zion Building Owner	Additional wording was added in section 3.02 to provide additional information on Zion's nested area. It is expected that Nested lanes will not require LPR
	"Should additional construction be required within Zions Bank property or other nested areas, vendor shall provide detail construction information and impact to equipment installation within the proposal document."
	Also added additional wording on section 2.04.AA to define requirements more clearly:
	a. Nested areas:
	  1. Nested area with Zion Bank:
	a. Vendors to provide a nested area for the three levels that connect the CCDC garage and Zion Bank users.
	b. Vendors to provide option to have:
	  (1) LPR in lanes and modifications needed for the site
	  (2) Proximity card reader that matches entry and exit stations
	  (3) Intercom capabilities
	  (4) Barrier gates
	  (5) Optional AVI if garage is not capable to have LPR installed

Parts Inventory	
Parts Inventory	ParkBOI has places for storage and vendor needs to have a return system to get parts repaired/replaced.
Where will Vendor house spare parts? How will equipment be received?	Functional Specifications Section 1.07 describes that CCDC has up to 3,000 sqft of storage available to the vendor. It is located in the 11th & Front garage, level 1. Respondent shall describe in their submittal how much square footage will be required and what will be stored there. The storage area is intended for storage of PARCS equipment and construction-related materials only. It is not intended for storage of waste, contractor vehicles or trailers or other heavy equipment.
Exit Stations	
Custom Exit Boxes - Discussion about boxes at exit locations of 3 garages	Added information on section 2.04.h to provide additional information: Vendors to provide exit stations at existing location of exit lanes and existing equipment. Several locations currently have exit stations cut out in panels of the existing booth. Vendors to include any work required to retrofit exit stations at the same locations. This might include: a. Creating additional space in the existing walls (vendor to provide alternative that keeps existing booth and communication room weatherproofed). b. Removal of part of the booth or full booth is not permitted. c. Vendor's solution shall keep the same functionality as other lanes. Equipment with limited functionalities will not be accepted.
Capitol & Main – Can we move the location of the left most exit box?	CCDC prefers to keep location of existing equipment as stated in Functional Specifications section 2.04.H.

PARKBOI PAYSTATION USAGE INFORMATION

Pay Station ID#	Location	September 2024 Cash Report
612	Capitol/Main - Ground Floor - Main St.	$984.00
621	9th/Front - 8th Street	$951.10
601	9th/Main - Ground Floor - Idaho St.	$946.90
622	9th/Front - 9th Street	$879.90
641	Capitol/Myrtle - Broad St	$849.00
611	Capitol/Main - Ground Floor - Idaho St.	$821.00
602	9th/Main - Ground Floor - Main St.	$722.00
613	Capitol/Main - Level 2	$692.05
603	9th/Main - Level 2	$653.00
651	10th/Front - 9th Street	$397.85

1) This page is for reproduction reference only; do not include in the manual.

2) Copy this manual on front and back pages using 8 $^1/_2$ x 11 paper.

   Note: The first page, or the cover page, uses the front of the page. Copy the second page, or the copyright page, on the back of the cover page. Section heading pages always start on a new page; they never start on the back of another page.

   Materials included in this manual:

   Appendix A: Refer to the list of drawings in **Appendix A**. Print A-size drawings on A-size paper and B- and C-size drawings on B-size paper.

   Appendix B: Part # **900-325**

   Appendix C: **SL-02374**

3) Bind with a blue window cover and blue back cover.

4) Bind the manual along the left edge with a spiral binder.

5) Please direct questions and suggestions to Transportation Admin.

DataMaster® DF-2053 Drop-In

Display Manual

DD1421948   *Rev 9—8 January 2016*

DAKTRONICS

DAKTRONICS, INC.

Table of Contents

Section 1:   Introduction

1.1   How to Use this Manual

This manual provides installation, maintenance, and troubleshooting information for Daktronics DataMaster® parking garage DF-2053 displays. For additional information regarding the safety, installation, operation, or service of this system, please refer to the telephone numbers listed on the cover page of this manual.

The manual is divided into the following sections:

- **Introduction** covers the information needed to use this manual. Take time to read the introduction as it defines terms and explains concepts used throughout the manual.

- **Mechanical Installation** contains mechanical installation information for the display.

- **Electrical Installation** contains electrical installation information for the display.

- **Maintenance and Troubleshooting** provides maintenance and general troubleshooting information for the Daktronics DF-2053 series displays.

- **Replacement Parts and Exchange and Repair Programs** offer information regarding the location of part numbers on the individual components, a list of the replacement parts, and information regarding the Daktronics exchange and repair program.

- **Glossary** contains definitions for the terms and phrases commonly used throughout this manual and with the DataMaster® product.

- **Appendix A** contains drawings referenced throughout this manual.

- **Appendix B** contains the Daktronics Warranty and Limitation of Liability.

Listed below are a number of drawing types commonly used by Daktronics, along with the information each is likely to provide. All drawings referenced in this manual are located in the **Appendix**.

- **System Riser Diagrams:** Overall system layout from the control computer to display, and power and phase requirements.

- **Shop Drawings:** Light sensor locations, display dimensions, mounting information, power and signal entrance points, and access method.

- **Assembly:** Component locations, part numbers, and assembly instructions.

- **Schematics:** Power and signal wiring, panelboard assignments, and signal termination panel assignments.

Figure 1 illustrates a Daktronics drawing label. The drawing number is located in the lower-right corner of the drawing. This manual refers to drawings by listing the last set of digits and the letter preceding them. In the following example, the drawing is referred to as **Drawing A-1063576**.

	DAKTRONICS, INC. BROOKINGS, SD 57006 DO NOT SCALE DRAWING	THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2011 DAKTRONICS, INC.		
PROJ:				
TITLE: SCHEMATIC, DF-2053 WITH FAN AND TSTAT				
DESIGN: KSEIDL		DRAWN: KSEIDL		DATE: 12 DEC 11
SCALE: NONE				
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	1063576
	01	P1391	R-03-A	

Figure 1: Drawing Label

All references to drawing numbers, appendices, figures, or other manuals are presented in bold typeface, as shown in the example below.

> Refer to the **Schematic** drawing for additional network layout information.

In addition, any drawings referenced within a particular section are listed at the beginning of the section in the following manner:

Reference Drawing:
Power Specifications ....**Appendix A**

Daktronics identifies manuals by a DD or ED number located on the cover page of each manual. For example, this manual is referred to as **DD1421948**.

Daktronics builds displays for long life and little maintenance. However, from time to time, certain display components need replacing. The replacement parts list in **Section 5.2** provides the names and part numbers of components that may need ordering during the life of the display.

Refer to the Daktronics Exchange and Repair and Return Programs in **Section 5.3** if any component needs replacement or repair.

1.2 Display Overview

Daktronics DF-2053 displays are designed and manufactured for performance, reliability, ease of maintenance, and long life. The displays are used in parking locations, and require switch inputs and third-party software.

The DF-2053 LED displays are available in monochrome red or green LEDs. Daktronics offers these displays with 5" or 7" character height. Refer to the appropriate **Shop Drawing** for details about each display size. The DF-2053 model number is described below:

DF-2053-H-C	
DF-2053	DataMaster drop-in parking garage display
H	Character height (5" or 7")
C	Digit color [monochrome red (R) or green (G)]

1.3 Network Concepts

The following methods are available for controlling the DF-2053 displays.

Switch Inputs

Switch boxes wired directly to the display can control the signs in two configurations:

- Switches can make the displays show OPEN or FULL.

- Switches can increase or decrease a number shown on the display.

Refer to the appropriate **System Riser** for more information on using switch inputs.

Software

Software control is done using third-party software, using either multidrop protocol or Venus® 1500 protocol.

A multidrop protocol (MDP) system uses unidirectional communication where the control computer sends data to the display and the display does not communicate diagnostic information to the control computer.

Venus® 1500 (V1500) protocol uses bidirectional communication. The control computer sends data to the display and receives information regarding sign status and maintenance needs in return.

The jumper on the driver must be set to either MDP or V1500 depending on which protocol is used. Refer to **Section 3.4** and to the appropriate **System Riser** for more information on network types.

Section 2:   Mechanical Installation

Reference Drawing:

Daktronics engineering staff must approve any changes that may affect the weather tightness of the display. If making modifications, submit detailed drawings of the changes to Daktronics for evaluation and approval, or the warranty will be void.

Daktronics is not responsible for the integrity of the mounting structure or any mounting hardware not provided by Daktronics. It is the customer's responsibility to ensure a qualified structural engineer has approved the structure and any additional hardware.

DF-2053 displays mount flush with the wall and are placed in a cutout of an outer cabinet. Daktronics does not provide this cabinet. Refer to **Figure 2**.

Prior to mounting, run conduit to the display location and make all power and signal wiring connections. With the electrical connections completed, slide the display into the cabinet and secure it using the mounting holes across the top, sides, and bottom. Use the appropriate anchors or other mounting hardware to secure the outer cabinet.

The size of the cutout in which the display mounts varies, depending on the model. The following table provides the cutout dimensions for the drop-in display.

Note: Depending on the installation, additional depth may be required for the power and signal cables to pass behind the drop-in display.
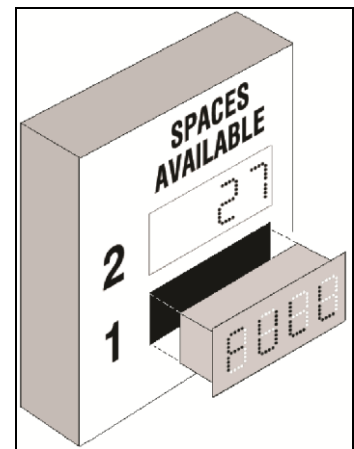
Figure 2: DF-2053 Drop-In Mounting.

Cutout Dimensions			
Sign	**Height**	**Width**	**Depth**
DF-2053-5-*	8.5" (216 mm)	17.8" (452 mm)	4.2" (102 mm)
DF-2053-7-*	10.4" (264 mm)	24.0" (610 mm)	4.2" (102 mm)

Section 3: Electrical Installation

Daktronics engineering staff must approve any changes made to the display. Before altering the display, submit detailed drawings for the proposed modifications to the Daktronics engineering staff for evaluation and approval, or the warranty will be void.

Daktronics is not responsible for the integrity of the mounting structure or any mounting hardware not provided by Daktronics. It is the customer's responsibility to ensure a qualified structural engineer has approved the structure and any additional hardware.

Daktronics parking garage displays are UL listed and tested to CSA standards. Contact Daktronics with any questions regarding the testing procedures.

3.1 Introduction

Refer to the **Sign Schematic** before making power and signal connections. Power terminates to the terminal block in the display enclosure. Signal terminates directly to the display driver. Refer to the appropriate **Shop Drawing** and **System Riser** for signal termination details. A qualified electrician must complete signal and power termination.

3.2 Power

Daktronics DF-2053 displays require a dedicated 120 VAC circuit for incoming power; the display itself has no breakers or fuses. Knockouts for suggested power entrances are located on the bottom of the display. Refer to the appropriate **Shop Drawing** for knockout locations.

3.3 Grounding

Displays must be grounded according to the provisions outlined in Article 250 of the National Electrical Code®. Daktronics requires a resistance to ground of 10 ohms or less.

Connect the display to earth ground to ensure reliable equipment operation and to protect the equipment from damaging electrical disturbances and lightning. The display must be properly grounded or the warranty will be void. Do not use the support structure of the sign as an earth-ground electrode.

The support is generally embedded in concrete. If embedded in earth, the steel must be primed, or it will corrode and make a poor ground. Refer to the appropriate **System Riser** for grounding information.

Installation with Ground and Neutral Conductors

For installation with ground and neutral conductors provided, the power cable must contain an isolated earth-ground conductor. Do not connect neutral to ground at the disconnect or at the sign; this violates electrical code and voids the warranty. Use a disconnect so all hot lines and neutral can be disconnected. Refer to the appropriate **Shop Drawing** and **System Riser** for ground, neutral, hot line, and incoming power locations.

Installation with Only a Neutral Conductor

Installations where no grounding conductor is provided must comply with Article 250 of the National Electrical Code. For the installation to meet all of the requirements of Article 250, the following guidelines must be observed:

- Connect the grounding electrode cable at the local disconnect, never at the display driver/power enclosure.

- Use a disconnect that opens all the ungrounded phase conductors.

3.4   Signal Connection

The driver mounts directly the back of the LED digit board. Unscrew and flip over the faceplate to access the driver. Knockouts for suggested signal entrance are located on the bottom of the display. Refer to the appropriate **Shop Drawing** for knockout locations.

Ethernet

An Ethernet network allows communication from a control computer to a primary display. Each display is identified by a unique address, which allows the control computer to communicate directly with the display. Ethernet networks have a maximum distance of 300' between the control computer and the display. Refer to the appropriate **System Riser** for more information on connecting an Ethernet network.

Display IP address, subnet mask, and Gateway IP address must be set using the Lantronix® DeviceInstaller™ application. Refer to **Section 3 IP Addresses** of the **Lantronix® DeviceInstaller™ User Guide** in **Appendix B**.

http://www.lantronix.com/support/downloads/?p=DEVICEINSTALLER

Unidirectional RS422—Multidrop Protocol

When using multidrop protocol, the standard communication method is unidirectional RS422. The distance between the control room and the display must be less than 2,000'. Refer to the appropriate **System Riser** for information on unidirectional RS422.

Bidirectional RS422—Venus® 1500 Protocol

When using Venus® 1500 protocol, the standard communication method is bidirectional RS422. The distance between the control room and the display must be less than 4,000'. Refer to the appropriate **System Riser** for information on bidirectional RS422.

Manual Control—Switch Inputs

A switch input system is suitable for low-cost applications where an integrated, remote control system is not needed. Using the switches, a four-digit display can show numbers from 0 to 9999, or can show OPEN or FULL.

Data sent from third-party software overrides the switch inputs. When the data signal is disconnected, the display blanks until the switch is closed.

The switch box sends signal to the display driver via 3 wires. A switch box must be wired to each DF-2053 display. Refer to the appropriate **System Riser** wiring information.

The **System Riser** shows the terminal block where the switch connections are made. Wiring open switches to the terminal block implements switch control. The displays can use either a increment/decrement system or an open/close system.

If using an increment/decrement system:

- **Increment (+1):**

    - Pushing this button increments the count by 1.

    - Holding this button down causes the display to increment rapidly.

    - Pushing this button with the count at 9999 causes the display to blank.

    - Pushing this button for a blank display sets the count to 0.

- **Decrement (-1):**

    - Pushing this button decrements the count by 1.

    - Holding the button down causes the display to decrement rapidly.

    - Pushing this button with the count at 0 causes the display to blank.

    - Pushing this button for a blank display sets the count to 9999.

    Note: Holding the Increment and Decrement switches closed at the same time resets the display to 0.

If using the open/close system:

- **OPEN:**

  - Pushing this button makes the display show OPEN.

  - A toggle switch can be connected to hold this switch closed. This makes the display revert to OPEN whenever the data signal is not present.

- **FULL:**

  - Pushing this button makes the display show FULL.

  - A toggle switch can be connected to hold this switch closed. This makes the display revert to FULL whenever the data signal is not present.

3.5 Jumper and Address Settings

Jumper Settings

There are three jumpers on the driver. Set the jumpers according to the **Address / Jumper Settings** drawing.

Address Settings

The address of each driver is set using an 8-position DIP switch. The address is based on the display system. If using a single display, the address is generally set to Address 1, where switch 1 is turned on and the remaining 7 are turned off. When using multiple displays, the switches are set using binary addresses. Refer to the **Address / Jumper Settings** drawing and **Figure 3** for more information on setting display addresses and **Figure 4** for jumper settings.
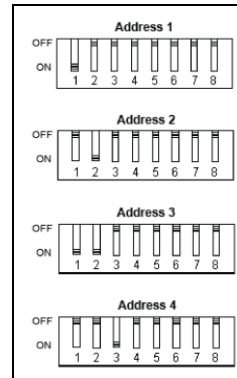
Figure 3: Common Address Settings
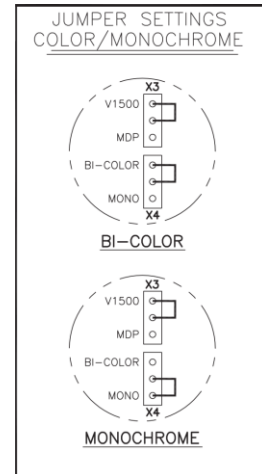
Figure 4: Common Jumper Settings

3.6   Brightness Primary / Mirror Mode

If more than one display is used at a location, LED brightness may vary between adjacent displays. If the location requires varying brightness, then each display may control its own brightness. If a uniform brightness is desired, one display must act as the brightness control primary with all adjacent displays acting as brightness control mirrors. Address settings do not denote brightness primary and mirror modes.

Each driver has a light sensor input and a light sensor output on TB2 pins 3 and 4 and pins 7 and 8, respectively. Any driver that does not have a light sensor signal connection at the light sensor input acts as a brightness control primary. It adjusts its LED brightness according to its own light sensor readings and forwards that signal to the light sensor output.

To make a display mirror brightness, connect the light sensor signal from the output on the driver of the brightness primary (TB2, pins 7 and 8) to the input of the driver on the brightness mirror (TB2, pins 3 and 4). The mirror will then use the same LED brightness as the primary. The primary light sensor signal is also forwarded to the mirror's light sensor output, which can connect to additional mirror light sensor inputs. Refer to the **Light Sensor Connections Schematic** for information regarding light sensor connection.

3.7   Fans

The DF-2053 series displays are equipped with circulation fans to prevent overheating. The circulation fans are controlled by a thermostat and automatically activated; refer to the **Sign Schematic**.

Section 4:   Maintenance and Troubleshooting

Important notes:

1. Disconnect power before doing any repair or maintenance on the display.

2. Permit only qualified service personnel to access internal display electronics.

3. Disconnect power when the display is not in use.

Reference Drawing:

4.1   Component Location and Access

The DF-2053 drop-in displays are front-access displays, meaning the displays open from the front for all service. Refer to **Figure 5** and the appropriate **Shop Drawing** for component location.
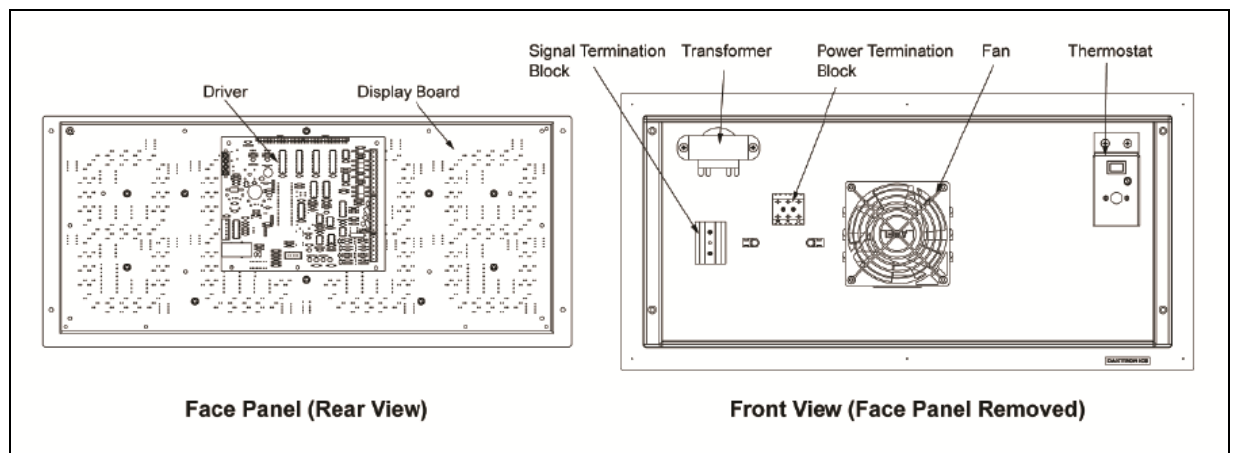
Figure 5: Component Location

To access the internal components:

1. Remove the TORX®-head screws attaching the face panel to the display using a T-25 TORX-head screwdriver.

2. Pull the face panel away from the display.

Note: Take care not to drop or damage face panels with modules and drivers. Once the screws are removed, the harnesses are still attached to the driver. The face panel can be allowed to hang if done with caution.

4.2   Service

Display Board Replacement

The digit circuit board mounts to the back of the face panel. If any LEDs malfunction, replace the entire display board.

1. Access the interior of the display as described in **Section 4.1**.

2. Remove connections from the display driver.

3. Remove the nuts holding the display board to the face panel.

4. Lift the display off the face panel.

5. Secure a new display board to the face panel using the nuts removed in **Step 3**.

6. Reconnect the connections to the display driver.

7. Reattach the face panel to the display.

Display Driver Replacement

1. Access the interior of the display as detailed in **Section 4.1**.

2. Remove connections from the display driver.

3. Remove the nuts securing the driver to the display board.

4. Pull the driver from the display board, applying even pressure at the 40-pin header that connects the driver to the display board.

5. Secure the new driver using the nuts removed in **Step 3**.

6. Reconnect the connections to the display driver.

7. Reattach the face panel to the display.

Circulation Fan Replacement

1. Remove power from the display.

2. Remove power from the fan.

3. Note the orientation of the arrow printed on the side of the fan; refer to **Figure 6**.

4. Remove the four nuts securing the fan.
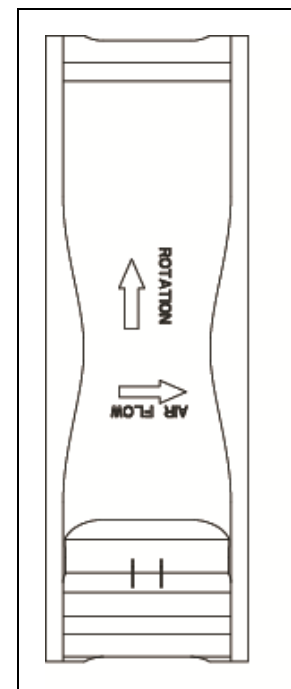
Figure 6: *Fan Airflow*

5. Set the original fan aside, but keep the finger guard.

6. Set the new fan in the display with the same orientation as the original fan. Place the finger guard on top of the new fan.

7. Replace the four nuts removed in **Step 4**.

8. Reconnect power wiring to the fan.

9. Restore power to the display.

10. Test fan with button on thermostat.

Thermostat Replacement

1. Remove power from the display.

2. Remove power wiring from the thermostat.

3. Remove the two nuts securing the thermostat housing and carefully lift from the display.

4. Remove the two nuts and two screws securing the thermostat to the display and carefully lift the thermostat from the display.

5. Set the new thermostat in the display and replace the screws removed in **Step 4**.

6. Return the thermostat housing to its position over the thermostat and replace the nuts removed in **Step 3**.

7. Reconnect power wiring to the thermostat.

8. Restore power to the display.

9. Test the thermostat using either a heat gun or the test button on the thermostat.

4.3 Troubleshooting

Problem	Solution
Entire display fails to work.	Check for proper line voltage at termination panel.
	Check connections from 16 VAC transformer to driver.
	Check power LED on driver.
Cannot communicate with display using the signal converter.	Check power to the signal converter and display.
	Check connections between signal converter and display.
	Check the serial cable from computer to signal converter.
The display is garbled.	Replace the driver.
Digit will not light.	Check contact at driver connector.
	Replace the driver.
	Replace wire to the digit.
Segment will not light.	Check contact at driver connector.
	Replace the driver.
Segment stays lit.	Replace the driver.
	Replace the digit.
Data appears in the wrong place on the display, or wrong data appears on a particular line of the display.	Verify the correct address on drivers.
Fan will not activate.	Check power to fan.
	Check power to thermostat.
	Test thermostat with heat source.
	Test the fan with the test button on the thermostat.
	Replace fan.

