Response to: State of Georgia, eRFI

eRFI (Event) Number: 47800-SO S0000035

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Executive Summary

Clear Ballot has established itself as the most auditable and transparent voting system on the market. Our philosophy is that election administrators should have modern technology to conduct elections in the most efficient and cost-effective way. Our impact on the industry has become defined by our ability to enter new states, gain market share, and attract the best industry talent to our roster of employees. Clear Ballot is EAC certified and the fastest growing election company in the country.

Clear Ballot has already proven our ability to manage large and complex projects. For instance, in just two years Clear Ballot has acquired more than 60% of the state of Washington, including the largest counties and deployed successful systems. In Maryland, Clear Ballot managed a complex state-wide project in which 4.6 million ballots were audited across 24 counties. As Clear Ballot continues to grow, we search for like-minded partners who value innovation and seek to improve the efficiency of their operations across all phases of an election. With this in mind, Clear Ballot is pleased to provide this response to the Georgia Secretary of State's office eRFI (Event) Number: 47800-SOS0000035, New Voting System.

In this response, Clear Ballot proposes ClearVote, a paper-based, digital scan voting system. ClearVote gives election officials clarity when reviewing an election and determining voter intent. ClearVote will provide every voter with the opportunity to cast an identical paper ballot, including those using accessible systems. ClearVote also gives election officials greater transparency when reviewing an election. In a recount or close contest, this transparency gives election officials complete confidence in the accuracy of the results.

Clear Ballot believes that preserving the voted ballot is critical. Accordingly, ClearVote never requires officials to remake, physically alter, or otherwise change the voter marked ballot for tabulation. This significantly reduces cost and the opportunity for human error, but most importantly, ensures the integrity of the voter's intent. The ClearVote system has established itself as the most auditable and reliable voting system on the market because of how the system preserves the voter's original ballot and never uses a summary or barcode ballot.

Clear Ballot leverages the most modern technology architecture in the industry to ensure that Georgia will be able to adapt to any future legislative changes. Our decision to build software that runs on commercial-off-the-shelf (COTS) hardware components ensures that the State of Georgia and its 159 Counties will have the ability to maintain the voting system in the most cost-effective way over time.

The hallmark of Clear Ballot's ClearVote system is the efficiency of operations across all phases of an election through the application of modern technology. We do this by eliminating most manual processes that consume time and budget and are prone to error. Our clients are our most vocal advocates and have reported cost savings of over 70% in areas of their election process. A few areas where Clear Ballot will provide significant cost savings to the State of Georgia are:

- Reduce storage, transport and set-up requirements of polling place equipment
- Eliminate the need to manually remake unreadable vote-by-mail ballots
- Significantly reduce the time to count write-ins and adjudicate marginal marks
- Streamline ballot creation and programming through more intuitive software

- Reduce the burden of post-election audits or recounts

The most innovative capability of ClearVote is its ability to connect results directly to the voter's marks. Our innovative vote visualization allows administrators to have a clear view of a voter's intent, for a level of transparency that is unmatched. ClearVote allows election administrators to prove that every ballot has been counted as cast; an immeasurable benefit to our clients that will provide unparalleled value to the State of Georgia.

Lastly, Clear Ballot has recruited some of the best operations, training, and project management professionals from the elections industry to guide our implementation and support teams. We understand that elections are built on trust and experience. With this in mind, Clear Ballot will assign a project team that has extensive experience managing State voting system transitions and specific experience with the exact voting system Georgia is currently using. With multiple state-wide implementations under our team's belt, Clear Ballot's project team will ensure your statewide voting system implementation will be complete by December 31, 2019 and that the State of Georgia has a statewide process to maintain security and sound election administration consistently and transparently for many years to come.

We believe Clear Ballot's solution will provide the State of Georgia with the most auditable, transparent, and future proof voting system available on the market today. We appreciate the opportunity to respond to your request for information and look forward to answering any questions that you may have.

Georgia RFI Questions

1.   **Explain how your solution meets our needs for the following voting system components:**

- **Election Management System**

- **Ballot Marking Devices**

- **Digital Scanners & Tabulators**

- **High Speed Scanners and Tabulators**

- **Statewide Electronic Pollbook System**

Clear Design

Election Management System

Election department staff can design ballots quickly and easily using the ClearDesign election management and ballot design solution. Our modern software architecture streamlines ballot proofing; it provides an easy to use drag-and-drop ballot editing tool and eliminates redundant steps in the ballot creation process. ClearDesign delivers election officials a solution that makes in-house ballot design a quick and easy process, with the flexibility to outsource ballot programming to a third party of their choosing.