Section 5: Replacement Parts and Repair & Return Programs

5.1 Daktronics Part Numbers

All parts in Daktronics signs are assigned a part number. Daktronics part numbers are commonly found on drawings and are used when requesting replacement parts from Daktronics Customer Service. Take note of the following part number formats.

- "0P-_ _ _ _-_ _ _ _" denotes an individual circuit board.

- "0A-_ _ _ _-_ _ _ _" denotes an assembly. An assembly can be a single circuit board or a collection of components that function together, usually mounted on a single plate or in a single enclosure.

- "0Z-_ _ _ _-_ _ _ _" denotes an assembly.

- "PR-_ _ _ _ _-_ _" denotes a specially ordered part.

Most circuit boards and components within this sign carry a label listing the part number of the unit. If a circuit board or assembly is not in the replacement parts list, use the label to order a replacement. A typical label is shown in **Figure 7**. The part number is bolded.
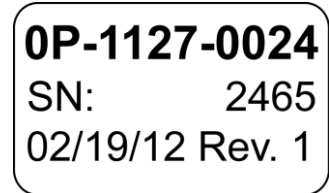
Figure 7: Typical Label

5.2 Replacement Parts List

When ordering replacement parts, refer to the Daktronics part numbers in the table below. Daktronics recommends putting replacement parts in a lockable storage cabinet to prevent theft or accidental loss.

Part Description	Daktronics Part #
Display Board, 5", 4 Column	0P-1391-0010
Display Board, 7", 4 Column	0P-1391-0020
Driver, 4 Column, Ethernet	0P-1391-0002
Driver, 4 Column, RS422	0P-1391-0001
Fan	B-1053
Transformer	T-1133
Thermostat	S-1229
Thermostat Switch	S-1217

5.3   Daktronics Exchange and Repair & Return Programs

To serve customers' repair and maintenance needs, Daktronics offers both an Exchange Program and a Repair & Return Program.

Exchange Program

Daktronics unique Exchange Program is a quick service for replacing key parts in need of repair. If a part requires repair or replacement, Daktronics sends the customer a replacement, and the customer sends the defective part to Daktronics. This decreases display downtime.

Before Contacting Daktronics

Identify these important part numbers:

Display Serial Number:
Display Model Number:
Contract Number:
Date Installed:
Location of Sign (Mile Marker Number):
Daktronics Customer ID Number:

To participate in the Exchange Program, follow these steps.

1. **Call Daktronics Customer Service:**

Market Description	Customer Service Number
Department of Transportation, mass transits, airports, parking facilities	**800-833-3157**

2. **When the new exchange part is received, mail the old part to Daktronics.**
    If the replacement part fixes the problem, send in the problem part which is being replaced.

    a. Package the old part in the same shipping materials in which the replacement part arrived.
    b. Fill out and attach the enclosed UPS shipping document.
    c. Ship the part to Daktronics.

3. **A charge will be made for the replacement part immediately, unless a qualifying service agreement is in place.**
    In most circumstances, the replacement part will be invoiced at the time it is shipped.

4. **If the replacement part does not solve the problem, return the part within 30 working days or the full purchase price will be charged.**
If, after the exchange is made the equipment is still defective, please contact Customer Service immediately. Daktronics expects immediate return of an exchange part if it does not solve the problem. The company also reserves the right to refuse parts that have been damaged due to acts of nature or causes other than normal wear and tear.

Repair & Return Program

For items not subject to exchange, Daktronics offers a Repair & Return Program. To send a part for repair, follow these steps:

1. **Call or fax Daktronics Customer Service:**
   Refer to the appropriate market number in the chart listed on the previous page.
   Fax: 605-692-0147

2. **Receive a Return Materials Authorization (RMA) number before shipping.**
   This expedites repair of the part.

3. **Package and pad the item carefully to prevent damage during shipment.**
   Electronic components, such as printed circuit boards, should be placed in an antistatic bag before boxing. Daktronics does not recommend using packing peanuts when shipping.

4. **Enclose:**
   - your name
   - address
   - phone number
   - the RMA number
   - a clear description of symptoms

Shipping Address

Daktronics Customer Service
331 32nd Ave
RMA#_____
Brookings, SD 57006

Email

transportationhelp@daktronics.com

5.4 Daktronics Warranty and Limitation of Liability

The Daktronics Warranty and Limitation of Liability is located in **Appendix C**. The Warranty is independent of Extended Service agreements and is the authority in matters of service, repair, and display operation.

Glossary

Digit Circuit Board: The LEDs are mounted to a circuit board, which mounts directly to the back of the driver board. Problems with individual segments or LEDs may require accessing or replacing this board.

Display Address: Identification number assigned to each display in a network. It is set using the display's controller. The controller computer uses the address to differentiate between displays connected on the same network. Displays on the same network cannot have the same address.

Ethernet: A local area network (LAN) protocol using a bus topology. The Ethernet network card uses the TCP/IP interface to communicate with the server via the LAN.

LED (light emitting diode): LEDs are high-intensity, low-energy lighting units.

Module: A unit of the display that consists of LEDs, a display board, and a driver board. One driver board is located on the back of each module.

Network: Multiple signs connected to each other. Up to 240 Venus® 1500-controlled displays can exist on one network.

Pixel: A group of LEDs that power on and off to form character and graphic content.

RS232: Standard PC communication type with a maximum cable length of 25' (7.62 meters).

RS422: Standard differential communication type with a maximum cable length of 4,000 feet (1.2 kilometers).

Section: A section consists of one modular enclosure and its contents.

Venus® 1500 Software: Daktronics-designed, Windows®-based software that creates and edits messages on displays.

Appendix A: Reference Drawings

The Daktronics drawing number is located in the bottom-right corner of the drawing. The drawings are grouped together by drawing type, and then listed in alphanumeric order.

General Drawings:
Address / Jumper Settings, DF-2052 / 2053...**Drawing A-0517678**

Mechanical Drawings:
Shop Drawing, DF-2053-5-*...**Drawing B-1077697**
Shop Drawing, DF-2053-7-*...**Drawing B-1077698**

Electrical Drawings:
Schematic, DF-2053 Series Parking Display ....**Drawing A-0494703**
System Riser, DF-2053 Series Display, Ethernet...**Drawing A-0512886**
System Riser, DF-2052 / 2053, Switch Inputs ....**Drawing A-0517734**
Schematic, Light Sensor Connections, DF-2053 Series................................**Drawing A-0517865**
System Riser, DF-2053, RS422 Unidirectional (MDP) ....**Drawing A-0519861**
System Riser, DF-2053, RS422 Bi-lateral ....**Drawing A-0521685**
Schematic, DF-2053 with Fan and Thermostat ....**Drawing A-1063576**

Appendix B: Laktronix® Device Installer™ User Guide (Part # 900-325)

Appendix C: Daktronics Warranty and Limitation of Liability (SL-02374)

Functional Specifications

CCDC Parking Access and Revenue Control System (PARCS) Replacement Project

~~September 10~~October 8~~2~~, 2024 (VERSION 2)

Prepared by:
Kimley-Horn and Associates, Inc.

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PROJECT FUNCTIONAL SPECIFICATIONS

TABLE OF CONTENTS

PARKING ACCESS AND REVENUE CONTROL SYSTEM (PARCS)

GENERAL

1.01 GENERAL

A. This request contains the requirements for replacement of the existing Parking Access and Revenue Control System (PARCS) at the Capital City Development Corporation (CCDC) garages. The PARCS replacement shall not only utilize the industry's latest technological advancements to control access, calculate, and accurately report revenue for the parking facilities, but shall improve the overall management, system efficiency, revenue accounting, revenue security, and customer service aspects of the parking operations at CCDC. These specifications will describe the functional requirements for the new PARCS and what, if any, existing equipment shall be used with the new system.

B. This project will replace the existing PARCS at CCDC and related parking operations at five (5) with possible additions of a sixth parking garage in Boise, Idaho.

C. Construction at the parking garages shall take no more than 365 calendar days from Notice to Proceed (NTP). ~~Substantial completion of construction shall be completed within the same amount of calendar days~~. Contractor shall develop a phasing plan and construction schedule in accordance with these dates.

   1. Contractor will be provided a list of special events and blackout days for construction.

   2. No lane shall remain unavailable for use for a period exceeding five (5) calendar days.

   3. Desired order for addressing garages:
      a. Capitol & Myrtle
      b. 10th & Front
      c. 11th & Front
      d. 9th & Front
      e. 9th & Main – Contractor should anticipate night and weekend work at this location.
      f. Capitol & Main – Contractor should anticipate night and weekend work at this location.

1.02 REFERENCES

B. Standards:
   1. CCDC/Boise Design guidelines
   2. Boise Building Code

C. Codes and Regulations:
   1. Local Codes: Comply with State and Local codes as applicable.

D. Information Security Standards and Requirements:

1. Payment Card Industry Data Security Standard (PCI DSS), Version 4.0 or latest version at the time of Contract Award

2. Payment Application Data Security Standard (PA DSS), Version 3.2 or latest version at the time of Contract Award

3. PCI Security Standards Council P2PE certified solution

E. CCDC/ParkBOI Branding Standards.

1.03 DEFINITIONS

A. Definitions of terms used in these specifications are as follows:

1. Acts of God – Those events which are outside of control of humans and for which no one can be held responsible, and which cannot be prevented. Acts of God include, but are not limited to, severe weather phenomena such as hail, flooding, extreme drought, hurricanes, tornados, tropical storms, fire, earthquakes, pandemic and lightning.

2. APS – Automated Pay Station – Also referred as POF. A station dedicated only for payment at non-gated areas to facilitate and speeding the process at the exit lanes by allowing users to pay in advance.

3. Automated Vehicle Identification – Also referred to as AVI, is a Radio Frequency Device (RFID) that emits an electronic signal that can be read by an associated reader/antenna. The signal contains information relating to the account and transponder number.

4. Barrier Gate – An automated gate utilized by the PARCS to control ingress into and egress from a parking facility.

5. Cloud – A network of servers that are accessed over the internet to store and manage data without the need for physical storage devices or on-site infrastructure.

6. Contract Documents – The Contract Documents executed by CCDC and the Contractor outlining the requirements for the Work to be performed as it relates to the implementation of the PARCS.

7. Contractor – The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the Work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the Work. May also be referred to as Vendor.

8. Crash – A system failure in which the PARCS cannot properly process revenue transactions.

9. Days – Calendar Days

10. Dynamic Signage – signage displaying varying text and/or graphics to relay specific messages to users via a matrix of LED lights. Dynamic signage can be used for various applications including displaying the method of payments accepted at a specific lane, the number of available spaces in a facility/level or providing guidance to users.

11.   EM – Emergency Maintenance Services includes technology that addresses or resolves emergency/urgent issues or malfunctions with PARCS equipment.

12.   EMV – European MasterCard/VISA credit card standard, referring to a chip embedded credit card associated with a personal PIN used for payment of parking fee due. Sometimes referred to as "*Chip and PIN.*"

13.   Entry terminal – a computerized PARCS device located in an entry lane that facilitates multiple methods of entry including issuing a QR code or barcode parking ticket, reading an EMV (chip embedded) card, reading an AVI transponder, reading a proximity access card, reading a bar code or QR code from a cell phone or hard copy document, or reading a contactless credit card.

14.   Exit terminal – a computerized PARCS device located in an Unattended Exit Lane that facilitates multiple methods of exit from a parking facility including ingesting and reading a QR code or barcode parking ticket, reading an EMV (chip embedded) card, reading a QR code or barcode from a cell phone or hard copy document, or reading a proximity access card or credit card fob via RFID. The exit terminal uses the data from the inserted or detected media to validate exit privileges or calculate and process the associated parking fee; fees can be paid via credit card, debit card, or cell phone, or exit is granted via access card or validated/pre-paid encoded ticket.

15.   FAT – Factory Acceptance Test: a test of the PARCS Contractor's system and equipment prior to delivery to a project site to ensure that the equipment and system meets the intent of these Functional Specifications.

16.   FMS – Facility Monitoring System: A system that provides operational and performance information of the system components.

17.   GUI – Graphical User Interface: A program interface that takes advantage of a computer's graphics capabilities to make the program user-friendly and intuitive to use.

18.   ISF – Insufficient Funds

19.   IP – Internet Protocol: IP is a network layer protocol in the Internet Protocol suite and is encapsulated in a data link layer protocol (e.g., Ethernet). As a lower layer protocol, IP provides the service of communicable unique global addressing amongst computers.

20.   IRW – Image Review Workstation: a workstation that is used to review images from the LPR system.

21.   ISO – short for International Organization for Standardization: An international organization comprised of national standards bodies from around the world. ISO is the world's largest developer and publisher of standards.

22.   LAT – Lane Acceptance Test: a test of a Contractor's installed equipment at the lane level to ensure that the equipment meets the intent of these Functional Specifications. LATs are conducted on all entry lanes and exit lanes.

23. LED – Light Emitting Diode: a type of light commonly used for dynamic signage.

24. LPN – License Plate Number

25. LPI – License Plate Inventory

26. LPR – License Plate Recognition: a combination of cameras, software, infrastructure, and monitoring stations that allow for the automated recording of a vehicle's license plate number upon entry and exit using application software utilizing OCR. The license plate number is linked to the vehicle's entry event within the PARCS. Upon exit, the license plate is checked again by the LPR system to verify that the vehicle attempting to exit is the same vehicle that is linked with the entry event of that transaction; a subsystem to a PARCS.

27. Major Deviation – Any deviation or failure of a FAT, LAT, or Site Acceptance Test (SAT) procedure that affects fee calculation accuracy, transaction count accuracy, exception count accuracy, active ticket inventory accuracy (system vs. actual), revenue processing, calculations, or reporting.

28. Minor Deviation – Any deviation or failure of a FAT, LAT, or Operational Completion Test (OCT) procedure that does not affect fee calculation accuracy, transaction count accuracy, exception count accuracy, active ticket inventory accuracy (system vs. actual), revenue processing, calculations, or reporting.

29. NEMA – National Electrical Manufacturers Association: An association that develops standards related to the generation, transmission, distribution, control, and end-use of electricity.

30. N-Factor – a term used to quantify the accuracy of the OCR for an automated license plate reading system including LPR, where "N" represents the number of characters on any given license plate. If all characters are interpreted correctly by the OCR, then it is said to be an "N read". If all but one character is read correctly then it is said to be an "N minus one" or "N-1" read, etc.

31. NEC – National Electric Code: part of the National Fire Code, the NEC is a standard for the safe installation of electrical wiring and equipment.

32. NFC – Near Field Communication: wireless communication technology that allows devices in close proximity to establish a connection and exchange data.

33. Normal Conditions - Normal conditions are considered to be equipment malfunctions, parts usage under normal wear and tear, and performance of scheduled services.

34. Normal Weather Conditions - Normal weather conditions are applicable to weather conditions that are common to the Boise, ID region such as rain, strong thunderstorms, freezing temperatures (down to -20° F), snow, haze, hail, ice, 100+ degree temperatures, and high winds, among others.

35. OCR – Optical Character Recognition: a set of software algorithms that enable LPR application software to analyze a digital image of a license

plate and determine the digitized values of the license plate characters through an automated process.

36.   OCT – Operational Completion Test: a test of a fully installed PARCS to monitor the system during normal operating conditions and ensure that the system is functional over a defined period of time in a manner consistent with the intent of these Functional Specifications.

37.   OTDR – Optical Time Domain Reflectometer: an instrument that analyzes the light loss in an optical fiber in optical network troubleshooting.

38.   PA DSS – Payment Application Data Security Standard: a set of comprehensive data security requirements and parameters for computer applications that process credit card payments.

39.   PARCS – Parking Access and Revenue Control System: A combination of equipment, subsystems, and supporting infrastructure that allows an entity to accurately calculate, collect, track, and report revenues for parking within one or more facilities. A PARCS also monitors and controls ingress and egress to and from those facilities.

40.   PC – Personal Computer: a microcomputer designed for individual use for such applications as word processing, data management, or financial analysis.

41.   PCI DSS – Payment Card Industry Data Security Standard: a set of comprehensive requirements and parameters for enhancing payment card account data security to help facilitate the broad adoption of consistent data security measures on a global basis.

42.   PDF – Portable Document Format: a document-encoding process developed by Adobe that maintains page layout, fonts, and graphics and can include many other features such as hyperlinks.

43.   PIN – Personal Identification Number: A number selected by a user to gain access to certain areas of the PARCS or to associate with a chip embedded credit card required by EMV standards.

44.   POF – Pay on Foot. Also referred as APS.

45.   Preventive Maintenance - This type of maintenance includes but is not limited to scheduled inspection, testing, necessary adjustment, alignments, lubrication, parts cleaning, replacement of consumables, communication system maintenance, database administration, and application support of the PARCS hardware and software.

46.   QA/QC – Quality Assurance/Quality Control: The quality processes and quality checks used to ensure the PARCS, and its components comply with the Contract requirements.

47.   QR Code – A Quick Response Code is a form of a bar code that can store more data than a standard binary bar code.

48.   RFI/EMI – Radio Frequency Interference / Electromagnetic Interference: Radio Frequency and Electromagnetic Interference are phenomena that occur when the radio frequency of electromagnetic field of one device disrupts, degrades, or impedes another device.

49. RFID – Radio Frequency Identification: the technology utilized by proximity card systems or Automatic Vehicle Identification systems for identifying a user's credential. A RFID system consists of an antenna, a transceiver (which reads the radio frequency and transfers the information to a processing device), and a transponder, also called a tag (which is an integrated circuit containing the RF circuitry and information to be transmitted).

50. RMA – Return Merchandising Authorization

51. SNMP – Simple Network Management Protocol: SNMP forms part of the internet protocol suite and is used in network management systems to monitor network-attached devices for conditions that warrant administrative attention.

52. SQL – Structured Query Language: a database computer language designed for the retrieval and management of data in relational database management systems, database schema creation and modification, and database object access control management.

53. Swapped Ticket – The occurrence when a user "swaps" the original parking ticket obtained upon entry to a parking facility with a second, more current parking ticket and attempts to exit using the more current parking ticket.

54. TCP/IP – Transmission Control Protocol/Internet Protocol: The Internet Protocol Suite (commonly known as TCP/IP) is the set of communications protocols used for the Internet and other similar networks.

55. TIA – Telecommunications Industry Alliance: Associations that helps develop standards for the telecommunications and electronics industries.

56. UL – Underwriters Laboratories, Inc.: UL is a U.S. not-for-profit, privately owned, and operated product safety testing and certification organization. Based in Northbrook, Illinois, UL develops standards and test procedures for products, materials, components, assemblies, tools, and equipment, chiefly dealing with product safety. UL is one of several companies approved for such testing by the U.S. federal agency OSHA. OSHA maintains a list of approved testing laboratories, known as Nationally Recognized Testing Laboratories.

57. Unusual Conditions – Conditions other than normal conditions that are out of the control of the Contractor. These events include willful or careless damage to the equipment including user accidental damage as well as Acts of God.

58. Validation Program – The offering of hourly parking through a paper or electronic credential that may be read by a bar code or card reader in an Unattended Exit Lane.

59. VPN – Virtual Private Network: a network that is constructed by using public wires to connect nodes. For example, the Internet may be used as the medium for transporting data. These systems use encryption and other security mechanisms to ensure that only authorized users can access the network and that the data cannot be intercepted.

60. Work – Services or goods to be provided by the Contractor per the Contract.

1.04   SYSTEM DESCRIPTION

A.   The objectives of the PARCS project include, but are not limited to:

1.   Replace existing PARCS equipment as outlined in this document.

2.   The PARCS shall be designed with an open architecture to provide integration to third-party applications.

3.   Contractor shall reuse existing power and communication infrastructure when possible, including such items as existing conduit, fiber, etc. Vehicle detection loops and other PARCS equipment, though, shall be installed new. CCDC is to provide cabinet equipment for the main switch in the communication room and communications to that switch. The following cabinet model is anticipated within the garage communications rooms: Tecmojo Wall Mount Server Cabinet with an IT Network Rack (dimensions 17.72"Dx21.65"Wx13.78"H). Vendors to provide networking equipment including switches needed.

4.   Preference for vendors to provide a cloud-based PARCS system with no servers hosted on premise, this includes third-party systems like LPR. Vendors can also provide quotes for on-site servers if desired.

5.   Achieve a PCI DSS and PA DSS compliant environment and use P2PE with chip-card processing to an off-site 3rd party to reduce PCI scope.

6.   Accurately track required financial and statistical information.

7.   Accurately calculate appropriate fees.

8.   Accurately document the revenues generated by the parking operations in user friendly reports.

9.   Increase efficiency of operations and maintenance.

10.   Provide flexibility in the timing and formatting of the pertinent operational and management reports.

11.   Provide custom report generation capabilities and Business Intelligence (BI) tool integration with the ability to store and schedule reports. BI tools may include dashboards to summarize, report, and analyze real-time data.

12.   Provide ease of rate structure changes and programming that does not require vendor support. Examples of rate types would include events, holiday rates, and discounted parking rates.

13.   Provide a test environment to test rate changes before they are pushed to equipment.

14.   Provide flexibility in rate configurations for all parker types, and to vary rates by time of day and day of week.

15.   Provide flexibility in permit models to accommodate hybrid user schedules that may include limited access by days of the week or hours of the day.

16. Provide an intuitive and user-friendly interface for the Owner, Operator and other authorized personnel.

17. Provide QR code or barcoded tickets at parking garages with transient parkers that can also be paid with a mobile application or website provided by the vendor.

18. Provide QR code or barcode readers in all lanes for sites with transient parking.

19. Provide a mobile application or mobile friendly website that interacts with the operator to assist in managing the facilities.

20. Provide integration of the new PARCS with the existing permit management system, CARMA, from The Car Park.

21. Provide a system with remote cashiering functionality so that an operator can manually send a transaction to a lane.

22. Provide electronic coupons and/or validations that may be presented by the user in all lanes, including processing in self-service lanes and at pay-on-foot stations.

23. Provide LPR cameras for all entry and exit lanes as well as long range proximity card readers. Vendors shall provide alternative costs for optional AVI readers.

24. LPR cameras shall be for rear plates wherever possible. For locations where rear plate reads are not possible, vendor to provide LPR using front plate cameras.

25. Provide intercoms and pinhole cameras in all lanes, preferably with Umojo technology integrated into the new PARCS that connects to the existing command center from The Car Park. Other intercom options include Commend H-Series intercoms and Stentofon TKIS-2s.

26. Increase efficiency of operations through reduction of person-hours required for parking occupancy validation counts. Vendor to integrate with existing Daktronics signs at all parking facilities.

27. Provide an intuitive and user-friendly interface for all users and the operator's personnel.

28. Simplified maintenance procedures for all equipment.

29. Provide Pay-On-Foot Stations in existing decks to allow users to pay for their parking.

30. Provide certified training for 1st and 2nd level maintenance of equipment, preferably at the Contractors factory or training facility.

31. Provide equipment with IP connections and limited/no serial connections.

32. Provide a mobile application or mobile friendly website for payment whereby a parker can scan a QR code on a ticket that takes a user to a payment portal that has options for credit card, Google Wallet, and Apple Pay. Also, PARCS software to be updated with newer e-payment capabilities if, and when, they come available during the life of the PARCS equipment.

33. Provide integration with ParkMobile for ticket-takeover capabilities for users to have different means of payment.

34. Provide an initial 2-year full warranty period beginning at the time of project final acceptance.

35. Provide cost estimates for additional years of warranty should an extended warranty period be requested.

36. Provide in-house and remote support as needed and within the specified amount of time.

37. Provide an optional integration with all the current hotels that work with CCDC (3 hotels) and valet operations.

38. Provide integration with YMCA membership cards.

39. Provide integration and hardware for the BikeBOI secured area in 9th and Main and 11th and Front.

40. Provide integration for counts for existing monument signs located at each parking facility.

41. Provide and install all necessary on-site signage associated with PARCS, including—but not limited to—wayfinding signage to POF, signage with instructions for persons with hearing impairments at entry/exit gates, and other signage necessary to communicate payment instructions to hourly customers.

42. Vendor to provide option for credit card on file for repeated users to be able to sign up, create an account that saves payment option and that is integrated with the LPR system.

B. A maintenance contract for warranty services and ongoing maintenance in years 3 through 10 shall be provided by the vendor during the proposal stage. The warranty and maintenance agreement will be directly with The Car Park Vendors shall provide information on how their RMA process works. Vendor shall include this as part of Section C.8 in their proposal.

C. The parking and other control equipment components provided by the Contractor shall operate as a complete system. Each equipment component shall perform its function in relation to other components. As such, each component shall be compatible with all related components. All components shall be compatible with the geometric circumstances of the facility or place where they are installed.

D. The Contractor shall bring any deficiencies or discrepancies in these specifications that they believe may exist to the attention of the Owner or Owner's Representative in their Proposal. No deficiency or discrepancy in these Functional Specifications shall relieve the Contractor of the responsibility to provide a satisfactorily performing, reliable system. The contractor shall provide this information in Section C.11 in their proposal.

1.05   SUBMITTALS

A. Contractor shall submit to the Owner or Owner's Representative plans and specifications for all civil/site work. All plans shall be signed and sealed by a

professional engineer registered to practice in Idaho. The plans and specifications shall comply with CCDC and City of Boise Design and Construction standards.

B. All Owner or Owner's Representative comments, responses, and approvals of Contractor submittals shall be transmitted by the Owner or Owner's Representative to the Contractor. Contractor shall incorporate said comments and responses and resubmit the document to the Owner or Owner's Representative for review and approval. Should the Contractor's resubmittal not incorporate the appropriate comments or otherwise fail to meet the requirements, this cycle shall continue until the Contractor produces an acceptable submittal that is approved by the Owner or Owner's Representative in writing.

C. Submit a payment milestone breakdown table which corresponds to the milestones listed in the Phasing Plan and Submittal Schedule with a percentage breakdown for each milestone payment totaling the full contract amount. CCDC reserves the right to modify the payment milestone breakdown table prior to issuing Contractor Notice to Proceed.

D. Submittal Schedule (with submittal timing) for all submittals, including those proposed by the Contractor that is not listed in the Contract Documents, to be included in the Contractor's Proposal. The contractor shall provide this information in Section C.4 in their proposal.

E. Submittals shall include the following and are further described in the following table:

1. Submit a Phasing Plan with the Proposal for the transition from the existing system to the new PARCS. The Phasing Plan shall be a plan for design, implementation, training, and testing. The contractor shall provide this information in Section C.4 in their proposal. Phasing Plan shall include the following:

   a. Milestone dates in the form of a Gantt Chart Schedule

   b. Phasing plan shall be resource loaded to indicate number of teams/individuals responsible for delivery of individual tasks.

   c. Narrative description of phasing to install software, install new network equipment as needed, decommission each lane, install new field devices, perform LAT, and activate for public use.

   d. A lane switchover approach

   e. Decommissioning strategy for existing PARCS that maintains all critical systems and functionalities throughout the switchover process.

2. Sample set of reports that are fundamental and readily available with the PARCS as part of the Proposal. The contractor shall provide this information in Section C.12 in their proposal. After coordinating with the Owner or Owner's Representative on report layout for all standard and custom reports, the Contractor shall submit a sample format of each report for final approval forty-five (45) calendar days prior to the FAT.

3. Product data for review and approval for all field equipment and construction material (including bollards and concrete) prior to the

manufacture or procurement of the equipment. Product data shall include equipment dimensions, cut out locations for electrical and communications connection points, and manufacturer cut sheets of all Contractor-supplied and third-party components incorporated in the various devices. The contractor shall provide this information in Section C.13 in their proposal

4. As part of the proposal submittal, the Contractor shall submit a document for Nature and Impact of Exceptions for any exceptions taken to this document or terms in the RFP. The document shall include Section, wording and a response from the vendor on recommendations to address the exception.

5. PA DSS Report of Validation - The Contractor's application software shall conform to the latest publicly known PCI DSS standards and be PA DSS certified. The Contractor shall submit the most recent PA DSS Report of Validation as part of their Proposal to which their system is certified. The contractor shall provide this information in Section C.14 in their proposal

6. Submit manuals forty-five (45) calendar days prior to the respective system or subsystem's installation unless otherwise noted. The Owner or Owner's Representative shall review the structure and contents of the manuals. The Owner or Owner's Representative will return comments to the Contractor, and the Contractor shall incorporate all comments into a revised user's manual. The Contractor shall submit the revised manuals for approval prior to commencing system installation. The Contractor shall submit the following manuals in electronic (PDF or Microsoft Word) format:

    a. PARCS user manuals

    b. PARCS subsystems manuals

    c. Maintenance manual

    d. Training manuals – including workbooks, lecture notes, and manuals to be used in live training sessions to include the following:

        (1) Supervisor Manual

        (2) Systems Administration Manual

        (3) LPR User Manual

        (4) Reporting Manual

7. Disaster Recovery Plan: The final documentation shall include a comprehensive disaster recovery plan. The plan shall provide the step-by-step procedures for disaster recovery for each point of failure.

    a. The first steps shall be in diagnostics. The remaining steps shall provide procedures for resolution in order to bring systems back to full operational status.

    b. Should disaster occur immediately following, or as a result of, a patch or software update the disaster recovery process shall

return the system to the software version in effect prior to the patch or update being applied.

      c.   The disaster recovery plan shall include requirements for spares.

8.   Testing procedures shall test all system functionalities that are described in these Functional Specifications as well as any other functionalities performed by the system (e.g., standard functionalities for the PARCS) that are not specifically described within these Functional Specifications. The test procedures document shall be submitted for review and comment a minimum of 45 calendar days prior to a required test. Fourteen (14) calendar days after receipt, review comments will be returned to the Contractor by the Owner or Owner's Representative. The Contractor shall incorporate the Owner or Owner's Representative's review comments into the Test Procedures. This revised document shall be resubmitted for verification that all comments have been incorporated. Ten (10) calendar days after receipt, review comments will be returned to the Contractor by the Owner or Owner's Representative. No test shall commence until the finalized Test Procedures Document is received by the Owner or Owner's Representative. The Contractor shall develop all test procedures for the tests that are listed below:

      a.   Factory Acceptance Test (FAT)

      b.   Lane Acceptance Test (LAT)

      c.   Operational Completion Test (OCT)

9.   A clear plan for the credit card processing subsystem shall be submitted as part of the proposal. The contractor shall provide this information in Section C.6 in their proposal. This plan shall include:

      a.   Integration with a 3rd Party Chip-Card Processor

      b.   Identification of how PCI DSS compliance is achieved

      c.   P2PE certification

      d.   Credit card processing system flowchart

      e.   Example rates of 3rd party processing costs from similar installations.

F.   The following tables contain a listing of required Contractor submittals and the timing for the respective submittal:

Contractor Submittal	Submittal Timing
(C.1) PARCS Replacement Executive Summary	Proposal*
(C.2) Proposed ParkBOI PARCS System Hardware	Proposal*
(C.3) Proposed ParkBOI PARCS System Software	Proposal*
(C.4) Phasing and Transition Plan	Proposal*
(C.5) Hotel and YMCA Integration Capabilities (including Valet Operations)	Proposal*
(C.6) Credit Card Processing Subsystem Plan	Proposal*
(C.7) List of Clearinghouses for which the Contractor has a certified interface	Proposal*
(C.8) Maintenance & Warranty Plan	Proposal*
(C.9) Training Program	Proposal*
(C.10) Milestone Payment Plan	Proposal*
(C.11) Nature and Impact of Exceptions	Proposal*
(C.12) Appendix A - Sample Set of Standard Reports	Proposal*
(C.13) Appendix B - Product Data for all hardware proposed including: Entry Station, Exit Station, Cash/Credit Pay Station, Credit Card Only Pay Station, EMV reader, Contactless Reader, QR Code Reader, Entry/Exit Vehicle Detection, Barrier Gate, Intercom, UPS, LPR System and Camera, AVI (Optional), Proximity Card Readers (Optional long-range readers), Pinhole Camera, Network Switches, Bollards, and Reservation System. ~~Vendor to also provide product data or requirements for switches to be purchased by CCDC.~~	Proposal*
(C.14) Appendix C - PA DSS Report of Validation	Proposal*
(C.15) Appendix D - Third Party Escrow Agreement	Proposal*
Submit 60% Design Plan	Within 45 calendar days of contract award
Submit full design plans for review	30 calendar days prior to construction start
Conceptual Design Document consisting of: Credit Card clearinghouse interface and design	Within 45 calendar days of contract award
• Report formats and layout for all reports	30 calendar days prior to FAT
Manual - Instructional training manuals (workbooks, lecture notes, etc.)	30 calendar days prior to the respective training class
Test Procedures – Factory Acceptance Test	30 calendar days prior to test start
Instructional Training course outline and schedule	30 calendar days prior to the respective training class
Failover & Failback procedures manual for PARCS (Disaster Recovery)	30 calendar days prior to implementation
Manual - Manufacturer's recommended maintenance procedures manual	30 calendar days prior to implementation
Manual - PARCS user manuals (including manuals for all third-party integrations)	30 calendar days prior to implementation
Request to begin Operational Completion Test	30 calendar days prior to completion of LATs
Naming conventions for field devices	30 calendar days prior to installation
Test Procedures – Factory Acceptance Test	30 calendar days prior to test start

Test Procedures – Lane Acceptance Test	30 calendar days prior to test start
Test Procedures – Operational Completion Test	30 calendar days prior to test start
Instructional Training course outline and schedule	30 days prior to the respective training class
LPR Evaluation Software	Prior to LAT.
Perpetual Software Licenses	When software is installed
Outstanding Punch List items w/estimated completion date	Weekly after the completion of LAT
As-Built Documentation	At time of Substantial Completion of the Work

Information shall be included in Section C of the Respondent's submittal and shall be clearly labelled as C.1 thru C.15, as indicated in the table above. See RFP for more information.

1.06   QUALITY ASSURANCE

A.   All PARCS components and their installation shall comply with all laws, ordinances, codes, rules, and regulations of public authorities having jurisdiction over this part of the work. It shall be the responsibility of the Contractor to meet these and all other current technical, performance, and safety standards that are applicable to all components and to the entire system, even when not specifically referenced. It shall be the Contractor's responsibility to obtain any and all permits that are required to complete this work.

B.   All materials and equipment shall be listed, labeled, or certified by a nationally recognized testing laboratory to meet Underwriters Laboratories, Inc. (UL), standards where test standards have been established. Equipment and materials which are not covered by UL Standards will be accepted provided equipment and material is listed, labeled, certified, or otherwise determined to meet safety requirements of a nationally recognized testing laboratory. Equipment of a class for which no nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, will be considered if inspected or tested in accordance with national industrial standards, such as NEMA, or ANSI. Evidence of compliance shall include certified test reports and definitive product data.

C.   Housings of the components exposed to weather shall meet NEMA 4 standards or better to be moisture-proof and shall provide sufficient protection so that the components continue to function without moisture, dust, heat, or extreme cold related interruption.

1.07   DELIVERY AND STORAGE

A.   Contractor shall be responsible for insuring all shipped items. Any items damaged during shipping shall be replaced and shipped to the Owner or Owner's Representative, by expedited means if requested, at no additional cost to the Owner or Owner's Representative.

B.   The Owner or Owner's Representative shall provide the Contractor with a designated storage area up to 3,000 square feet within an existing ParkBOI parking garage for PARCS equipment that has not been installed. The Contractor shall describe in their Proposal the square footage of area required, and what is planned to be stored in the area. The Owner or Owner's Representative shall

determine the exact location(s) after Contract Award. It is the Contractor's responsibility to protect the equipment from theft and damage until final acceptance including installation of fencing, locks, and any other security provisions. Should the stored equipment be stolen or damaged prior to final acceptance, the Contractor shall replace the equipment at no additional cost to the Owner or Owner's Representative.

C. After equipment is installed, costs (time and material) for repair or parts replacement, components, etc., damaged or rendered unserviceable due to apparent and provable misuse, abuse, vandalism or negligence by Owner, Owner's Representative, CCDC employees, or the using public are excluded as a cost incurred by the Contractor. Also excluded from the costs incurred by Contractor are damages due to Acts of God that occur after installation.

1.08   PROJECT/SITE CONDITIONS

A. All field equipment and components shall be fully protected from the ambient environment when installed in the proper housing provided by the Contractor. Operation of the equipment shall not be affected in any way by Normal Weather Conditions. In addition, operation of the equipment shall not be affected in any way by the conditions listed below:

   1. Ambient Temperatures: -20ºF to 120ºF

   2. Humidity: 0% to 95% (non-condensing)

   3. Rain: Blowing rain with 80 mph gusts

   4. Snow: Blowing snow with 80 mph gusts

   5. Dust: Blowing dust and fine sand

   6. Wind: gusts of 80 mph or greater

B. Environmental conditions shall not inhibit the PARCS from performing in accordance with these Functional Specifications. The Contractor shall provide a system such that environmental conditions in a cabinet shall not cause failure of the installed electronics.

C. Electrostatic and electromagnetic forces within the environment, e.g., non-direct lightning strikes, or other types of power interference shall have no effect upon the integrity or operation of the PARCS. The Contractor's solution for preventing power interference shall be presented to the Owner or Owner's Representative for approval prior to implementation. Lightning protection through surge arrestors or earthen ground rods or a combination thereof shall be provided and installed for the PARCS. The Contractor shall determine, based upon their system requirements, the appropriate lightning protection method to use for the location where the equipment is installed. Equipment shall be UL approved for use as part of a primary labeled lightning protection system and marked in accordance with UL procedures.

D. Existing Communications

   1. Currently, the existing PARCS equipment is connected to servers using leased line communications located in either the CCDC offices or communication rooms in parking garages. All S&B servers are located in the CCDC offices while Amano servers can be found in the

communication room of the 11th and Front garage. Each parking garage room has direct communications using Ethernet cables to all devices in the facility from the communications room at each site. The existing vendor currently runs on a hosted server located at the CCDC offices. The vendor will be responsible for providing new communications from the lanes and the main switch in a cabinet provided by CCDC.

E. Existing Power

1. The Contractor shall utilize the existing power where possible.

F. Parking Facilities

1. The parking garages utilize Scheidt & Bachmann PARCS in five parking garages and Amano PARCS in one parking garage (11th and Front). CCDC parking garages can accommodate various user types including hourly parkers (transient), monthly parkers, three hotels, and special event parkers. A future parking garage is anticipated to be built in downtown Boise near 10th and Jefferson and will need integration with YMCA customers using their membership pass cards as garage credentials. All parking garages are automated during regular operations. Each parking garage has ticket dispensers on entry and payment upon exit. Programs like BikeBOI bike parking can be found in the 9th and Main parking garage and utilizes a proximity card that is integrated with Scheidt & Bachmann PARCS for monthly bike parkers. All parking garages have pedestrian warning alerts at exits to warn pedestrians of exiting cars. These warning systems are not integrated in the current PARCS but rather have their own standalone system that will not be integrated into the PARCS.

2. The following parking facilities are included in this project:

a. **9th and Main:** This parking garage has three (3) access points: an entry along Main Street, an exit along 9th Street, and an entry and exit along Idaho Street. BikeBOI parking is located on level one and integrated within the PARCS. The Main Street access point has one entry lane. There are two exit lanes on level one, and drivers can exit either through 9th Street or Idaho Street after the exit gates. There is a parking space counter located at the Main Street and at Idaho Street access points. All lanes have a proximity card reader for monthly parkers, a QR scanner for validated tickets, and an intercom system. On level one, there are two drive-thru ATM lanes adjacent to the parking entry lane that are not part of the scope of this project. The drive-thru ATM is accessible via the Main Street access point, outside this facility's gated area. This parking garage predominantly serves monthly parkers, many of whom are downtown Boise office workers and/or employee tenants of the Zions Bank Building. There are nested parking areas on levels three through five, with one entry and one exit lane on each level. All lanes in the nested parking areas have a proximity card reader for monthly parkers. Nested parking lanes have intercom systems. There are roll-up gates at each access point for fire safety that are not integrated with the PARCS and are

not intended to be integrated in the future. All equipment is Scheidt & Bachmann.

b. **9th and Front:** This parking garage has two access points: an entry and exit along 9th Street and an exit along Front Street. The 9th Street access point has one entry lane and one reversible entry/exit lane. The Front Street access point has one exit lane. There is a parking space counter located at the 9th Street access point, as well as at the corner of 9th Street and Front Street on an elevated wall mounted sign. All lanes have a proximity card reader for monthly/residential parkers, a QR scanner for validated tickets, and an intercom system. This parking garage predominantly serves event parkers during nights and weekends. There are nested parking areas on levels three through five with one entry and one exit lane on each level. All lanes have a proximity card reader that include residential parkers of the Aspen Lofts. Nested parking lanes do not have intercom systems. There are roll-up gates at each access point to the nested parking areas for fire safety and overhead gates open using a clicker. These users will need to be provided with access credentials, but the overhead equipment and clicker will remain. All equipment is Scheidt & Bachmann.

c. **10th and Front:** This parking garage has two access points: two exit lanes on Grove Street and a single entry on 10th Street. The Grove Street access point has two exit lanes, and the 10th Street access point has one entry lane. There is a parking space counter located at the 10th Street access point. This parking garage predominantly serves guests of Hotel 43, monthly parkers, visitors, and valet parking from the hotel and nearby restaurants. All lanes have a proximity card reader for monthly parkers, a QR scanner for validated tickets, and an intercom system. Hotel 43 guests utilize reserved spaces within the facility and are able to enter/exit the facility via QR code printed at the Hotel 43 registration/check-in desk. All equipment is Scheidt & Bachmann.

d. **11th and Front:** This parking garage has three access points; an entry along US-26 (Front Street), an entry/exit along an alleyway between Front Street and Myrtle Street, and an entry/exit along a driveway between the parking garage and the Hilton Garden Inn on the west side of the garage. The Front Street access point has two entry lanes, and the remaining access points both have one entry lane and one exit lane. There is a parking space counter located at the Front Street access point. However, this is currently non-functioning due to incompatibility with the existing PARCS equipment. All lanes have a proximity card reader for monthly parkers, a proximity card reader for hotel guests, a QR scanner for validated tickets, and an intercom system. This parking garage predominantly serves guests of the Hilton Garden Inn but has become increasingly popular among visitors looking to park. All equipment is Amano.

e. **Capitol and Main:** This parking garage has three access points: an entry along Main Street, an entry along Idaho Street and an exit along Capitol Boulevard. The Idaho Street access point and the Main Street access point leads to one entry lane on level two of the parking garage. There are two exit lanes on level one that merge into a single exit lane, exiting to Capitol Boulevard. A parking space counter is located at both the Main Street and Idaho Street access points. All lanes have a proximity card reader for monthly parkers and a QR scanner for validated tickets. This parking garage predominantly serves hourly and monthly parkers in addition to the residents of the Chase Bank Tower Condominiums. All equipment is Scheidt & Bachmann.

f. **Capitol and Myrtle:** This parking garage has three access points: an entry along Capitol Boulevard, an entry along the Alley Way between the parking garage and 8th Street, and an exit along the Alley Way between the parking garage and 8th Street. The Capitol Boulevard access point has one entry lane. One of the Alley Way access points has two exit lanes, and the other access point has one entry lane. There is a parking space counter located at the Capitol Boulevard access point. All lanes have a proximity card reader for monthly parkers, a proximity card reader for hotel guests, a QR scanner for validated tickets, and an intercom system. This parking garage predominantly serves the Hampton Inn guests. All equipment is Scheidt & Bachmann.

3. Entry/Exit Control: Entry and exit lanes are distributed as detailed in the following table.

4.3.

Existing Conditions										
Deck Name / Access Point	Lanes			BikeBOI	User Type per Access Point			Payment Machines		
	# of Entry Lanes	# of Exit Lanes	# of Reverisble Lanes	BikeBOI Entrance	Visitors	Monthly	Hotel	Credit Card	Cash	CC + Cash
9th & Main										
Idaho Street or Main Street	1	0	0	-	x	x		1	-	3
Idaho Street or 9th Street	0	2	0	-	x	x				
Nested Area	3	3	0	-		x		-	-	-
BikeBOI	-	-	-	1		x		-	-	-
9th & Front										
Front Street	0	1	0	-	x	x		2	-	2
9th Street	1	0	1	-	x	x				
10th & Front										
Grove Street	0	2	0	-	x	x		-	-	1
10th Street	1	0	0	-	x	x	x			
11th & Front										
US-26	2	0	0	-	x	x	x	-	-	2
11th Street Alley Way	1	1	0	-	x	x	x			
Hilton Garden Inn Alley Way	1	1	0	-	x	x	x			
BikeBOI	-	-	-	1		x		-	-	-
Capitol & Main										
Idaho Street or Main Street	1	0	0	-	x	x		2	-	3
Capitol Boulevard	0	2	0	-	x	x				
Myrtle Street	0	0	0	-	x	x	x	-	-	1
Capitol Boulevard	1	0	0	-	x	x	x			
Alley Way	1	2	0	-	x	x	x			
Total:	13	14	1							

Revised Quantities for all entry lanes, reversible lanes, and exit lanes will remain. The quantities for the Pay Stations are outlined in their respective hardware sections.

CCDC PARCS Replacement

1.09   PROJECT SEQUENCING

A.   The Contractor shall propose sequencing in the Phasing Plan that achieves full implementation of the PARCS within 365 calendar days. The selected Contractor will need to be presented for CCDC Board approval and then a contract will be negotiated.

1.10   MAINTENANCE AGREEMENT

A.   The Contractor shall provide training and vendor certification for up to two designated employees to become factory trained technicians capable of performing all maintenance duties of an on-site technician. This shall be inclusive of all technician equipment and tools, and travel for training. Annual and recurring training shall be included as well. The training and vendor certification shall allow the employee to perform maintenance activities and not void the warranty. Vendor shall provide a list of standard maintenance activities that the operator may conduct that will not void the warranty.

B.   The Contractor shall offer maintenance plans for Emergency Maintenance and Repair needed with information on response times for repairs that might need a technician on-site.

C.   The maintenance agreement scope of work for this agreement does not cover any repairs necessitated by vandalism, customer or owner misuse, Acts of God, or any other cause that does not specifically relate to normal wear and tear.

D.   The maintenance agreement scope of work and related fee shall include all PARCS maintenance within business hours, including parts and labor. The maintenance agreement scope of work and related fee shall include all emergency maintenance outside of business hours.

E.   Vendor to provide response times for Emergency maintenance options for the Owner to select the option that best suits their needs.

1.11   WARRANTY (HARDWARE AND SOFTWARE SUPPORT) – YEAR 1 AND 2

A.   The Contractor shall warranty all parts, materials, software, 3rd party hardware, 3rd party software, and workmanship following successful completion of the OCT and receipt of acknowledgement of formal system acceptance by the Owner or Owner's Representative, for a period of twenty-four (24) consecutive months. All-inclusive costs (parts, labor, maintenance, software, 3rd party software, 3rd party hardware, warranty repairs, Contractor travel time, Contractor expenses, etc.) incurred during the warranty period shall be provided without additional cost to the Owner or Owner's Representative.

B.   The Contractor shall allow trained CCDC-designated PARCS maintenance technicians to perform maintenance on PARCS equipment that shall not void the warranty of the equipment.

C.   Costs (time and material) for repair or parts replacement, components, damaged or rendered unserviceable due to apparent and provable misuse, abuse, vandalism or negligence by Owner, Owner's Representative or Owner employees or the using public are excluded as a warranty item. Also excluded from the warranty are damages due to Acts of God. All services that are performed during the warranty period are assumed to be included as part of the warranty. If there are maintenance or other services that will be provided that are not included as part of the warranty, Contractor shall outline those services and costs for those services in their proposal. The contractor shall provide this information in Section C.8 in their proposal.

D.   The warranty period on the PARCS shall begin when the OCT has been successfully completed and the Contractor has received written notice of formal system acceptance from the Owner or Owner's Representative. The Contractor shall maintain all systems that are operating prior to starting the warranty period at no cost to the Owner or Owner's Representative. Maintenance services shall be as defined within the Manufacturer's recommended maintenance procedures manual submitted with the Proposal and as accepted by the Owner or Owner's Representative. The contractor shall provide this information in Section C.8 in their proposal.

E.   The Contractor shall maintain all systems throughout the warranty period. All preventive maintenance shall be performed at non-peak periods during regular business hours. Vendor to coordinate with Client at a minimum 24 hours in advance to determine the appropriate time to perform any maintenance/updates that would occur during business hours.

F.   Software Support during the Warranty Period: In this Section PARCS software shall refer to the Contractor's software used in the PARCS.

1.   The Contractor shall make available to the Owner or Owner's Representative normal PARCS software improvement releases (updates) when they become available. Where PARCS software problems are identified and are agreed to be minor, that is not affecting revenue, reporting, or the entry/exit or payment functionalities, these problems shall be corrected in a new PARCS software release to be available to the Owner or Owner's Representative within thirty (30) calendar days of notification. All upgrades or improvements to PARCS software shall be documented and approved, prior to implementation. The Contractor shall correct major PARCS software problems immediately on a priority basis. Major PARCS software problems are defined as those causing erroneous financial transactions, revenue loss, reporting errors (including parker counts), loss of entry/exit functionality, loss of payment functionality, system instability, database corruption and compromised operational efficiency. Where PARCS software problems are identified and are agreed to be major, these problems shall be corrected in a new PARCS software release to be available to the Owner or Owner's Representative within five (5) calendar days of notification.

2.   All PARCS, and 3rd party software patches and updates (provided as part of this proposal) shall be provided free of charge during the warranty period; however, the Owner or Owner's Representative shall have the option of implementing the updates or not. Seven (7) calendar days prior to all PARCS software modifications, patches, updates, and upgrades,

the Contractor shall provide accurate and complete documentation that describes:

    a.   patch/update release designation

    b.   proposed date and time of implementation

    c.   detailed description of what the patch/update accomplishes

    d.   full disaster recovery procedures that return the system to its pre-patch update condition

    e.   list of other installations where the patch has been previously installed, and contact information for those customers

3.   Contractor shall coordinate the testing and implementation of all patches and updates with the Owner or Owner's Representative.

4.   Contractor shall provide a change control methodology to document system changes and approvals prior to implementation.

5.   The Contractor shall commit to provide corrective patches and upgrades in the event security vulnerability or system availability issues are discovered within fifteen (15) calendar days of discovery.

1.12   POST-WARRANTY (HARDWARE AND SOFTWARE SUPPORT) – YEARS 3 THROUGH 10

A.   The Contractor shall propose a scope of work to provide post-warranty software support services, preventative maintenance, and emergency services, for up to ten (10) years from the final project acceptance. Services to be described in the scope of work for the Software Support, Preventative Maintenance and Emergency Support Agreement include, but are not limited to:

1.   On-Site support and maintenance for all PARCS software, equipment, and all 3rd party applications.

2.   Remote support and maintenance for all PARCS software, equipment, and all 3rd party applications.

3.   24/7 Hotline telephone support

4.   On-Site emergency response support.

5.   All PARCS software patches and updates shall be provided free of charge during years 3 - 10; however, the Owner or Owner's Representative shall have the option of implementing the updates or not. Seven (7) business days prior to all PARCS software modifications, patches, updates, and upgrades, the Contractor shall provide accurate and complete documentation that describes:

    a.   patch/update release designation

    b.   proposed date and time of implementation

    c.   detailed description of what the patch/update accomplishes

    d.   full disaster recovery procedures that return the system to its pre-patch update condition

> e. List of other installations where the patch has been previously installed, and contact information for those customers

6. Contractor shall provide all required documentation for patches, updates, and modifications in accordance with PCI-DSS version 4.0 or higher.

7. Contractor shall coordinate the testing and implementation of all patches and updates with the Owner or Owner's Representative.

8. Preventative Maintenance support will be provided by the Owner or Owner's Representative for non-technician maintenance such as taking care of paper receipts, low stock for tickets.

B. Proposed scope of work shall be subject to modification and ultimate approval of the Owner or Owner's Representative.

C. For emergency support services, the Contractor shall provide Hourly Service Rates, as defined below:

1. Regular Business Hours – 6:00 AM through 11:00 PM, 7 days a week

2. Outside of Business Hours – 11:00 PM through 6:00 AM, 7 days a week

D. If the Contractor withdraws from the manufacture, distribution, or support of parking revenue control systems in the United States; or sunsets a hardware component, the Contractor shall provide the Owner or Owner's Representative with the notice of such occurrence at least 180 calendar days in advance of withdrawal. In addition, the Contractor shall provide the Owner or Owner's Representative with manufacturing specifications for all Contractor-manufactured components and sourced-proprietary components of the PARCS, and the Owner or Owner's Representative shall be provided the opportunity to purchase a suitable number of spares of all discontinued components.

1.13 MAINTENANCE SERVICES

A. The Maintenance Services to be provided by the Contractor shall include maintenance for the PARCS hardware components, and all subsystems. The services proposed by the Contractor shall also cover any additional subsystems that are installed by the Contractor as part of this project.

B. The Contractor shall provide an online Maintenance Tracking System to track all maintenance activities. The Maintenance Tracking System shall provide the Owner or Owner's Representative a dashboard view of all scheduled and unscheduled maintenance activities. The Maintenance Tracking System shall record when calls or service tickets are received and when they are resolved. The Maintenance Tracking System shall be used as the source of information to calculate maintenance performance against the contractual requirements. All entries into the Maintenance Log shall be stored in the Maintenance Tracking System.

C. The support to be provided by the Contractor under the maintenance contract shall provide the Owner or Owner's Representative with complete PARCS support. The service coverage for hardware covered by the maintenance contract is 24 hours per day, seven days per week, and 365 days per year. Contractor-certified technicians shall provide total system support. Access to a Contractor-certified technician includes contact by telephone, e-mail, and on-site as needed to provide the levels of support defined within the Contract. The

Contractor shall be responsible for providing all labor, materials, equipment, and supervision required to maintain and repair all PARCS hardware installed as part of this project, as well as PARCS hardware installed during the term of the maintenance contract. The scope of the maintenance work includes Preventive Maintenance and Emergency Services Maintenance.

D. Maintenance Responsibilities

1. There are two types of maintenance, Preventive Maintenance and Emergency Services Maintenance, and each type is further divided into two levels, Technician Level and Operational Level. The Contractor shall only be responsible for providing Technician level services. All Operational level services shall be provided by Owner or Owner's Representative staff as defined within this section.

   a. The Contractor shall submit technician hourly rates for both preventative and emergency services maintenance.

2. Any individual providing Technician Level Maintenance Services as part of the maintenance agreement shall be a factory trained and certified technician.

E. Preventive Maintenance – Technician Level

1. Preventive Maintenance Plan: The Contractor shall submit a proposed Preventive Maintenance Plan for all hardware specified in the Contract that ensures all hardware operates as designed and specified. The Contractor shall submit the Preventive Maintenance Plan as part of their Proposal response. Preventive Maintenance services shall include but are not limited to inspection, testing, necessary adjustment, alignments, lubrication, parts cleaning, replacement of consumables, battery refresh, and communication system maintenance of the PARCS hardware provided as part of this project by the Contractor. The Owner or Owner's Representative reserves the right to modify any portion of the Preventive Maintenance Plan throughout the life of the Contract. Preventive Maintenance services shall be performed on each hardware component of the PARCS in accordance with the approved Preventive Maintenance Plan. The Contractor shall provide a list of Preventive Maintenance tasks and frequencies for each component, to include daily, weekly, bi-weekly, monthly, quarterly, semi-annual, and annual overhauls. The contractor shall provide this information in Section C.8 in their proposal.

2. Preventive Maintenance shall be scheduled to the greatest extent possible during non-peak periods. The Contractor shall consult with the Owner or Owner's Representative to determine periods of peak activity for the various devices.

3. The Contractor shall provide the ability to schedule maintenance during heavy traffic times at an emergency rate.

Scheduled maintenance services shall follow this general procedure:

1. Prepare - This includes reading and becoming familiar with all manuals and material concerning the equipment, ensuring safety precautions are

taken, obtaining all tools, taking the equipment out of service, initiating service documentation, and updating the Maintenance Log.

2.   Visually Inspect – Includes checking for loose wires, missing hardware, structural damage, damaged cables, cracked displays, peeling labels, rust, etc.

3.   Service and Repair – This includes performing the service and repairing items noted faulty during the inspection.

4.   Test – This includes testing the equipment to ensure functionality in accordance with the Contract.

5.   Return to Service – Once testing is complete and successful the technician shall return the equipment back into service.

6.   Complete Service Documentation – The technician shall complete the service documentation, file paperwork for historical purposes, and update the Maintenance Log.

F.   As part of the Preventive Maintenance procedures for each piece of equipment the Contractor shall initial and note the date and time the Preventive Maintenance was performed and update a Maintenance Log. The Owner or Owner's Representative shall, at any time, access the Maintenance Log to compare the entries to the scheduled and logged maintenance services within the Maintenance Log and monthly reports provided to the Owner or Owner's Representative by the Contractor.

G.   The Contractor shall be responsible for providing all tools and test equipment or any specialized tools required to perform the tasks of the maintenance agreement as well as any method of transportation, such as a vehicle, required to transport the technician(s) and store required tools and spare parts.

H.   All consumable office supplies shall be the responsibility of the Contractor.

I.   Preventive Maintenance Services - Operational Level:

1.   The Owner or Owner's Representative parking staff shall have the responsibility of providing the Operational Level Preventive Maintenance services as follows:

a.   Checking the status of the lane status lights at 9th & Front Reversible Lanes.

b.   Checking printer clarity

c.   Checking gate arms for tightness and serviceability

d.   Checking printer paper and ticket stock

e.   Aesthetic cleaning of the PARCS equipment

J.   Emergency Services – Technician Level

1.   Emergency Services shall be performed in response to specific events and shall return equipment to an operating state following a malfunction. Emergency services shall include inspections and necessary tests to determine the causes of PARCS hardware malfunction or failure. The emergency services shall also include the furnishing and installation of

components and/or parts that are required to repair malfunctioning system elements.

2. The Contractor shall perform Emergency Services in response to notifications by the Owner or Owner's Representative under normal conditions as described herein. In addition, the Contractor shall perform Emergency Services in response to notifications by the Owner or Owner's Representative under unusual conditions. Unusual conditions may include a vehicle striking lane equipment thereby damaging the equipment so that the equipment may stop working. Services performed under unusual conditions shall be invoiced to the Owner or Owner's Representative above the Contract value on a time and materials basis. The Contractor shall propose hourly rates based on the time of day, day of week, etc. that the services are performed. Parts required to perform Emergency Services under unusual conditions, that are not included in the spare parts inventory, shall be invoiced to the Owner or Owner's Representative at the agreed upon rates used to replenish the spare parts inventory under normal conditions.

3. Due to the gravity of an equipment malfunction/failure, emergency responses and associated corrective actions shall be provided within the response times in this specification. When Emergency Services are required, as determined by the Owner or Owner's Representative, the Owner or Owner's Representative shall notify the Contractor at any time, twenty-four (24) hours per day, seven (7) days per week, three hundred sixty-five (365) days per year. As with Preventive Maintenance, emergency services shall be tracked in the Maintenance Log. Contractor shall follow Owner or Owner's Representative provided procedures on who to contact to inform and/or update the status or resolution of a problem.

K. Emergency Service Maintenance Performance Requirements

1. The Contractor shall provide three (3) methods of notification to be used for emergency contact information. The methods of notification shall provide a means of tracking the date and time the message was delivered. The Contractor shall provide a response call within thirty (30) minutes of notification by the Owner or Owner's Representative. The Contractor shall respond within thirty (30) minutes to all emergency maintenance notifications. Performance shall be calculated as the total number of response calls returned to the Owner or Owner's Representative within thirty (30) minutes divided by the total emergency notifications placed in one (1) month. For each percentage point (below 100%) of total emergency maintenance calls that the Contractor does not respond to within thirty (30) minutes, the Contractor's monthly invoice shall be reduced by 5% of its Emergency Maintenance (EM) invoice amount. Each thirty (30) minutes in excess of the response to the maintenance call shall be treated as an additional call. For example, if the Maintenance Tracking System indicates that the Contractor responded within thirty (30) minutes to 98% of all emergency maintenance calls, the Contractor's monthly EM invoice amount shall be reduced by 10%.

2. Resolution of the situation within four (4) hours after notification is required in all situations. A temporary solution is acceptable in the event replacement parts are not available in inventory. Performance shall be calculated as the total number of emergency events resolved within four (4) hours divided by the total emergency notifications placed in one (1) month. Each four-hour timeframe after the initial maintenance call shall be treated as a separate maintenance call. For each percentage point (below 100%) of total emergency maintenance calls that the Contractor does not resolve within four (4) hours, the Contractor's monthly invoice shall be reduced by 5% of its EM invoice amount, unless the Owner or Owner's Representative agrees that there were factors beyond the Contractor's control that prevented them from performing. For example, if the Maintenance Tracking System indicates that the Contractor resolved 98% of all emergency maintenance calls within four (4) hours or less, the Contractor's monthly invoice shall be reduced by 10%. The Contractor shall submit a table with expected response times, options, and pricing for anticipated maintenance situations. The following table provides some examples of expected response times to given situations:

Situation/Problem	Expected Response Time
Call from Owner	Within 30 minutes
Critical software malfunction	Within 30 minutes
Credit card system malfunction	Within 30 minutes
Ticket/credit card reader not working	1 hour
Gate malfunction	1 hour
Slowness in lanes	1 hour

3. Factors beyond the control of the Contractor, such as unexpected delays in parts, accidents, severe weather, and unusual traffic, shall be thoroughly documented in the Maintenance Log and reported to the Owner or Owner's Representative the next business day. The Owner or Owner's Representative may grant relief for the service hour requirement after reviewing these factors.

4. The Owner or Owner's Representative shall notify the Contractor in writing of performance problems with respect to the service standards within twenty (20) days after the end of each month based on the performance reports from the Maintenance Tracking System.

5. The Contractor shall be given thirty (30) days from receipt of notification to take corrective actions with respect to the problem identified by the Owner or Owner's Representative or request relief.

L. Maintenance Staff

1. The Contractor shall provide resumes for the proposed maintenance staff as a part of the Proposal.

2. The Contractor shall adhere to the requirements noted below, and then propose an appropriately sized staff to ensure successful performance of routine Preventive Maintenance and Emergency Services Maintenance. The Contractor's staffing plan shall take into consideration extenuating circumstances such as illness, family emergencies, vacations, etc. such

that the required number of technicians are always available. The Vendor shall propose options for technicians on site and their hours and shall also propose options for local technicians to be readily available.

    3.   The Contractor's maintenance staff that will perform the scope of work described shall consist of:

        a.   Factory trained hardware technicians available throughout the life of the maintenance Contract to handle Preventive Maintenance.

        b.   Factory trained hardware technicians to handle emergency maintenance services calls, available by text, email, or phone twenty-four (24) hours a day, seven (7) days a week, three hundred sixty-five (365) days a year.

        c.   The Owner or Owner's Representative shall have the right to have any personnel removed from the Site at its sole discretion. Contractor shall immediately remove personnel upon notification.

M.   License Plate Recognition Services

        a.   The Owner or Owner's Representative will perform random LPR accuracy testing on various lanes within the PARCS each month. Contractual accuracy standards defined in the Specification shall be maintained throughout the life of the system.

        b.   If the random test results do not meet these standards, an Emergency Services Maintenance notification shall be made to the Contractor by the Owner or Owner's Representative. The Contractor shall then respond to the notification and resolve the issue accordingly.

1.14   SPARE PARTS

A.   Contractor shall provide listing of all spare components and manufacturers of those spare components to the Owner or Owner's Representative with contact information, pricing, and availability.

B.   The Contractor shall propose a list of spare parts (type and quantity) to be maintained on site. The list of all spare parts required to maintain the system under the submitted preventive maintenance program shall be clearly identified and included in the Proposal. After a spare part is taken from the inventory a replacement spare part shall be ordered. In addition, the Contractor shall submit a price list for the proposed spare parts inventory that lists the cost of each part on the spare parts inventory. The contractor shall provide this information in Section C.8 in their proposal.

C.   Contractor shall provide an asset management application that is accessible by the Owner or Owner's Representative. This application shall maintain an ongoing inventory of all available spare parts and components, parts distribution, and pricing. The asset management application shall track on a daily basis and provide an up-to-date inventory of spare parts. The Owner or Owner's Representative shall have access to the asset management application to include review of spare parts inventory at any time. It is acceptable for the asset management application to be a part of the Maintenance Tracking System, or it may be a cloud-hosted spreadsheet.

D.   The Owner or Owner's Representative reserves the right to order additional parts and manage the PARCS spare parts inventory as required to maintain the system. All parts needed for repair will be shipped overnight at the expense of the Contractor.

E.   The proposed spare parts list is subject to the approval of the Owner or Owner's Representative, and the Owner or Owner's Representative reserves the right to modify the spare parts inventory throughout the term of the Contract. The Owner or Owner's Representative shall provide a storage location of the spare parts, exact location to be identified by the Owner or Owner's Representative after Contract Award. The Contractor shall have access to the spare parts inventory and shall have the responsibility of ordering replacement components or parts as components or parts are used prior to completion of the warranty. Contractor shall replace spare parts from the inventory immediately upon use.

F.   All equipment and parts shall be newly manufactured within the past six (6) months and never installed in any other operational system other than for factory test purposes for this contract.

G.   When delivered to the Owner or Owner's Representative, an itemized list of Contractor's part numbers, model numbers, pricing, supplier's address, supplier's telephone numbers, and any single source components shall be identified by the Contractor. Contractor shall provide listing of all spare components and manufacturers of those spare components to the Owner or Owner's Representative with contact information, pricing, and availability.

1.15   CONSUMABLES

A.   The Contractor shall provide the Owner or Owner's Representative with receipt specifications; barcode/QR code location; and proposed ticket printer for the new PARCS within thirty (30) days following Contract Award. The ticket format shall be such that the Owner or Owner's Representative can input their required information on the ticket and submit the revised ticket to the Contractor for review and revisions as required. An agreed upon ticket format for each facility shall be finalized within sixty (60) days after Contract Award. Ticket stock and receipt paper shall be printed with an Owner approved logo and appropriate branding as specified by the CCDC.

B.   The Owner or Owner's Representative shall not be tied down to any one particular ticket supplier. As such, ticket specifications shall be reproducible by multiple ticket printers. Specifications for consumables shall be included with required bid documents, and the Owner's Operator will be responsible for the procurement of ticket stock consumables.

C.   The Contractor shall provide a set of keys for each unit of equipment that is stocked with tickets. The Contractor shall also provide five (5) sets of primary keys for all locks. All equipment of the same type shall have the same key. All keys should be unique for the project. Keys for areas that access cash shall be keyed individually. This includes bill acceptors, coin vaults, and cash vaults. All other keys should be keyed the same.

PART 2 - PRODUCTS

2.01   SOFTWARE

A.   The Vendor shall propose a cloud-based system for the PARCS and all third-party integrations and systems.

B.   All software and software licensing required by the system shall be provided by the Contractor. Each such software package shall be identified in the Contractor's Proposal. Unless specified elsewhere, all third-party software provided by the Contractor shall be the latest available version at the time of system implementation. The Contractor shall be responsible for making any necessary modifications, and providing documentation of such modifications, to existing software programs that the Contractor adopts for the system. Should the Contractor and the software vendor be separate entities, the standard system software supplied shall not be modified by the Contractor in any way that shall preclude the purchase of a standard maintenance and service contract from the Contractor. All third-party software maintenance agreements shall remain valid throughout the duration of the warranty period and shall be extended on an annual basis according to the provisions to be negotiated and described within the post-warranty Software Support, Preventive Maintenance and Emergency Support Agreement. The contractor shall provide this information in Section C in their proposal.

C.   The Contractor shall identify any and all third-party software and their associated licenses in the Proposal. Licenses shall cover future updates as required by the Contract Documents for as long as the software is maintained by the third-party provider. The contractor shall provide this information in Section C.3 in their proposal.

D.   All PARCS functionality shall be accessible and usable via a browser-based GUI. The GUI shall be compatible with all major browsers and shall at a minimum work universally with Firefox, Chrome, Safari, and Internet Explorer. Vendors shall also provide option for mobile friendly GUI.

E.   System Design Review

1.   Contractor shall submit necessary documentation in the form of the Conceptual Design Document to conduct a System Design Review. Required documentation shall demonstrate to the Owner or Owner's Representative that the Contractor's proposed system meets 100% of the requirements of this specification. The Owner or Owner's Representative shall require a minimum of ten (10) business days for the review the Conceptual Design Document. To receive written acceptance, Contractor shall incorporate and demonstrate the Owner or Owner's Representative's feedback/comments from the Conceptual Design Document prior to commencement of the next milestone. Contractor shall not proceed until receipt of written acceptance presented by the Owner or Owner's Representative. The following summarizes in detail the requirements of these reviews:

2.   System Design Review:

a.   Documents to be submitted shall include, but not limited to, the following:

           (1)   System schematics, block diagrams, interconnection diagrams, and flow charts

           (2)   Standard reports samples and proposed formats for new reports

           (3)   Software design approach, database design and list of all software

           (4)   Detailed description of network design between field devices and cloud-based central system

           (5)   Detailed description of proposed credit card data flow and processing.

           (6)   Graphical User Interface (GUI) User Screens

           (7)   Transition Plan

      b.   Contractor shall facilitate and conduct the System Design Review at CCDC or at a location approved by the Owner or Owner's Representative.

F.   Application Software

    1.   Application software shall be comprised of computer application programs to provide complete operation of the PARCS.

    2.   Cloud-based system shall allow multiple groups and roles that govern individual access to the system and transactions within the system. The assignment of a group/role will determine whether or not the individual may access a transaction, and if the access is update or view only.

    3.   The Contractor shall install and configure all application software and firmware required by the PARCS with all software licenses needed.

    4.   The application software shall provide the following:

      a.   Any action that could compromise the integrity of the operating system or application software shall be password controlled and shall comply with current, up-to-date PCI standards.

      b.   Separate login shall be required for the separation of file maintenance and routine data entry and retrieval.

      c.   PCI DSS V4.0 or higher: Assign all users a unique ID before allowing them to access system components or cardholder data.

      d.   PCI DSS V4.0 or higher: In addition to assigning a unique ID, employ at least one (1) of the following methods to authenticate all users:

           (1)   Something you know, such as a password or passphrase

           (2)   Something you have, such as a token device or smart card.

           (3)   Something you are, such as a biometric.

      e.   PCI DSS V4.0 or higher: Incorporate two-factor authentication for remote access.

f.   PCI DSS V4.0 or higher: Render all passwords unreadable during transmission and storage on all system components using strong cryptography.

g.   PCI DSS V4.0 or higher: Ensure proper user identification and authentication management for non-consumer users and administrators on all system components.

h.   PCI DSS V4.0 or higher: Control addition, deletion, and modification of user IDs, credentials, and other identifier objects.

   (1)   Verify user identity before performing password resets.

   (2)   Set passwords for first-time use and resets to a unique value for each user and change immediately after the first use.

   (3)   Immediately revoke access for any terminated users.

   (4)   Remove/disable inactive user accounts at least every ninety (90) days.

   (5)   Enable accounts used by vendors for remote access only during the time period needed. Monitor vendor remote access accounts when in use.

   (6)   Communicate authentication procedures and policies to all users who have access to cardholder data.

   (7)   Do not use group, shared, or generic accounts and passwords, or other authentication methods.

   (8)   Change user passwords at least every ninety (90) days.

   (9)   Require a minimum password length of at least seven (7) characters.

   (10)   Use passwords containing both numeric and alphabetic characters.

   (11)   Do not allow an individual to submit a new password that is the same as any of the last four (4) passwords he or she has used.

   (12)   Limit repeated access attempts by locking out the user ID after not more than six (6) attempts.

   (13)   Set the lockout duration to a minimum of thirty (30) minutes or until administrator enables the user ID.

   (14)   If a session has been idle for more than fifteen (15) minutes, require the user to re-authenticate before re-activating the session.

   (15)   Authenticate all access to any database containing cardholder data. This includes access by applications, administrators, and all other users.

   (16)   Restrict user direct access or queries to databases to database administrators.

i. All changes to data, system, or operating system shall be logged and recorded in accordance with PCI requirements and shall not jeopardize PCI Compliance.

j. PARCS software shall be browser-based, web-browser enabled, and accessible through mobile applications (i.e. the PARCS software shall be accessible by an authorized user through an internet browser). Users shall not need a client version of the software installed on their workstations to access the software. Access rights to the system for Owner or Owner's Representative personnel and others shall be defined during implementation.

k. Solution shall provide role-based access control using the principle of least privilege for all system functions including system administration and security administration.

l. The PARCS software shall provide functionality to easily track the preventative maintenance cycles for all equipment. The system shall show the history of preventative maintenance for equipment.

m. Automatically detect and report fault conditions. The system shall perform a self-check on a routine basis and provide notification for fault conditions and equipment failure. Fault conditions shall be categorized by severity and the system shall notify designated Owner or Owner's Representative personnel via email and or text message for any individual fault condition, category of fault, or Owner or Owner's Representative -selected group of faults.

n. Facilities monitoring of all field devices, e.g., entry terminal status, barrier gate status, Unattended Exit terminal status, and lane status displays.

o. Allow Supervisors to authorize exception transactions occurring in an Unattended Exit Lane transaction from a workstation. Authorization shall be auditable by username, date, and time.

p. Require Supervisors to enter reason for adjusting any ticket in a comment field. Each use of this function shall be automatically logged in the system with date, time, and username.

q. Central access and control of field devices – Users with the appropriate authorization shall be able to issue remote commands from system workstations to the field devices such as raising and lowering the barrier gates; rebooting the entry or exit terminal; putting the entry or exit terminal in or out of service; changing the lanes status signs. The use of central controls shall be logged with user ID, time, device controlled, and action taken.

r. Parking rate, grace period, and time increment changes – All parking rate, grace period and time increment changes shall be conducted at the back-end system level and shall be auditable within the system. The PARCS shall remotely communicate with all devices in real-time for a general broadcast of information or software update or communicate to a single device to upload information or software. Broadcasting information such as rate

changes or time increment changes shall be in real-time to all field devices. It shall be possible to remotely shutdown a field device's operating system, upload updates and remotely restart the field device. The system shall correctly process parking fees during a transition:

    (1)   from daylight savings time to standard time, and vice versa,

    (2)   at the beginning of March during leap years (e.g., when there is a February 29th), or from one rate to another (e.g., rate shall have an effective date so that users are charged a parking fee based upon the parking fee that was current at the entry date and time, not the exit date and time, allow the new rate to be either less than or greater than the new rate). This requirement shall apply to the parking fees as well as any tax rates or structures.

    s.   Rate changes shall be configurable within the application software GUI, such that the Owner can make rate changes without the assistance of the Contractor.

    t.   Create system generated alarms – System shall generate alarms for any user selectable event type. Alarm Hierarchy shall be completely configurable so that the Owner or Owner's Representative can adjust priority of alarms, audible tones, where the alarms are sent (email, text, etc.), etc. Initial Alarm Hierarchy shall be coordinated with the Owner or Owner's Representative during implementation.

5.   Industry standard software packages shall be utilized. Each such software package shall be identified in the Contractor's Proposal. The contractor shall provide this information in Section C.3 in their proposal. The Contractor's Proposal 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 and supported by flowcharts or block diagrams as appropriate. The Contractor shall advise if the software used in the system will be customized or "off the shelf" software and shall describe the method of obtaining further software updates or modifications. The Contractor shall identify the version of PARCS software that will be used in their Proposal.

6.   Vendor shall provide the option for credit card on file for users to register an account online that connects with the PARCS and allows the system to read their vehicle(s) license plates and automatically charge a card on file.

G.   Audit and Reporting

1.   The PARCS system shall document parking revenue and activity and generate revenue and activity reports. All reports shall be available online, report data during user-specified dates, and on demand for Owner or Owner's Representative personnel who have proper password access.

2. The Owner or Owner's Representative shall be able to establish its virtual midnight for transaction processing, credit card batch close, and report cutoff times. The establishment of virtual midnight shall be the Owner or Owner's Representative responsibility that follows applicable instruction and training of Owner or Owner's Representative personnel by the Contractor.

3. The system shall identify and produce reports that reflect separately transient parking, and permit parking activities.

4. Transient parking data shall be able to be separated by Parking Facility, and Parking Product for reporting purposes.

5. The Owner or Owner's Representative shall be able to prepare custom reports using this data including the exportation of data to a report generation application such as a Business Intelligence tool or Microsoft Excel©, at a minimum, via a comma-separated-value file format or as a PDF file.

6. All reports shall query, filter, and sort transactions by date/time, location, ticket id, vehicle license plate number, field device unique identifier, parking fee, transaction type, exception, or validation type, at a minimum.

7. Capture, record, and report separately all exception transactions that could not be processed 100% and automatically by the system (swapped, unreadable, lost, foreign, mutilated, used, disputed fee, cancelled, credit card transactions processed in an off-line mode, etc.).

8. Contractor shall provide a definitions key for every report including a narrative description of what data each column and row represents and calculation formulas that define how all figures are obtained.

9. Develop and prepare up to ten (10) additional "custom" reports. The content and layout of the information in these new reports shall be dictated by the Owner or Owner's Representative in consultation with the Contractor. The Owner or Owner's Representative shall have up to the end of the warranty period to request the new reports. Contractor's Proposal shall include time and effort for development of the ten (10) custom reports.

10. The PARCS reporting subsystem shall be queried within the PARCS application to allow Owner or Owner's Representative staff to develop ad hoc reports. The system shall save ad hoc reports developed by the Owner or Owner's Representative staff in addition to standard and custom reports.

11. The Contractor shall coordinate with the Owner or Owner's Representative as required during the system design to address the specific reporting needs of the Owner or Owner's Representative. All standard and custom-designed reports shall be proven accurate prior to the Contractor receiving formal system acceptance from the Owner or Owner's Representative. The system shall feature a report scheduler to automatically deliver reports via email to pre-defined list of recipients.

12. The system shall provide a report to query individual user history and combine reporting in a fashion where the Owner or Operator can see

multiple reports for one (1) customer at a time, then make notes on their account, see historical issues and trends related to the customers pass. I.e., Seeing a monthlies interactions that include passback history, valid entries and exits, notes from customer interactions, and permit history all in one location.

13. All reports shall feature consistent report formatting for Microsoft Excel© export to sort and combine data.

14. At a minimum, reports provided shall include (by individual garage, set of garages and for the whole ParkBOI system):

    a. Monthly Reports

        (1) Monthly ISF summary

        (2) Monthly lost ticket summary

        (3) Monthly lost ticket transactions that could not be reconciled by LPR (i.e., charged the daily maximum rate)

        (4) Monthly revenue summary (by customer type)

        (5) Monthly credit card summary

        (6) Monthly cash, credit card, and access card (proximity cards) transaction summary

        (7) Monthly peak occupancy report (Relating to Facility)

        (8) Monthly year to date transaction & revenue summary

        (11) Monthly reservation summary (All valid reservations and use of reservations)

        (12) LPR Reports

    b. Daily Reports

        (1) Daily Reports Daily Credit Card Summary of (Date)

        (2) Daily Revenue Summary (by customer type)

        (3) Daily Transactions by Lane

        (4) Daily Revenue Summary (Relating to Facility)

        (5) Daily Validations by Facility

        (6) Daily Validations by Type

        (7) Daily Validations by Amount

        (8) Daily Validations by Issuer

        (9) Daily Validations Summary

        (10) Daily Exception Transactions Report

        (11) Daily Receipt Report

        (12) Daily Detailed LPR Transactions Report

(13)   Daily Reservation Summary (All valid reservations and use of reservations)

c.   Reports that allow queries over any length of time (hours or days)

(1)   Occupancy (including the peak occupancy over a given timeframe, by customer type)

(2)   Length of stay (vehicle staying over XX (parameter driven) days, by customer type)

(3)   Transactions by lane

(4)   Validations by type

(5)   Revenue statistics (by customer type)

(6)   Summary report events

(7)   Proximity card access use

(8)   Ability to query by rate

(9)   Receipts report by date

(10)   System Login Summary to include:

(a)   Remote Client ID

(b)   Username

(c)   Login and Logout Time & Date

d.   Gate Open Report – For manual gate raises

(1)   A report noting if a gate (entry or exit) was manually opened and by whom (or who was logged on at the time). Also noting if the gate was opened from a terminal or at the device.

e.   Paystation Door Status Report

(1)   A report noting dates and times of paystation door open/close and the live bill/coin count at those times for each device.

f.   Lost Ticket Transactions Tracking Report (available in daily, monthly, and yearly containing the sort-able/filterable columns below)

(1)   Exit date & time

(2)   Transaction #

(3)   Lost Ticket Amount

(4)   Last name (non-case sensitive)

(5)   First name (non-case sensitive)

(6)   Phone #

(7)   LPN State

(8)   LPN

(9)   Supervisor approval (non-case sensitive)

g.   Manually Closed Ticket Report and Open Ticket Report (available in daily, monthly, and yearly containing the sort-able/filterable columns below)

(2) Entry date & time

(3) Location

(4) Ticket #

(5) Rate

(6) Plate ID

(7) Service Type

(8) Description

(9) Prepaid

h.   Summary Reports

(1)   Accurate occupancy report for transients, monthlies, and hotel guests.

(2)   Hotel reporting to include entries/exits, open tickets, and creation of keys.

(3)   Open stay report for a configurable length of time – Report shall include a list of vehicles in the garage longer than a period of days and their license plate.

(4)   Reservation summary for all valid reservations and uses of closed tickets

(5)   All transactions for a specific device.

(6)   Lost & Unreadable details

(a)   Two (2) days

(b)   Most recent thirty (30) days

(c)   Ticket back details

(d)   Cancelled

(7)   Credit card transactions

(8)   Ticket by rate

(a)   Most recent fifteen (15) days

(b)   Choose date range

(c)   For prior month

2.02 POWER

A. Existing power infrastructure (transformers, panels, conduits, and cabling) shall be re-used by the Contractor to support the new PARCS.

B. It is possible that the existing cables may not be able to be reused where cables have become damaged or corroded. For this unforeseeable situation, the Contractor shall propose a cost to the Owner or Owner's Representative upon discovery to install new power conduits and cabling to replace the unusable portions. The additional cost will be added to the total Contract cost through a Contract Amendment.

C. The Contractor shall provide power grounding of all devices per NEC. If an isolated ground is required, there may be instances where power-conditioning equipment may be required due to the location of equipment in relation to the power distribution panel and transformers.

D. A plaza specific UPS shall be installed to provide protection to the lanes and a minimum of 10 minutes to either restore failed electrical service or allow for properly shutting down the lane equipment.

2.03 COMMUNICATIONS

A. The PARCS shall reside on an existing fiber optic cable communication backbone that uses leased lines connected at the communications rooms in all facilities. Fiberoptic telecommunication lines are already present or are in the process of being installed in the garages. Vendors to coordinate with CCDC on phasing plan for each garage based on the fiber installation schedule (full deployment anticipated by the time this project starts). CCDC is to provide networking equipment up to the main switch (provided by the Vendor) at each parking facility. Vendors to propose in-lane networking equipment that might be used as well as connection to the main switch provided by CCDC at the communication rooms in all garages. Vendors shall provide CCDC with recommended central switch needs at each communication route (ports, type of switch, etc) needed to connect equipment.

B. The PARCS vendor shall provide communications from the communications room at each location to all the devices.

C. Conduit currently exists to all existing lanes and pay stations. Vendor to verify any additional conduits needed.

D. In addition to the requirements in these Functional Specifications, the Contractor shall comply with the CCDC IT Guidelines via Stability Networks. Firewall information can be provided upon request.

E. Vendor to provide new field switches for all the locations.

F. Vendor to potentially provide new racks/cabinets to fit all needed communications and power infrastructure in the communications rooms. Vendor to coordinate with CCDC representatives to determine the best location. Vendor shall include costs and cutsheets for the proposed rack/cabinets. A site tour meeting will be conducted prior to the proposal submittal date to review existing communications and power infrastructure at each garage location.

2.04   EQUIPMENT AND SUBSYSTEMS

   A.   Third-Party Integrations

         1.   The Contractor shall be required to develop third-party integrations with
               the following systems:

               a.   The Car Park Intercom System (currently using Umojo intercoms,
                     but have integrations with Commend and Stentofon)

               b.   CARMA management system for permits hosted by Parking Base

               c.   Hotel Valet Systems (integrate with Oobeo or provide alternatives
                     for valet operations)Hotel Card Systems:

                     1.   Hotel 43 Cards – StayNTouch PMS

                     2.   Hampton Inn Cards - Onity HT24W/HT28 Smart version 3.3.5 –
                           RFID Smart cards (not mag strip)

                     3.   Hilton Garden Inn Cards – Saflok & PEP (effective June 2024)

               d.   ParkMobile for parking reservations

               e.   YMCA – The existing system is a Genetec for Access Controls,
                     and CRM is Reclique Core that has API access on Amazon Web
                     Services (AWS)

         2.   The PARCS shall be integrated with these third-party systems listed
               above. Vendors to provide examples on how their systems have been
               integrated with the systems mentioned above. Vendors shall provide an
               API that supports report generation for the users under each integration.

         3.   The Contractor shall identify in the cost table all upfront API fees, and all
               recurring/annual API fees for each third-party integration.

         4.   All third-party integrations shall be cloud-based, and no on-premises
               servers are permitted to be installed by the Contractor for these
               integrations.

         5.   The contractor shall provide detailed information on how they will
               integrate with all the vendors/hotels/organizations mentioned in this
               section at the time of the proposal as detailed in the submittal
               requirements. The contractor shall provide this information in Section C.5
               in their proposal.

   B.   System Architecture

         1.   Cloud-based system shall be provided and maintained by the Contractor.
               Vendors can also propose optional costs for on-site servers.

         2.   PARCS lane components shall operate in a stand-alone condition
               (without cloud connectivity) for a minimum of two (2) consecutive days
               without loss of transaction data.

3. Equipment shall be made of IP based equipment. Equipment that has serial connections shall be listed and identified in the proposal. The contractor shall provide this information in Section C.2 and C.3 in their proposal.

4. System Performance to be Achieved:

   a. The PARCS shall operate 24 hours per day, seven (7) days per week. A failure shall be defined as any malfunction that causes the loss of functionality according to the specifications. A system failure is considered a failure where loss of more than one (1) function occurs. System failures shall not result in unplanned system downtime more than 0.02% (105 minutes of downtime per year) of the time.

   b. Concerning revenue activity, the system shall meet the accuracy as defined below:

      - fee calculation accuracy – 100.0%

      - transaction counts – 100.0%

      - exception counts – 100.0%

      - protocol sequence counts – 100.0%

      - revenue – 100.0%

      - calculations – 100.0%

5. System Level Reliability, Redundancy, and Maintenance:

   a. All equipment provided under this procurement shall meet maintainability requirements as follows:

      (1) Provide for easy removal and replacement of component parts. Where fault tolerance is provided, hot swap out shall be supported.

      (2) Design equipment for easy access, minimizing the removal of other items to gain access to a specific part.

      (3) Reduce or minimize the requirement for special tools and test equipment.

      (4) All devices shall have electrical surge protection.

   b. The Vendor shall have built into the system structured exception handling so that the system responds predictably to error conditions, without lock-up or "crashing."

   c. Upon system acceptance, the Owner or Owner's Representative shall maintain the system to eliminate faults or to keep the hardware or software in satisfactorily working condition, including applicable tests, replacement, adjustments, and repairs. The Vendor shall notify the Owner of all test equipment necessary to support the PARCS.

6. System Hardware:

          a.   Network Hardware

               (1)   Network hardware shall be in compliance with CCDC requirements for compatibility with existing systems.

               (2)   Network switches located in non-conditioned environments (such as a NEMA cabinet) shall meet industrial standards for temperature, humidity, shock, and vibration.

C.   All computing resources, application, information management, and information distribution design and configuration are subject to the approval of the Owner or Owner's Representative.

D.   Each field device shall be assigned a unique identifier within the PARCS that is not shared with any other field device. Should the field device need to be replaced, the replacement field device would assume the old device's unique identifier. Contractor shall coordinate with the Owner or Owner's Representative to develop the naming convention for the field devices.

E.   The PARCS configuration shall provide lane autonomy such that no single point of failure of a device shall cause an operational failure of surrounding lanes. Equipment at a single lane may fail causing a shutdown of a lane; however, the failure shall not affect other lanes.

F.   Credit Card Processing Subsystem

    1.   Elavon is the current merchant of record for the PARCS equipment.

    2.   The Vendor shall provide a minimum of two different credit card processing and gateway subsystems which the Vendor is capable of integrating with. The Vendor shall provide a breakdown of the credit card gateway fees for each provider.

          a.   As part of their Proposal, the Contractor shall submit an example pricing structure for any related credit card, chip card, or contactless fees that will be incurred. The pricing structure should be from a similar deployment. This should be included in the cost form provided.

    3.   The PARCS shall accept major credit card types (i.e., credit debit and prepaid) and the following card brands – American Express, Discover, MasterCard, and Visa for payment. For all approved bankcard authorization requests, the PARCS shall provide a credit card transaction receipt if requested by the user.

    4.   The PARCS shall provide online real-time authorization for credit card payments made at PARCS point-of-sale devices.

    5.   The following types of credit cards/devices shall be accepted at all point-of-sale devices for parking access and payment:

          a.   Magnetic-stripe credit cards

          b.   EMV Chip credit cards with P2PE

          c.   Contactless Chip credit cards

          d.   Mobile Payment with ApplePay and Google Wallet

          e.   Mobile Application for Payment or QR code payment with QR

code embedded in parking tickets.

6. The Contractor's credit card interface shall utilize a P2PE certified encryption solution that encrypts credit card transactions at the point-of-sale and shall remain encrypted for communication to the offsite clearinghouse.

7. The point-of-sale terminal shall be integrated with the central PARCS to provide a tokenized version of the credit card number for transactional data continuity.

8. Contractor-provided aspects of the credit card processing subsystem shall be PCI-compliant, such that no Contractor-provided product or solution will prevent the Owner or Owner's Representative from achieving PCI Compliance in its parking operation. The Contractor shall provide a solution that reduces the scope of the Owner or Owner's Representative with regards to PCI compliance assessments of the network infrastructure.

9. Contractor's proposed PARCS shall conform to PCI -DSS Version 4.0, or most current version, and the PARCS application shall be PA-DSS certified and PIN Transaction Security (PTS) for PIN transaction devices according to the most recent PCI standards as of the Contract Award date.

10. Credit card authorizations shall use the existing internet connection.
11. As part of their Proposal, the Contractor shall submit a flowchart diagram and detailed summary of the credit card processing subsystem architecture and the process for credit card transaction approvals. The contractor shall provide this information in Section C.6 in their proposal.

G. Unattended Entry Terminals

1. The Contractor shall provide unattended entry terminals (with Umojo intercom hardware or other preferred vendors as detailed on the intercom section).

2. CCDC preference is to have an entry station with the least amount of mechanical parts for ticket production.

3. Each Entry terminal shall consist of the following components and capabilities:
   a. Meets ADA requirements and standards

   b. Access door with appropriate tamper-resistant locking system (all entry terminals keyed alike, and unique to this installation)

   c. Issues one credit card-sized, QR code/barcode parking ticket for each entry transaction

   d. Push-button intercom integrated into the face of the Entry terminal. The intercom shall be compatible with Parker Intercoms.

   e. Vendor shall provide pinhole camera at each entry terminal.

   f. Active color matrix message screen that is easily readable in all ambient lighting conditions.

   g. Utilize visual instructions for users to understand the sequence of

events to complete a transaction.

h. Issues audio voice instructions to compliment the visual instructions.

i. Push-button or touch screen ticket issue, with a preference to touch screens.

j. Illuminated ticket slot.

k. Retractable ticket mechanism.

l. Uniquely encoded parking tickets printed for each specific parking area.

m. Unique machine identification number

n. Stand-alone capabilities for each Entry terminal in the event that network communication is lost, and regardless of where on the network the communication interruption occurs. Specifically, each Entry terminal shall provide offline transaction storage capacity for all transactional information for a minimum of two (2) consecutive days. The lane shall automatically close in the event that the minimum transaction threshold is reached and shall remain closed until reestablishment of communications. Entry terminal shall automatically upload all transaction information once communication is restored.

o. Bar code / QR code reader to read either paper or electronic (smartphone) bar code and QR code.

p. Ticket Stock Low alarm generated in PARCS software

q. Ticket Stock Out alarm generated in PARCS software

r. Optional Proximity Card Reader with a minimum read range of forty-eight (48) inches integrated into the face of the Entry terminal

4. As part of their Proposal, the Contractor shall submit product data of proposed Entry terminals. The contractor shall provide this information in Section C.13 in their proposal.

H. Unattended Exit terminals

1. The Contractor shall provide Unattended Exit terminals (with Umojo intercom hardware or any of the preferred intercoms detailed in the intercom section).

2. Vendors to provide exit stations at existing location of exit lanes and existing equipment. Several locations currently have exit stations cut out in panels of the existing booth. Vendors to include any work required to retrofit exit stations at the same locations. This might include:

a. Creating additional space in the existing walls (vendor to provide alternative that keeps existing booth and communication room weatherproofed).

b. Removal of part of the booth or full booth ~~(will require vendor to provide alternatives for communication room equipment)~~is not permitted.

c. Vendor's solution shall keep the same functionality as other lanes. Equipment with limited functionalities will not be accepted.

2.3. CCDC preference is to not have mechanical parts to retrieve tickets and for vendors to propose QR code readers.

3.4. Each Unattended Exit terminal shall be equipped with the following components and capabilities:

a. Meet ADA requirements and standards

b. Access door with appropriate tamper-resistant locking system (each Unattended Exit terminal keyed alike, and unique to this installation)

c. Vendor to propose option for exit terminal to scan QR code / Barcode of tickets instead of retracting ticket and keeping it.

d. The exit terminal ticket slot or separate EMV reader shall read the standard EMV chip for Visa, Mastercard, American Express and Discover.

e. The EMV reader at an exit terminal shall not have an integrated 10-key PIN pad but shall be designed for easy future integration with a PIN pad in the future if needed.

f. Push-button intercom integrated into the face of the Exit terminal.

g. Vendor shall provide pinhole cameras at each exit terminal.

h. Active color matrix message screen that is easily readable in all ambient lighting conditions.

i. Utilize visual instructions for users to understand the sequence of events to complete a transaction

j. Issues audio voice instructions to compliment the visual instructions

k. Bar code / QR code reader to read paper and electronic (smartphone) bar code and QR code.

l. Customers shall be given the option for a single receipt for all transactions (no auto-issued receipts). Receipt shall include:

   (1) ParkBOI logo, phone number, and email

   (2) Receipt #/Transaction #

   (3) Time, date, and lane in/out

   (4) Length of stay

   (5) Parking fee

   (6) Total amount

   (7) Method of payment

   (8) Amount paid

m. The Owner or Owner's Representative shall have the option to change receipts for credit card transactions to be auto issue or by request. The configurable timeout function for receipt request shall be initially set for twenty (20) seconds or until the next ticket is inserted or scanned.

n.   Receipt Stock Low alarm generated on software

o.   Receipt Stock Out alarm generated on software

p.   Active color matrix display, minimum size six (6) inches measured diagonally, shall be readable in all lighting conditions

q.   Utilize visual instructions for users to understand the sequence of events to complete a transaction

r.   Issues audio voice instructions to compliment the visual instructions.

s.   Cancel button that allows a user to cancel a transaction once a parking ticket has been scanned. Upon activation of the cancel button, the parking ticket shall be returned to the user.

t.   Stand-alone capabilities for each Unattended Exit terminal in the event that network communication is lost, and regardless of where on the network the communication interruption occurs. Specifically, each Unattended Exit terminal shall provide offline transaction storage capacity for all transactional information, including encrypted credit card data, for a minimum two (2) consecutive days. The lane shall automatically close in the event that the minimum transaction threshold is reached and shall remain closed until reestablishment of communications. Unattended Exit terminal shall automatically upload all transaction information once communications are restored.

    (1)   In the event that the device's offline storage capacity is filled, and the device needs to shut down, all stored credit card information shall be permanently stored and accessible once the device comes back online.

    (2)   Devices shall be able to store and forward data for offline transactions so devices can be used if the system is offline.

u.   Contactless reader that allows payments with ApplePay and Google Wallet.

    (1)   Payments with ApplePay and Google Wallet shall only require one (1) tap for devices and connect to their system so when it shows on the device that the payment has been processed, it has also been processed in the station.

v.   Optional Proximity Card Reader with a minimum read range of forty-eight (48) inches integrated into the face of the Exit terminal

2.   As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

I.   Mobile Cashier

1.   Provide a system to allow a cashier to accept cash or credit card payments as long as they have connectivity to the internet within the facility.

2.   Mobile cashier shall allow payments at entry or exit as needed by the operator.

3. Vendor to provide up to six (6) mobile cashiers.

4. System shall be integrated with PARCS such that if a ticket is provided for entry, the ticket should work at the exit stations.

5. System shall track and audit transactions and provide detailed reports.

6. Vendors to provide datasheets for mobile cashier solution.

7. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

J. Entry and Exit Lane Vehicle Detection Device

1. Saw cut or embedded loops shall be used for entry and exit lane vehicle detection.

2. Contractor shall replace all existing loops and loop detectors.

3. Contractor shall integrate signs located at the entry of every garage with the updated counts for the facility.

4. Entry Lane Vehicle Detection: Entry lane vehicle detectors shall detect vehicular presence, legal entry, illegal entry, and back-out.

5. Exit Lane Vehicle Detection: Exit lane vehicle detectors shall detect vehicular presence, legal exit, illegal exit, and back-out.

6. Each detector shall continuously retune itself to its loop frequency during non-detect periods to prevent the detector from generating a false detect output due to frequency variances caused by environmental effects or other factors. Analog type detectors requiring periodic manual tuning or any type of detectors that do not retune unless a manual function is performed shall be unacceptable.

7. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

K. Barrier Gates

1. The Contractor shall provide Straight Gate Arms and/or Articulated Gate Arms for entries and exits.

2. All barrier gates referenced in these Functional Specifications shall contain the following:

   a. Direct drive mechanism

   b. Aluminum gate with padded arm (articulating gate arm as appropriate)

   c. Non-resettable, mechanical gate action counter mounted in the barrier gate housing or provided in software

   d. LED lights on the gate arm

   e. Breakaway mechanism that allows a gate arm to be broken off and re-attached

     f.   Breakaway alarm notification to the central system

  3. Gate arm lengths shall be variable based on the installation location.

  4. Barrier gates shall have sufficient power/resistance to ensure they cannot manually be forced open.

  5. In case of a power failure, the Owner should be able to configure position of barrier gates so the lanes would operate according to the Owner's procedures.

  6. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

L. LPR System

  1. A LPR system shall be installed at the CCDC facilities as part of the PARCS replacement project in all public entry and exit lanes.

  2. No impediment to the spontaneous and immediate access and retrieval of any LPR data shall result from use of the database(s) or any other system architecture, hardware, or software.

  3. Contractor shall provide information on how long LPR data is stored.

  4. The LPR Subsystem shall consist of all hardware and software necessary to provide a complete and functional LPR subsystem that achieves the Owner or Owner's Representative's required functionality and accuracy percentages, and that does not adversely affect any function of the PARCS.

  5. The Contractor shall be responsible for providing a LPR subsystem that is fully interfaced and integrated into the PARCS. This integration shall include linking the LPN captured at entry to the unique ticket identification (or other entry credential information) for every transaction. Should the entry information need to be obtained at an exit station to process the transaction (i.e. lost ticket, unreadable, etc.), both the LPN and ticket shall be removed from their respective active (open transaction) inventories once the vehicle has exited.

  6. The LPR database shall be used to conduct automated searches and queries for special circumstances, such as outstanding balances, unresolved incidences, and prior entries with no exits, Gray/Black List, and police requests.

  7. LPR images shall be maintained in the active database for a 12-month duration, at a minimum.

  8. The LPR system shall keep a "Gray List" of exception transactions based upon vehicle LPN information. Exception transactions shall include insufficient fund transactions, lost ticket transactions, swapped media transactions and passback violation transactions. This Gray List shall reside on the PARCS server system's database. As an exception transaction is processed, the LPN and corresponding transaction information shall be recorded as part of the Gray List record.

  9. When a patron enters the parking facility using another credential, the LPR system shall automatically capture the license plate (LPN) data and update the patron's record with the appropriate license plate information. This will allow the use of the patron's LPN on future transactions.

10. The LPR system shall connect to the command center used by the operator as well as provide web based access to owner designated accounts.
11. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

M. LPR Cameras
1. The Contractor shall furnish and install image capture cameras including any lights or shade canopies necessary at all public entry and exit lanes to provide system functionality.
2. Devices shall be placed in theft deterrent and vandalism resistant housings that meet applicable code requirements for outdoor equipment.
3. The Contractor shall determine the exact location of each device and utilize existing conduit and mounting infrastructure where possible.
4. All entry images shall be pre-capture, meaning that the cameras are placed in such a position that a vehicle's LPN is photographed before the entry credential issuance to the patron or accepted by the system. In locations where the existing configuration does not allow a rear facing camera, a front facing LPR camera shall be installed to capture the vehicle's front license plate. Contractor shall perform a site visit to determine the most efficient and effective method of installing LPR at all locations.
5. All exit images are to be pre-capture, meaning that the cameras are placed such that a vehicle's LPN is photographed before the patron presents their parking credential at the exit.
6. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

N. Proximity Card Access System
1. The Contractor shall provide optional costs for an optional card access system that shall provide the following features and capabilities at all entries and exit lanes.
    a. The card readers in the public entry and exit lanes shall read proximity cards from a minimum distance of forty-eight (48) inches.
    b. The Contractor shall provide the Owner or Owner's Representative with the appropriate tools to program and/or encode proximity cards.
    c. System shall have anti-passback capabilities that can be turned on or off at the Owner or Owner's Representative's discretion.
    d. The system shall report the occupancy of proximity card users in each facility, in real-time.
    e. All user group parameters and rules shall be accessible and changeable by the Owner or Owner's Representative via a Graphical User Interface (GUI) accessible on any of the PARCS workstations provided with the system. Software code changes shall not be required to edit user group parameters and rules.
    f. User groups and individuals within the user groups shall each assign access privileges based upon facility, date, day of week,

time of day, or any combination thereof. It shall also be possible to modify user groups or individual accounts to be exempt from anti-passback rules.

    2.   As part of their Proposal, the Contractor shall submit product data for proposed Proximity Card Readers.

    3.   User Groups shall allow the owner to provide at a minimum the following groups:

        a.   24/7/365 parker access

        b.   Standard Monthly Pass

        c.   Resident Pass

        d.   BikeBOI Pass – a separate bike-only facility.

        e.   PM Employee Parker Pass

        f.   Carpool Pass (only one pass allowed in the garage at a time)

        g.   Hybrid (Soft Pool) Pass – similar to carpool, multiple employees share a fixed number of passes. When used concurrently, system charges hourly rate for any overage.

        h.   Pay-As-You-Go Pass (i.e. for infrequent visitors who are not able to use paper ticket system) – uses standard hourly rate for billing purposes.

        i.   Weekend Only Pass – charges hourly rate for any weekday access

        j.   3-Days-Per-Week Pass – charges hourly rate for any overage

    4.   Vendors to propose sample reports available in their systems as required in the submittals section.

    5.   All of the above pass types shall also include an easy-to-use invoicing procedure for misuse and/or abuse documented within the PARCS system.

    6.   As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

O.   AVI Readers and Transponders/Hangtags (Optional if LPR option is not selected by the Owner)

    1.   The Contractor shall provide costs for an AVI system that shall provide the following features and capabilities at all entries and exits lanes.

    2.   Vendor to provide a UHF RFID system.

    3.   Vendor to provide RFID system that is configurable to not allow vehicles in other lanes to be picked up by the system.

    4.   The readers in the public entry and exit lanes shall read ~~proximity~~ AVI cards from a minimum distance of ten (10) feet from the gate.

    5.   The Contractor shall provide the Owner or Owner's Representative with the appropriate tools to program and/or encode the proposed credential. Vendor to provide costs for up to 3,000 credentials to be used with the AVI system.

        a.   A system with transponders, stickers or hangtags can be provided by the vendor along with costs for each type of credential.

6. System shall have anti-passback capabilities that can be turned on or off at the Owner or Owner's Representative's discretion.

7. The system shall report the occupancy of AVI users in each facility, in real-time.

8. All user group parameters and rules shall be accessible and changeable by the Owner or Owner's Representative via a Graphical User Interface (GUI) accessible on any of the PARCS workstations provided with the system. Software code changes shall not be required to edit user group parameters and rules.

9. User groups and individuals within the user groups shall each assign access privileges based upon facility, date, day of week, time of day, or any combination thereof. It shall also be possible to modify user groups or individual accounts to be exempt from anti-passback rules.

10. As part of their Proposal, the Contractor shall submit product data for proposed AVI Readers.

11. User Groups shall allow the owner to provide at a minimum the following groups:
    a. 24/7/365 parker access
    b. Standard Monthly Pass
    c. Resident Pass
    d. BikeBOI Pass – a separate bike-only facility.
    e. PM Employee Parker Pass
    f. Carpool Pass (only one pass allowed in the garage at a time)
    g. Hybrid (Soft Pool) Pass – similar to carpool, multiple employees share a fixed number of passes. When used concurrently, system charges hourly rate for any overage.
    h. Pay-As-You-Go Pass (i.e. for infrequent visitors who are not able to use paper ticket system) – uses standard hourly rate for billing purposes.
    i. Weekend Only Pass – charges hourly rate for any weekday access
    j. 3-Days-Per-Week Pass – charges hourly rate for any overage

12. All of the above pass types shall also include an easy-to-use invoicing procedure for misuse and/or abuse documented within the PARCS system.

13. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

P. Intercom System

1. The Contractor shall provide entry and exit terminals, and POFs that are compatible with the command center from the current operator. Intercoms that are integrated include:

    a. Umojo VC100-300 intercoms (Existing system)

    b. Command H- Series

    c. Stentofon TKIS-2s

2. The intercom system shall feature audio induction hearing loops that supports improved audio transmission for hearing aids.

3. Intercom system shall have the capability to be bi-directional and allow both the user at the device or the operator to initiate communications.

4. The intercom system shall feature Intercoms compatible pinhole cameras, speakers, and microphones.

5. In the event that the arming loops are triggered for a configurable amount of time with no transaction being initiated, the intercom station in the lane shall automatically place an intercom call.

6. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

Q. Validation System

1. The PARCS shall create, process, and track multiple forms of fee discounts and validations electronically in the system. Discounts and fee modifications can be related to: Americans with Disabilities Act (ADA), Disabled Veterans, or Owner created discounts.

2. PARCS shall have capabilities for CCDC to extend grace periods validations for times when events are in place that might cause traffic to not allow users to leave the facilities in the allotted time.

3. The Contractor shall provide a web-based validation system whereby the Owner or Owner's Representative may discount a user's parking fee electronically applied to the ticket or utilizing on-line validating machines where the user's mobile phone is redirected to a validation website and the ticket code could be input into the website to apply validation. QR or bar code validations should be able to be read when printed on standard printer paper or displayed on a mobile device screen and printed text on the validations should be configurable. Each entity shall be able to manage their own account from a website and be invoiced on a recurring basis. No offline ticket validation capabilities are needed.

4. Validations shall be made for fee modifications or discounts expressed in specific dollar amounts per transaction or per time period (e.g., $5.00 off total fee or $5 off per day), specific durations of time (e.g., two hours free, one or more days free, etc.), for the entire parking fee, or a fee calculated at a reduced or alternate rate structure for an individual ticket. Contractor shall provide a method of tracking validations issued by user with a comment field to be completed upon entering the validation.

5. Vendor to provide stackable validations in case they visit several vendors that might provide validations.

6. The Owner or Owner's Representative shall create validations via an online platform connected to the browser-based PARCS and protected by username and password. Validation Stations shall allow multiple entities to create and disperse validations. Each entity shall be able to load a balance onto their validation account, set automatic balance recharges, create validation types by pre-determined dollar amounts, and obtain real-

time reporting of validation activity. Each entity shall be able to manage their own account from a website and be invoiced on a recurring basis.

7. Only users with appropriate authorization shall issue validations and the PARCS shall track all validations for auditing purposes by user, validation date, validation type, and validation amount.

8. The Contractor shall submit a cut sheet of the proposed Validation System portal as part of their Proposal. The contractor shall provide this information in Section C.13 in their proposal.

R. Cash and Credit Card Automated Pay Stations (Pay on Foot)

1. A total of six (6) Cash and credit card Automated Pay Stations shall be installed, based on the following quantities:

   a. One (1) at 9th and Main Garage

   b. One (1) at 9th and Front Garage

   c. One (1) at 10th and Front Garage

   d. One (1) at 11th and Front Garage

   e. One (1) at Capitol and Main Garage

   f. One (1) at Capitol and Myrtle Garage

2. Contractor shall provide Automated Pay Stations (APS) devices that are integrated into the PARCS. Actual deployment locations will be designated by the Owner or Owner's Representative.

3. APS Requirements
   a. Credit Card and Cash APS features - All APS devices shall provide the following features and functionalities:
      (1) ADA requirements and standards
      (2) Access door with appropriate locking system
      (3) Intercom equipped with camera that is integrated with Intercom system
      (4) Visual instructions for users to understand the sequence of events to complete a transaction
      (5) Cancel button that allows a user to cancel a transaction once a parking ticket has been presented.
      (6) Colors for the pay stations, all text, and graphics shall be configurable and approved by the Owner prior to manufacturing
      (7) Intercom camera to activate upon activation of intercom or at the start of each entry transaction, regardless of the type of credential presented
      (8) Reading credit cards (EMV chip embedded cards) and magnetic striped credit cards
      (9) Accept Near Field Communication (NFC) payments with contactless cards, ApplePay and GooglePay
      (10) Readers to read paper and electronic (smartphone) bar code and QR code
      (11) Operate offline when network connectivity is interrupted
      (12) In the event that the device's offline storage capacity is filled, and the device needs to shut down, all stored credit

card information shall be permanently stored and accessible once the device is powered on. Devices shall be able to store and forward data for offline transactions so devices can be used if the system is offline.

      (13)   The grace time (the number of minutes between the time a ticket is paid and the time a driver exits with vehicle through exit lane) shall be parameter driven and with modification by the Owner or Owner's Representative. The APS grace time shall be configurable for each parking facility

      (14)   Log when a cabinet has been opened or closed; date and time recorded in real-time on the Event Log

      (15)   Receipt generation

      (16)   Separate cash vaults with its own security for cash and credit POF. Additional cash vaults shall be provided so that a full vault can be quickly replaced with an empty vault.

      (17)   Lost ticket fee must be able to be applied and/or calculated and paid should a parking garage customer lose/misplace/destroy or otherwise be unable to produce the ticket dispensed upon entry to the parking garage.

4.   As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

S.   Credit Card Only Automated Pay Stations (Pay on Foot)

1.   A total of eight (8) credit card and one optional Automated Pay Stations shall be installed, based on the following quantities:

    a.   Two (2) at 9th and Main Garage

    b.   Two (2) at 9th and Front Garage

    c.   One (1) at 10th and Front Garage

        (0)(1) Vendors to provide optional cost for a possible additional pay station at this location.

    d.   One (1) at 11th and Front Garage

    e.   Three (3) at Capitol and Main Garage

    f.   One (1) at Capitol and Myrtle Garage

2.   Contractor shall provide Automated Pay Stations (APS) devices that are integrated into the PARCS. Actual deployment locations will be designated by the Owner or Owner's Representative.

3.   APS Requirements

    a.   Credit Card only APS features - All APS devices shall provide the following features and functionalities:

      (18)   ADA requirements and standards

      (19)   Access door with appropriate locking system

      (20)   Intercom equipped with camera that is integrated with Intercom system

      (21)   Visual instructions for users to understand the sequence of events to complete a transaction

      (22)   Cancel button that allows a user to cancel a transaction once a parking ticket has been presented.

      (23)   Colors for the pay stations, all text, and graphics shall be configurable and approved by the Owner prior to

manufacturing

(24) Intercom camera to activate upon activation of intercom or at the start of each entry transaction, regardless of the type of credential presented

(25) Reading credit cards (EMV chip embedded cards) and magnetic striped credit cards

(26) Accept NFC payments with contactless cards, ApplePay and GooglePay

(27) Readers to read either paper or electronic (smartphone) bar code and QR code

(28) Operate offline when network connectivity is interrupted

(29) In the event that the device's offline storage capacity is filled, and the device needs to shut down, all stored credit card information shall be permanently stored and accessible once the device is powered on. Devices shall be able to store and forward data for offline transactions so devices can be used if the system is offline.

(30) The grace time (the number of minutes between the time a ticket is paid and the time a driver exits with vehicle through exit lane) shall be parameter driven and with modification by the Owner or Owner's Representative. The APS grace time shall be configurable for each parking facility.

(31) Ability for the command center to extend grace time period when an event occurs that causes traffic to not allow vehicles to exit within the grace period.

(32) Log when a cabinet has been opened or closed; date and time recorded in real-time on the Event Log

(33) Receipt generation

4. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

T. Lane Open/Closed Signs

1. Vendor shall provide Open/Closed signs for the reversible lane at 9th & Front.

2. Lane Open/Closed Signs shall be LED type with the word "OPEN" in green letters and the word "CLOSED" in red letters. An acceptable alternative is for the sign to display an arrow in green lights signifying the lane is open and an "X" in red lights signifying the lane is closed. Details for additional text or graphics shall be discussed with and approved by the Owner or Owner's Representative. Lane Open/Closed Sign shall be easily readable in all ambient lighting conditions from a distance of 200 feet and a minimum viewing angle of 120 degrees.

3. The message displayed by the Lane Open/Closed Sign shall be controlled automatically by the Entry/Unattended Exit terminal. When the entry terminal is in operation, the Lane Open/Closed Sign shall automatically be set to "OPEN." When the Entry/Unattended Exit terminal

is out of operation the Lane Open/Closed Sign shall be automatically set to "CLOSED." When the Entry/Unattended Exit terminal is set into a maintenance mode, the Lane Open/Closed Sign shall automatically be set to "CLOSED."

4. For the public entry lanes, the sign matrix size shall be proposed by the Contractor to fit within the geometric circumstances of each location. Minimum character height shall be 12".

5. As part of their Proposal, the Contractor shall submit product data of the proposed Lane Open/Closed Signs. The contractor shall provide this information in Section C.13 in their proposal.

U. Bollards

1. All existing bollards located around PARCS equipment that may conflict with proposed equipment shall be replaced with new bollards. If an existing bollard meets the requirements and is in the proper location, the Contractor may elect to keep the existing bollard in-place. All new and reused bollards shall feature yellow powedercoat and a 4" wide band of white 3M reflective tape installed 2" below the top of the bollard.

2. Contractor shall install bollards to provide protection for proposed PARCS equipment. The contractor shall provide this information in Section C.13 in their proposal.

V. CARMA Integration

1. The Proposer shall provide integrations with the CARMA permit provided by Parking Base management system used by the current operator to manage monthly passes.

2. Selected vendor with no current integration with the CARMA system shall sign an NDA to integrate with the API.

3. The Proposer shall have a documented, open API with the following capabilities:

    a. Monthly Permit Management.
        (1) Real-Time Access Card Credential Management (activate, deactivate)
        (2) Passback Management (Enable, Disable, Loose)
        (3) Hybrid Permit Management (ability to control max daily usage, and capture overages in areas by day; i.e., this is the Commercial Permit in Parking Base, wherein we would bill the client for any usage beyond the Qty allowed)

    b. Transient:
        (1) Transient Revenue Uploads
        (2) Transient Activity, Occupancy

    c. Validations:
        (1) Allow customers to purchase and use validation coupons

W. Hotel/YMCA Integrations

1. The Proposer shall provide costs for a middleware solution that integrates with a minimum of three (3) different hotel property management systems at their existing locations and the YMCA

    a. Hotel 43 at the 10th and Front Garage

    b. Hilton Garden Inn at the 11th and Front Garage

     c.   Hampton Inn at the Capitol and Myrtle Garage

     d.   YMCA (for a future garage near 10th and Jefferson)

2. The PARCS shall generate the required transactional data for ensuring guest room billing is provided for deck services.

3. The middleware solutions should provide similar levels of reporting to the PARCS equipment, either through the PARCS software or through the middleware company including report scheduling.

4. All lanes shall feature readers on the Entry and Exit terminals that are capable of reading RFID or other types of room keys.

5. The Entry and Exit terminals shall feature readers that are compatible with the hotel mobile phone applications/digital keys to allow hotel guests to use their mobile phone/digital key to access the parking facilities.

6. The system shall allow parkers who have checked in on the internet or through their hotel mobile application beforehand to allow them to use their mobile phone/digital key to access the parking deck.

7. The PARCS equipment will calculate a rate for overstays outside the hotel checkout time and charge the customer the difference in the lane.

8. The Proposer shall automate the billing process between the hotel and ParkBOI so when a guest selects the parking option for their stay and the guest parks in the garage, the hotel shall be automatically invoiced for the appropriate amount of parking.

9. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

~~9.~~10. YMCA integrations will be tested during the Factory Acceptance Test at an existing garage selected by the Owner since garage capabilities might not be able to be implemented in the early phase of the project.

X. Optional ParkMobile Reservation Integration or Reservation System
1. Contractor to provide costs for an optional integration with ParkMobile for a reservation platform for parking for special events or for ticket takeover.
2. Adapt the PARCS to recognize ParkMobile reservations for automated entry and exit. This may involve QR codes or mobile passes.
3. Vendor to ensure compatibility with regular updates in both the PARCS and ParkMobile system to avoid system disruptions.
4. As an alternative, the vendor can propose additional reservation systems for special events as well as handheld devices.
5. Reservation system shall provide users with options to pay at events configured by the Owner with hour rules according to the special events procedures.
6. All reservations should use QR code systems.
7. Reservation system shall allow the use of all major credit card payments.
8. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

8.

9.

Y.   Valet Integration
1.   Vendor to provide integration with current valet operator Oobeo or provide alternative valet technology for the current valet users. Vendor to propose system for valet drivers to track and control users.
2.   As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

Z.   Uninterruptible Power Supplies

1.   Conditioned/emergency power through the TCP/IP-enabled UPS units shall be provided for the following components and facilities to protect components from loss of power, power spikes, and power sags:
a.   Entry lanes
b.   Unattended Exit lanes
2.   UPS battery back-up for all plazas shall be sized to last ten (10) minutes.
3.   A single UPS unit, appropriately sized, shall support all devices at an individual entry lane or exit lane.
4.   All UPS units shall be SNMP compatible to allow automated notification when battery power is activated or the battery levels become critically low. On-line communication using an appropriate UPS monitoring software application shall be provided on one or more workstations with user selectable options to view the status of each individual installed UPS unit. At a minimum, the monitoring software shall display the operational status of each UPS unit (line/battery, online/offline) and generate alarms in the event the UPS unit's battery power is activated, becomes low or is completely exhausted.
5.   As part of their Proposal, the Contractor shall submit specification sheets of all proposed UPS devices and UPS monitoring software. Included in the UPS product data shall be the manufacturer's recommended battery refresh cycle. The contractor shall provide this information in Section C.13 in their proposal.

AA.   Nested areas:
1.   Nested area with Zion Bank:
a.   Vendors to provide a nested area for the three levels that connect the CCDC garage and Zion Bank users.
b.   Vendors to provide option to have:
(1)   LPR in lanes and modifications needed for the site
(2)   Proximity card reader that matches entry and exit stations
(3)   Intercom capabilities
(4)   Barrier gates
(5)   Optional AVI if garage is not capable to have LPR installed

BB.   Handheld devices:
1.   Vendors to provide option to have roving cashiers/handheld devices. At least six devices are required as part of this project.
2.   System shall reside and integrate with the PARCS system for reporting purposes.
3.   The system shall be mobile, allowing cashiers to move around the store or event venue to serve customers wherever they are located.

4.   The system should ensure secure and reliable payment processing, protecting customer's sensitive information and preventing fraud.

5.   The roving cashier system should seamlessly integrate with the proposed POS system, allowing for real-time inventory updates and accurate sales reporting.

6.   Inventory Management: The system should have the capability to track and manage inventory, allowing cashiers to check product availability and ensure accurate stock levels.

7.   The system should be able to operate offline in case of network outages, ensuring that cashiers can continue processing transactions without interruption.

8.   The system should support customizable pricing options, allowing cashiers to apply discounts, promotions, or special pricing based on customer requirements.

9.   The roving cashier system should provide comprehensive reporting and analytics capabilities, enabling managers to track sales, analyze customer behavior, and make data-driven decisions. As part of their Proposal, the Contractor shall submit product data of the proposed system. The contractor shall provide this information in Section C.13 in their proposal.

2.05   USER PROCESSING PROCEDURES

A.   Visitor Reserved Parking Procedures (using ParkMobile)

1.   The following shall take place for all entry events:

   a.   All vehicles without a valid parking permit will be considered visitors, regardless of the circumstances they are parking under. If they are a visitor, they shall have the option to reserve a parking spot and pay using the ParkMobile App. There shall be no reservations allowed outside of events.

   b.   Using the ParkMobile App, the user will be able to view which of the parking garages currently has available reserved parking spaces and then be able to reserve parking and pay using the app. There shall be no reservations outside of events.

   c.   Once parking has been reserved, the App will generate a QR code.

   d.   Upon arrival to the garage, the user will be able to scan the QR code generated by the App.

B.   Visitor Non-reserved Parking Procedures

1.   The following shall take place for all entry events:
   a.   When the entry lane arming loops are not activated, the Entry Column device screen shall display the date and time.
   b.   When the vehicle activates the arming loops, the message on the Entry Station's display shall read, and an audible voice shall sound with a predetermined message designated by the Owner such as "Welcome to ParkBOI, Please Press Button for Ticket, or scan your credential"

c. The arming loop will activate the LPR cameras to capture the LPN of the vehicle.

d. If the LPN has been pre-registered with the PARCS and has a reservation or a monthly pass, the PARCS will open a parking transaction and automatically open the gate.

e. If the LPN has not been pre-registered, the patron will extract the ticket or present a bar or QR code, or use their credential, and the barrier gate will be opened. Only a single-entry event shall be permitted for each arming event, e.g., if the ticket issue button is pressed, no other entry type shall be permitted.

f. Upon clearing the barrier gate's closing detector, the barrier gate arm shall lower to the closed position, the PARCS shall associate the LPN with the entry transaction and the ticket number or credential used and reset the lane for a subsequent transaction.

g. The entry event shall be validated and the associated data with the entry event shall be stored.

2. Normal Entry with Ticket

a. Once the vehicle has activated the arming loop, the LPR camera(s) shall capture the LPN of the vehicle.

b. When a patron presses the ticket issue button, no other entry method is allowed at that point and the Entry Station shall issue a uniquely numbered parking ticket while an audible signal shall sound. The Entry Station shall dispense QR code imprinted parking ticket and print on the ticket the year, month, date, entry time (hour/minute/second), facility code, lane number, entry sequence number, unique transaction number, and unique machine number. Abbreviations are acceptable; time stamps shall be in 24-hour, military time.

c. The LPN captured by the LPR camera(s) shall be encoded on the paper ticket.

d. When the printed/encoded ticket is extracted from the Entry Station, the audible signal shall cease, and the display shall read, and an audible voice shall sound and say, "thank you." The barrier gate shall rise to the open position, allowing the vehicle to enter the parking facility.

3. Back out at Entry

a. If a user pushes the ticket issue button and backs out of the lane without retrieving the ticket the barrier gate shall remain closed and the ticket shall be retracted and retained in the Entry terminal. The ticket shall be invalidated by the entry terminal and within the system to prevent future use. The back out entry event shall be stored in the system and the lane shall reset for a subsequent transaction.

4. Stolen Ticket at Entry

a. If a user pushes the ticket issue button, retrieves the ticket, and then the vehicle backs out of the lane the barrier gate shall automatically return to the closed position (no timed delay to lower the barrier gate arm to the closed position shall be acceptable),

the ticket shall be invalidated within the system, and an alarm shall be generated. The stolen ticket entry event shall be stored in the system. The ticket shall be electronically invalidated and shall not be allowed to be processed at any exit.

5. Proximity Card Entry/AVI Entry (Depending on optional credential decided by Owner)

   a. If user presents a proximity card or AVI, the audible signal shall cease, and the display shall read, and an audible voice shall sound with a specified prompt discussed between the Contractor and Owner. The barrier gate shall rise to the open position, allowing the vehicle to enter the parking facility.

C. Unattended Exit Lane/ Pay in Lane Procedures

   1. The following shall take place for all normal exit transactions when an exit terminal is operating as an Unattended Exit Lane:
      a. When the Exit Lane arming loops are not activated, the patron's display screen in the Exit Station shall display the ParkBOI logo, date, and time for a period of no longer than ten (10) minutes and then shall blank the screen to be activated when the next vehicle crosses the arming loop.
      b. After activating the arming loops, the LPR cameras shall capture the LPN of the vehicle. If the LPN has been used as a credential and the valid entry transaction has been identified, the PARCS shall use the LPN to close the parking transaction, charge the patron's account, and open the gate allowing throughput.
      c. If the patron entered by extracting a parking ticket, the following occurs. After activating the arming loops, the display reads, and an audible voice sounds, "Insert Ticket, or present validation". If a patron used a monthly credential, the LPR shall identify the user and automatically vend the gates. If the LPR does not identify the user or the license plate is not read correctly, the system shall request the secondary credential. If there is a mismatch of license plates, the system shall automatically alert the operator that a different vehicle from entry is trying to use a credential to exit.
      d. After the appropriate entry credential is presented, the message "Processing, Please Wait" is displayed. Once positive verification of data occurs, the display shows the fee due. The display reads, and an audible voice sounds, "Please Insert or Present Credit Card for Payment".
      e. The patron inserts or presents a credit card.
      f. During credit card authorization, the display shows the message "Processing, Please Wait." During cash transaction, system calculates fee correctly.
      g. Once payment is obtained the display reads, and an audible voice sounds, "Please Take Credit Card".
      h. Card is removed, the station gives the option to print the patron receipt, if selected the display reads, and an audible voice sounds, "Please Take Receipt", and the station produces an audible "beep". Shall also provide receipt option for cash transactions.

i.   Receipt is taken, audible "beep" ceases, the display reads, and an audible voice sounds, "Thank you from the staff of ParkBOI", and the barrier gate rises.

j.   Vehicle crosses the closing loop, the barrier gate closes, and the lane resets for the next transaction.

k.   The ticket is moved from active ticket inventory to inactive ticket inventory.

2.   Transaction specific procedures are required in addition to or in place of those listed above. The transaction specific exit procedures and procedures for abnormal or unique events are detailed below.

b.   Exit – Ticketed transaction with Invalid Credit Card Presented for Payment

(1)   After fee is displayed, if an invalid credit card is inserted or presented and once authorization is declined, the credit card, if inserted, is returned through the ticket slot and the display reads "Credit Card Not Accepted (Invalid Payment)", and the system will display that the card was unauthorized and to present another card.

(2)   After the invalid credit card is removed, if inserted or scanned, the ticket remains in the Exit terminal and the display alternates between displaying the fee and the message to insert another card.

(3)   Once the user presents a valid credit card for payment, the transaction continues as a normal exit transaction.

(4)   If the user does not have a valid credit card, they must push the intercom for assistance.

c.   Exit - Lost Credential

(1)   If a ticket, QR Code, or permit is lost, the user will be prompted to immediately push the intercom button for assistance, or the system will activate the intercom after an agreed time with the Owner.

(2)   The user pushes the intercom button and is connected to a command center staffed by the operator. After the user informs the command center that they have lost their ticket, the supervisor uses a workstation to verify the user's entry information based on the LPR data. From the workstation, the supervisor inputs a lost ticket transaction, which automatically transmits the entry information to the Exit terminal.

(3)   The correct fee is calculated and displayed, and the transaction continues as normal, or the barrier gate is opened.

(4)   After payment is received, the Exit terminal generates an exception ticket for a lost ticket and retains the exception ticket.

(5) The station prints a receipt, if selected, and the transaction continues as a normal exit transaction.

d. Exit - Unreadable Credential

(1) If a ticket, QR Code, or permit cannot be read by the exit machine, the display reads that it is unreadable and to push the intercom for assistance.

(2) The user pushes the intercom button and is connected to a command center staffed by the operator. After the user informs the command center that their credential is unreadable, the supervisor uses a workstation to verify the user's entry information based on the LPR data. From the workstation, the supervisor inputs a lost ticket transaction, which automatically transmits the entry information to the Exit terminal.

(3) The correct fee is calculated and displayed, and the transaction continues as normal, or the barrier gate is opened.

(4) After payment is received, the Exit terminal generates an exception ticket for a lost ticket and retains the exception ticket.

(5) The station prints a receipt, if selected, and the transaction continues as a normal exit transaction.

(6) After payment is received, the Exit terminal generates an exception ticket for an unreadable ticket and retains the exception ticket.

(7) The station prints a receipt, if selected, and the transaction continues as a normal exit transaction.

e. Exit - Attempt to Exit with Stolen Ticket

(1) Stolen Ticket is presented, the ticket is identified as a Stolen Ticket, appropriate alarm generated by the system, and the message "Ticket Invalid, Please Press Intercom Button for Assistance" is displayed.

(2) The user presses the intercom button, and the supervisor verifies (via the stolen ticket alarm) that the transaction is a stolen ticket for operator to proceed as outlined in their operational procedures.

f. Exit - Exit with Validation – ticket only

(1) After fee is displayed, the user's re-encoded parking ticket is presented, and the discount is applied to the parking fee due based on type of validation (either dollar value or time value).

(2) The display updates to show the reduced fee due.

(3) If the entire fee due is validated, then the barrier gate rises, and the transaction continues as a normal exit transaction.

(4)   If the validation does not satisfy the entire parking fee, the user must present a credit card or mobile payment option to complete payment and the transaction continues as a normal exit transaction.

g.   Exit – Discounted Exit Validation

(1)   After fee is displayed, a bar coded ticket or cell phone bar code is presented to the bar code or QR Code reader and the discount is applied to the parking fee due based on type of validation (either dollar value or time value).

(2)   The display updates to show the reduced fee due.

(3)   If the entire fee due is validated, then the barrier gate rises, and the transaction continues as a normal exit transaction.

(4)   If the validation does not satisfy the entire parking fee, the user must present a credit card to complete payment and the transaction continues as a normal exit transaction.

2.06   EQUIPMENT AND SUBSYSTEM PERFORMANCE STANDARDS

A.   The system shall calculate parking fees and grant vehicle access based upon different parking garages, time/day of entry, applicable taxes, lengths of stay, time increments, permits, and rate structures.

B.   LPR Subsystem performance

1.   At each public entry and exit lane the LPR Subsystem shall acquire an image of a vehicle's entire license plate at a 99 percent (99%) rate for all non-exception vehicles as defined within this section. The intent of the 99% capture rate is to have a visual record of 99% of all non-exception license plates entering the facility.

2.   At each public entry and exit lane the LPR Subsystem shall achieve an N Factor rating of 90% meaning specifically that the LPR Subsystem shall read all license plate characters, exclusive of stacked characters, correctly 90 percent (90%) of the time for all non-exception vehicles as defined within this section. Missing, misread, or additional characters as determined by the LPR Subsystem shall be counted against the read accuracy. (i.e. if a license plate contains six standard characters "ABC123", then N=6. Therefore, in order for the system to achieve an N read, the system must return the LPN "ABC123" exactly.) Additional characters added before or after the license plate characters shall count against the read rate. (i.e., "1ABC123" would not constitute an N read.).

3.   At each public entry and exit lane the LPR Subsystem shall achieve an N-2 Factor rating of 95% meaning specifically that the LPR Subsystem shall read all but two LPN characters, exclusive of stacked characters, correctly 95 percent (95%) of the time for all non-exception vehicles as defined within this section. Missing, misread, or additional characters as determined by the LPR Subsystem shall be counted against the read accuracy. (i.e. if a license plate contains six standard characters "ABC123", then N=6). Therefore, in order for the system to achieve an N-

2 read, the system must return the LPN "C123", "ABC1", "CCC123", "ABRR23", "1ABC1231", etc. Additional characters added before or after the license plate characters shall count against the read rate.

4. Exception vehicles shall not count against the accuracy of the LPR Subsystem. For the purposes of the LPR performance requirements an exception vehicle is defined as:

   h. Any vehicle whose license plate is obstructed, obscured, or encroached upon by a foreign object (having a foreign object within .375 inches (⅜") of any LPN character).
   i. Oversized vehicles that have a total distance between the center of the drivers' side window and the end of the rear bumper greater than 14 feet.
   j. Vehicles that contain excessive graphics and advertising such that it is impossible for the LPR system to determine which graphics belong to the license plate and which graphics do not.
   k. Vehicles with no license plate
   l. Vehicles with temporary cardboard (non-reflective) "Dealer Plates."
   m. Motorcycles

5. Ambient lighting conditions shall have no effect on the accuracy of the LPR system regardless of the time of the day and night. The Contractor shall provide any necessary shading or lighting elements required to mitigate the effect of the ambient lighting conditions on the LPR system performance.

6. The Contractor shall provide a means before lane acceptance testing, subject to approval by the Owner or Owner's Representative, to remotely score the LPR Subsystem to ensure it meets the performance requirements. The Contractor shall assist the Owner or Owner's Representative in transferring or uploading images from each lane to a secure FTP site that can then be viewed and scored on a standalone PC by the Owner or Owner's Representative. The Owner or Owner's Representative shall select any images stored on the LPR database for scoring purposes. The Contractor shall provide all software needed to test the LPR Subsystem's performance. The software shall be downloadable to a standalone PC used for testing.

7. LPR shall read plates from all states.

C. Processing Times
   1. The PARCS shall achieve the allowable processing times listed below:

      a. Report generation for data less than twelve (12) months old: less than fifteen (15) seconds
      b. Report generation for data twelve (12) months or older: less than thirty (30) seconds
      c. Credit card authorizations sent and returned: less than four (4) seconds, The Contractor shall provide the Owner or Owner's

Representative with the speed of connection that is required to allow credit card authorizations to be sent and returned and accounting for 150% increase in transactions. The Owner or Owner's Representative shall coordinate with the Contractor to increase the available bandwidth, as necessary.

    d.   At vehicle entry, the total elapsed time from the point a vehicle triggers the picture capture zone to the point where the LPR Subsystem submits a valid LPN into the database shall not exceed two (2) seconds for any single event.

    e.   At vehicle exit, the total elapsed time from the point a vehicle triggers the picture capture zone to the point where the LPR Subsystem communicates a successful or unsuccessful correlation message to the exit lane shall not exceed two (2) seconds for any single event.

2.07 SOURCE QUALITY CONTROL

A. Internal Contractor Tests

1. All equipment shall have successfully passed formal manufacturing tests and quality assurance inspections to validate compliance with the Contract prior to the start of the FAT. Records for formal internal Contractor testing and inspection for performance, materials quality and/or workmanship shall be maintained by the Contractor and made available if requested by the Owner or Owner's Representative prior to the start of any acceptance test.

2. Contractor shall have readily available proof of product reliability analysis and testing. Should reliability become a problem at any time from the beginning of installation testing through the operational completion test period.

3. Any test performed with the Contractor with the Owner or Owner's representative shall provide proof that the Contractor performed the same tests in advance.

PART 3 - EXECUTION

3.01 PROJECT MANAGEMENT

A. The Contractor shall provide a shared file folder during the project where meeting minutes, updated schedule and submittals will be shared with the Owner and Owner representatives.

3.02 EXAMINATION

A. Site Verification of Conditions: The Contractor shall verify all existing conditions in the field prior to implementation. In the event that conditions in the field are different from the existing conditions described and shown in the Contract, the Contractor shall notify the Owner or Owner's Representative in writing of the exact differences and shall inform the Owner or Owner's Representative in writing of any implications the differences have on the project. Should additional construction be required within Zions Bank property or other nested areas,

vendor shall provide detail construction information and impact to equipment installation within the proposal document.

3.03   INSTALLATION

    A.   During implementation and the warranty period, the Owner or Owner's Representative shall attempt to make available to the Contractor an area to serve as a work area for the technicians that shall support the system. It is the responsibility of the on-site technicians to keep the work area clean and free of all hazards.

    B.   During implementation and testing, on-line, real-time communication between the PARCS Cloud-based system and the Contractor's support team for supporting and configuring the system is required.

    C.   Any patches, upgrades, updates, or modifications to the software during the installation period shall require appropriate documentation and approval before the modification is made. Contractor shall propose a change control system for review and approval by Owner or Owner's Representative prior to implementation.

    D.   Equipment Installation

        1.   The Contractor shall verify that the installation location is prepared and ready to have the installation completed. The Contractor shall notify, in writing, the Owner or Owner's Representative if the Contractor finds that the installation location is not prepared for installation due to unfinished work outside of the Contractor's scope of work. The written notification shall provide detail of the elements that are in need of modification in order to prepare the location for equipment installation.

        1.2.   In locations where the equipment installation requires modifications to booths or kiosks, vendor shall provide cost estimates for additional construction work within the proposal document.

    E.   Disposal of Existing Equipment

        1.   The Contractor shall be responsible for removal of all unused existing equipment with no interference to ongoing revenue activity that is replaced under this project. Contractor shall disassemble, uninstall and transport removed equipment to an approved disposal location. Contractor shall be responsible for repairing any damages that occur to existing components during the removal and transport processes. The Owner or Owner's Representative will identify any device, equipment, or component that the Owner or Owner's Representative may wish to keep. Contractor shall deliver this equipment to a location identified by the Owner or Owner's Representative.

    F.   Phasing and Transition Plan

        1.   Contractor shall develop and submit a detailed phasing and transition plan describing how the Contractor plans to close existing lanes of operation, install new equipment, and open the lanes with the new system. This phasing and transition plan shall show how the Owner or Owner's Representative will process tickets that were produced with the existing system, on the new system. This plan will detail the number and

location of lanes that will be operational with the new system during the "go-live" activity and when the additional lanes will be activated to process transactions with the new system.

Include a detailed schedule of project requirements including milestones for shop drawings, fabrication, delivery periods, construction/installation, training, transition plan and testing. Milestones include special project requirements related to coordination with work by others and phasing. Schedule shall clearly delineate work within each of the ParkBOI facilities.

Detail how and in what sequence old components of the existing system will be phased-out and how components of the new system phased-in. Phasing plan shall include elements such as delivery periods, construction, training and testing requirements.

Discuss how both systems (new & existing) will operate together until such time that the new system is fully integrated.

2. The Contractor shall only install equipment in one garage at a time. Two or more garages shall not be worked on concurrently.

3. LAT shall be completed successfully prior to beginning work on a new garage.

3.04 FIELD QUALITY CONTROL

A. Acceptance testing shall serve to verify the functional performance of the PARCS and its components to ensure adherence to these Functional Specifications. The Acceptance testing process shall not take away from or reduce the responsibility of the Contractor to provide a finished and fully functioning system that meets all requirements of these Functional Specifications. Each application software package, firmware, and hardware equipment component delivered by the Contractor shall undergo acceptance testing as part of the installation process.

1. Factory Acceptance Test (FAT)

2. Lane Acceptance Test (LAT)

3. Operational Completion Test (OCT)

B. The PARCS shall successfully pass each testing phase before the next testing phase commences. The LATs shall not begin until the FAT has been successfully completed, and the Operational Completion Test shall not begin until all LATs for that facility have been successfully completed. Tests shall not be excluded or conducted out of sequence without prior written authorization from the Owner or Owner's Representative.

C. Thirty (30) days prior to the anticipated completion of all LATs for a parking facility's implementation, the Contractor shall submit a written request for starting the Operational Completion Test. An Operational Completion Test shall be performed for each individual parking facility after all LATs for that parking facility have been successfully completed. The OCT shall be conducted to assess the entire PARCS installation as a system.

CCDC PARCS Replacement

D.   The Contractor shall submit the proposed Phasing and Transition Plan as outlined in the submittal guidelines. Testing shall not disrupt the normal entering and exiting of vehicles from the parking facility areas regardless if the lane is connected to the existing PARCS or the new PARCS.

E.   Factory Acceptance Tests

1.   FATs shall be conducted by the Contractor as a demonstration to the Owner or Owner's Representatives that the installed equipment complies with the Contract, the Contractor's shop drawings, and to other documentation, such as user manuals.

2.   Upon successful completion of the Contractor's test, the Contractor, and the Owner or Owner's Representative shall perform the FAT to verify performance. The FAT shall only be observed by the Owner or Owner's Representative after a fully completed and signed test script verifying successful completion of the Contractor's internal testing is submitted. Signed internal test scripts shall be submitted at least five (5) calendar days prior to the scheduled test with the Owner or Owner's Representative.

3.   The Contractor shall provide test procedure documents for FATs in accordance with the submittal guidelines. FAT Test Procedures Documents shall be provided for each lane type or device type and test procedures shall include the following sections:

a.   narrative describing the general procedures to be followed;

b.   definition of all minor and major deviation types;

c.   checklist of all items necessary to conduct the test (e.g., unpaid tickets, exceptions tickets, credit cards, etc.);

d.   checklist for the components of each lane or device;

e.   signature page for all FAT participants' signatures;

f.   step by step instructions for testing each functionality;

g.   tests for all user processing procedures;

h.   tests to ensure that the proper rate structures are being used;

i.   tests for verifying the reporting requirements;

j.   area within each test section to denote "pass" or "fail;" and

k.   section for listing and describing test deviations.

4.   The FAT shall be considered successfully completed when all components have passed their respective test procedures and all test documents have been signed by the Owner or Owner's Representative and Contractor. Minor deviations resulting in the creation of punch list items shall not be considered grounds for failure of the overall FAT. Major deviations found during the FAT shall result in the retest of the equipment. The Contractor shall credit the Owner or Owner's Representative from its total contract value for any travel and/or labor costs incurred by the Owner or Owner's Representative as a result of retesting a failed lane.

F.   Lane Acceptance Tests

1.   LATs shall be conducted by the Contractor as a demonstration to the Owner or Owner's Representatives that the installed equipment complies with the Contract, the Contractor's shop drawings, and to other documentation, such as user manuals.

2.   After successful completion of the FAT the equipment, software, and subsystems may be installed, based on an Owner or Owner's Representative approved schedule. When a lane installation has been completed, the Contractor shall conduct its internal testing of the installed equipment. Internal testing shall follow the identical LAT test procedures that shall be used during LATs observed by the Owner or Owner's Representative.

3.   Upon successful completion of the Contractor's test, the Contractor, and the Owner or Owner's Representative shall perform the LAT to verify performance. The LAT shall only be observed by the Owner or Owner's Representative after a fully completed and signed test script verifying successful completion of the Contractor's internal testing is submitted. Signed internal test scripts shall be submitted at least five (5) calendar days prior to the scheduled test with the Owner or Owner's Representative.

4.   LATs shall be conducted for each entry lane and exit lane. The Contractor shall not activate any entry/exit lane for service until its LAT has been successfully completed, and the Owner or Owner's Representative has notified the Contractor that it is ready to put the equipment in operation.

5.   The Contractor shall provide test procedure documents for LATs in accordance to the submittal guidelines. LAT Test Procedures Documents shall be provided for each lane type or device type and test procedures shall include the following sections:

   a.   narrative describing the general procedures to be followed;

   b.   definition of all minor and major deviation types;

   c.   checklist of all items necessary to conduct the test (e.g., unpaid tickets, exceptions tickets, credit cards, etc.);

   d.   checklist for the components of each lane or device;

   e.   signature page for all LAT participants' signatures;

   f.   step by step instructions for testing each functionality;

   g.   tests for all user processing procedures;

   h.   tests to ensure that the proper rate structures are being used;

   i.   tests for verifying the reporting requirements;

   j.   tests for all third-party integrations;

   k.   area within each test section to denote "pass" or "fail;" and

   l.   section for listing and describing test deviations.

6. The Contractor shall provide all ancillary items necessary to complete the LATs for testing purposes; supply credit cards of all types for testing; provide all ticket and ticketless media needed for each transaction type; and provide all keys to access equipment housings. In addition, the Contractor shall make available sufficient personnel to perform the LAT in an efficient and timely manner.

7. The LAT shall be considered successfully completed when all components have passed their respective test procedures and all test documents have been signed by the Owner or Owner's Representative and Contractor. Minor deviations resulting in the creation of punch list items shall not be considered grounds for failure of the overall LAT. Major deviations found during the LAT shall result in the retest of the lane. The Contractor shall agree to credit the Owner or Owner's Representative from its total contract value for any travel and/or labor costs incurred by the Owner or Owner's Representative as a result of retesting a failed lane.

G. Operational Completion Test

1. The OCT shall be comprised of all equipment, systems, and subsystems performing under actual conditions, e.g., user use, normal activity recording, and reporting procedures. This OCT shall demonstrate, over a period of thirty (30) consecutive calendar days, the successful performance of all aspects of the PARCS.

2. During the OCT, only routine maintenance procedures, as defined by the preventive maintenance manual and according to industry standards, shall be permitted. All other maintenance procedures shall be approved in writing by the Owner or Owner's Representative before they are performed; otherwise, they shall constitute a failure of the OCT and a mandatory restart.

3. The Owner or Owner's Representative reserves the right to be present for all maintenance services during the OCT.

4. For purposes of the OCT, a subsystem is defined to be any one of the following:

   a. Credit card authorization system

   b. Data communication system

   c. Entry Lane

   d. Exit Lane

   e. LPR System

   f. LPI System

   g. AVI System (if used)

   h. Barcode readers

   i. Signs

   j. Intercom System

   k. POF

l.   Integrations

5.   The OCT shall begin after all facilities have successfully completed their respective Lane Acceptance Tests on a date mutually selected and agreed to in writing by the Owner or Owner's Representative and the Contractor at a time designated by the Owner or Owner's Representative. The OCT monitors system performance of the entire system operating as a single unit. The Contractor shall submit an OCT Test Procedures Document in accordance with the submittal requirements. OCT Test Procedures Documents are intended to outline procedures for monitoring the overall performance of the PARCS and shall not include test procedures for individual lanes or components. The OCT Test Procedures Document shall include:

    a.   narrative describing the general procedures to be followed;

    b.   methodology for calculation of downtime for the various PARCS components; and

    c.   electronic tracking document to be used during the OCT period for documenting failures and downtime.

6.   The OCT shall continue for thirty (30) consecutive twenty-four (24) hour periods during which all the performance criteria, stated below, shall have been met. If during the thirty (30) day period the system fails to meet any one of the following specified performance criteria, the test shall begin anew on a day agreed upon by the Owner or Owner's Representative and the Contractor. The Contractor shall agree to credit the Owner or Owner's Representative from its total contract value for any travel and/or labor costs incurred by the Owner or Owner's Representative as a result of retesting the system.

7.   The performance criteria for successful completion of the OCT shall include:

    a.   No individual subsystem shall be operationally unavailable for four (4) or more hours cumulative during the test period.

    b.   No individual subsystem shall be operationally unavailable for more than two (2) consecutive hours during the test period.

    c.   If any single component fails more than once during the thirty (30) day period for the same reason, it shall be replaced upon the second failure with a newly manufactured component of the same type and the test shall continue.

    d.   No component of a given type (e.g., exit terminal, barrier gate, entry terminal, etc.) shall fail more than three (3) times during the test period for the same reason. Upon the fourth (4th) failure all components of that type shall be replaced to correct the common deficiency, and the test shall be restarted from the beginning.

8.   In addition to the comprehensive reports generated during the OCT, the Contractor shall provide to the Owner or Owner's Representative a one-page summary report that clearly provides the overall percentage of system downtime and causes of that down time.

9. The Contractor shall provide to the Owner or Owner's Representative a corrective action report that provides a detailed description of each failure that occurs during the OCT. The corrective action report shall include the type of failure, why the failure occurred, what was done to remedy the failure, and whether or not the failure resulted in a restart of the OCT.

10. All reports shall be one hundred (100%) percent accurate and can be reconciled against one another over the thirty (30) day testing period, otherwise the test shall be deemed a failure, problems shall be corrected, and the test restarted.

11. A subsystem shall be considered unavailable as long as any major component of the subsystem is not functioning. As an example, the major components of an entry lane include but are not limited to:

    a. Lane Open/Closed Signs

    b. Vehicle detector devices

    c. Intercom

    d. Barrier gate

    e. Entry terminal

    f. PARCS devices – sensors and signs

    g. Data communication

    h. Power supply

12. An inoperative subsystem shall not be deemed unavailable if it has become inoperative because of:

    a. malicious damage or vandalism to a component(s) by users or others;

    b. routine parking operational issues such as excessive ticket jams defined as one lane experiencing more than 10% more ticket jams than any other lanes during any 24-hour period;

    c. network connectivity issues beyond the PARCS;

    d. PARCS failures due to Owner or Owner's Representative provided equipment issues and/or failures;

    e. failures caused by a 3rd party; or

    f. Act of God.

13. Should a failure occur in the system that is caused by normal hardware failure, it shall be repaired, and the test resumed with downtime accrued. Where the failure causes inadequate test data to be collected or a loss of test data, then the test shall be restarted from a point where it can be successfully completed with data to verify compliance with the Contract and the test procedures document.

14. If the system "crashes" during a test, then the test shall be stopped. "Crash" is defined as a failure in which the PARCS cannot properly process revenue transactions. The Contractor shall analyze the cause of the system "crash," document the cause in a system problem report,

responsively repair the flaw, and document the repair in a corrective action report.

15. Where corrective action impacts delivered documentation, the documentation shall be corrected prior to final acceptance. Only after Contractor has repaired flaw and Owner or Owner's Representative accepts corrective action, and the flaw report can the test be restarted.

16. Upon formal written approval of the corrective action report by the Owner or Owner's Representative, testing may continue if a problem has been encountered as long as the Contractor can clearly demonstrate that the failure is associated only with one (1) function of the system, corrective action has been taken to remedy the failure, and the corrective action shall not impact other areas of the system.

17. Where the system does not perform a function or incorrectly performs the function, but the system does not crash, testing may continue, as long as the function is corrected, and all of the following conditions are met:

   a. the functionality of entry/exit lanes and parking time works properly according to the Contract,

   b. the functionality of parking fee calculations and correct collection works according to the Contract;

   c. no personnel, vehicle or driver safety issues exist;

   d. transactional archiving operates in accordance with the Contract;

   e. failure does not cause loss or contamination of transactional data; and

   f. all reports balance and are 100% accurate.

18. Where the above criteria are not met, the test shall be stopped, and corrective action taken and verified prior to testing restart.

19. During the test, the continued availability of the system shall be demonstrated. Where a failure occurs that causes data loss, system instability (crash), and/or contamination of the transactional data and the database, the Contractor shall immediately correct the problem. Testing shall continue until a consecutive 30-day period of stable operation is achieved. Stability is defined as the proper functioning of the PARCS with a failure having no impact on the continued system operation or on the integrity of transactional data.

H. Punch List

1. Starting with the first week after completing the Lane Acceptance Tests through final system acceptance, the Contractor shall submit a document on a weekly basis showing the status of all outstanding system issues, regardless of severity, including the plan for resolution and estimated completion date.

I. Final System Acceptance

1. Final System Acceptance will be submitted by the Owner or Owner's Representative, in writing to the Contractor, upon successful completion of the FAT, all LATs, the OCT, upon verification by the Owner or Owner's

Representative of complete resolution of all outstanding items on the punch list, receipt of detailed Record Drawings, and independent validation that the installed system is PCI-DSS compliant.

3.05   INSTRUCTION AND TRAINING

A.   The Contractor shall submit a Training Plan with proposed instruction schedule. The Owner shall approve or suggest changes to the training schedule at that time. Fourteen (14) calendar days prior to each instruction session, the Contractor shall submit a training plan of where and how training sessions will be conducted, a copy of the instruction materials, equipment needed and provided, and approximate duration of the session. Ample time shall be allotted within each session for the Contractor to fully describe and demonstrate all aspects of the PARCS and allow Owner personnel to have hands-on experience with the PARCS.

B.   The Contractor shall provide training certification for the operator to perform first level maintenance without voiding the warranty of the equipment. Certification shall include basic maintenance, preventive maintenance and removal and installation of simple parts, removal, and installation of gates.

C.   The Contractor shall instruct the Owner's designated staff in the operation, adjustment, and maintenance of all products, equipment, and systems.

D.   Contractor shall coordinate schedule for training with the Owner to avoid conflicts and peak period personnel conflicts.

E.   The Owner reserves the right to request fifteen (15) hours of additional training up to two (2) times during the warranty period.

F.   The class material shall include schematics and description of the equipment. The Contractor shall provide all documentation necessary to instruct the Owner's personnel. The Owner retains the right to copy and distribute material for internal use only.

G.   The Contractor shall submit a user's manual with every instruction in the course. The Contractor shall submit electronic copies (.PDF on a USB thumbdrive) to the Owner. The manual shall be written in English with appropriate photos, diagrams, and schematics to supplement the text.

H.   Training classes shall be provided in the following groups:

1.   Supervisors

2.   Auditors and accounting personnel

3.   CCDC staff and Administrators

4.   CCDC PARCS Personnel

Quantity	Description	Unit Cost	Subtotal
TOTAL PARCS COST ESTIMATE FOR ALL FACILITIES		
PARCS Costs			
1	Parking Equipment Costs		$ -
1	Parking Event Management System/Software		$ -
6	Parking Event Management System/Software Handheld Devices		$ -
1	Mobile Pay Setup		$ -
1	Credit Card Subsystem		$ -
1	PARCS Software (2 years initial cost)		$ -
1	Validation System/Software		$ -
1	Prox Cards Software		$ -
2000	Prox Cards		$ -
1	Intercom and Camera System/Software		$ -
1	PARCS Data Migration		$ -
1	Network Equipment		$ -
1	Training		$ -
1	Testing		$ -
1	Documentation		$ -
			$ -
			$ -
			$ -
Subtotal			$ -
Construction Costs			
1	Equipment Removal		$ -
1	Construction		$ -
			$ -
			$ -
			$ -
Subtotal			$ -
GC & Soft Costs			
1	Design and Construction Contingency		$ -
1	General Conditions/Mobilization (field overhead)		$ -
1	Bonds and Insurance		$ -
1	Overhead & Profit		$ -
1	Escalation		$ -
1	Vendor A/E Fees, Materials Testing		$ -
			$ -
			$ -
			$ -
Subtotal			$ -
	COST TOTAL		$0

Quantity	Description	Unit Cost	Subtotal
Proposal Options - Reservation and Hotel Integration		
1	Reservation System		$ -
1	Hotel Integrations		$ -
1	ParkMobile Integration		$ -
1	Servers and Network Equipment Labor		$ -
1	Training		$ -
1	Testing		$ -
1	Documentation		$ -
			$ -
			$ -
			$ -
	SUBTOTAL		$0

Quantity	Description	Unit Cost	Subtotal
Proposal Options - AVI		
11	Entries		$ -
12	Exits		$ -
6	Nested Lanes		$ -
3500	Transponders		$ -
28	Remove Prox Cards Readers		$ -
			$ -
			$ -
			$ -
	SUBTOTAL		$0

Quantity	Description	Unit Cost	Subtotal
Proposal Options - Additional POF		
1	Additional POF at 10t and Front		$ -
	SUBTOTAL		$0

Year	Maintenance Costs/Software
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
	$ -

*Contractors to add additional lines and pricing information as needed

For items the Respondent takes exception to and for which the Respondent proposes an alternative, pricing for the alternative shall be provided in the blank space within the appropriate section of the Cost Form. Include a clear and concise description of the proposed alternative and denote the item as an "alternative" in the Cost Form.

Description	Unit Price
Entry Terminal	
Exit Terminal	
Barrier Gate	
Loops	
Prox Card Reader	
AVI Reader	
Pay on Foot Machine (Credit Card Only)	
Pay on Foot Machine (Credit Card and Cash)	
ParkMobile Integration	
LPR Camera	
Open/Closed Signs in Lanes	
Dynamic Monument Sign	
UPS	

*Contractors to add additional lines and pricing information as needed

For items the Respondent takes exception to and for which the Respondent proposes an alternative, pricing for the alternative shall be provided in the blank space within the appropriate section of the Cost Form. Include a clear and concise description of the proposed alternative and denote the item as an "alternative" in the Cost Form.

9th & Main			
Quantity	**Description**	**Unit Price**	**Total Price**
1	Entry Terminal	$ -	$ -
2	Exit Terminal	$ -	$ -
9	Barrier Gate	$ -	$ -
21	Loops	$ -	$ -
3	LPR	$ -	$ -
9	Prox Card Reader	$ -	$ -
1	Prox Card Reader BikeBOI	$ -	$ -
2	Pay on Foot Machine (Credit Card Only)	$ -	$ -
1	Pay on Foot Machine (Credit Card and Cash)	$ -	$ -
2	UPS	$ -	$ -
	OVERALL PARKING FACILITY TOTAL:	$ -	

*Contractors to add additional lines and pricing information as needed

For items the Respondent takes exception to and for which the Respondent proposes an alternative, pricing for the alternative shall be provided in the blank space within the appropriate section of the Cost Form. Include a clear and concise description of the proposed alternative and denote the item as an "alternative" in the Cost Form.

9th & Front			
Quantity	**Description**	**Unit Price**	**Total Price**
2	Entry Terminal	$ -	$ -
2	Exit Terminal	$ -	$ -
4	Barrier Gate	$ -	$ -
4	LPR	$ -	$ -
12	Loops	$ -	$ -
4	Prox Card Reader	$ -	$ -
4	Open/Closed Signs in Lanes	$ -	$ -
2	Pay on Foot Machine (Credit Card Only)	$ -	$ -
1	Pay on Foot Machine (Credit Card and Cash)	$ -	$ -
2	UPS	$ -	$ -
	OVERALL PARKING FACILITY TOTAL:	$ -	

*Contractors to add additional lines and pricing information as needed

For items the Respondent takes exception to and for which the Respondent proposes an alternative, pricing for the alternative shall be provided in the blank space within the appropriate section of the Cost Form. Include a clear and concise description of the proposed alternative and denote the item as an "alternative" in the Cost Form.

10th & Front			
Quantity	**Description**	**Unit Price**	**Total Price**
1	Entry Terminal	$ -	$ -
2	Exit Terminal	$ -	$ -
3	Barrier Gate	$ -	$ -
3	LPR	$ -	$ -
6	Loops	$ -	$ -
3	Prox Card Reader	$ -	$ -
1	Pay on Foot Machine (Credit Card Only)	$ -	$ -
1	Pay on Foot Machine (Credit Card and Cash)	$ -	$ -
2	UPS	$ -	$ -
OVERALL PARKING FACILITY TOTAL:		$ -	

*Contractors to add additional lines and pricing information as needed

For items the Respondent takes exception to and for which the Respondent proposes an alternative, pricing for the alternative shall be provided in the blank space within the appropriate section of the Cost Form. Include a clear and concise description of the proposed alternative and denote the item as an "alternative" in the Cost Form.

11th & Front			
Quantity	**Description**	**Unit Price**	**Total Price**
4	Entry Terminal	$ -	$ -
2	Exit Terminal	$ -	$ -
6	Barrier Gate	$ -	$ -
6	LPR	$ -	$ -
12	Loops	$ -	$ -
6	Prox Card Reader	$ -	$ -
1	Pay on Foot Machine (Credit Card Only)	$ -	$ -
1	Pay on Foot Machine (Credit Card and Cash)	$ -	$ -
3	UPS	$ -	$ -
OVERALL PARKING FACILITY TOTAL:		$ -	

*Contractors to add additional lines and pricing information as needed

For items the Respondent takes exception to and for which the Respondent proposes an alternative, pricing for the alternative shall be provided in the blank space within the appropriate section of the Cost Form. Include a clear and concise description of the proposed alternative and denote the item as an "alternative" in the Cost Form.

Capitol & Main			
Quantity	**Description**	**Unit Price**	**Total Price**
1	Entry Terminal	$ -	$ -
2	Exit Terminal	$ -	$ -
3	Barrier Gate	$ -	$ -
3	LPR	$ -	$ -
6	Loops	$ -	$ -
3	Prox Card Reader	$ -	$ -
3	Pay on Foot Machine (Credit Card Only)	$ -	$ -
1	Pay on Foot Machine (Credit Card and Cash)	$ -	$ -
2	UPS	$ -	$ -
OVERALL PARKING FACILITY TOTAL:		$ -	

*Contractors to add additional lines and pricing information as needed

For items the Respondent takes exception to and for which the Respondent proposes an alternative, pricing for the alternative shall be provided in the blank space within the appropriate section of the Cost Form. Include a clear and concise description of the proposed alternative and denote the item as an "alternative" in the Cost Form.

Capitol & Myrtle			
Quantity	Description	Unit Price	Total Price
2	Entry Terminal	$ -	$ -
2	Exit Terminal	$ -	$ -
4	Barrier Gate	$ -	$ -
4	LPR	$ -	$ -
12	Loops	$ -	$ -
4	Prox Card Reader	$ -	$ -
1	Pay on Foot Machine (Credit Card Only)	$ -	$ -
1	Pay on Foot Machine (Credit Card and Cash)	$ -	$ -
2	UPS	$ -	$ -
	OVERALL PARKING FACILITY TOTAL:	$ -	

*Contractors to add additional lines and pricing information as needed

For items the Respondent takes exception to and for which the Respondent proposes an alternative, pricing for the alternative shall be provided in the blank space within the appropriate section of the Cost Form. Include a clear and concise description of the proposed alternative and denote the item as an "alternative" in the Cost Form.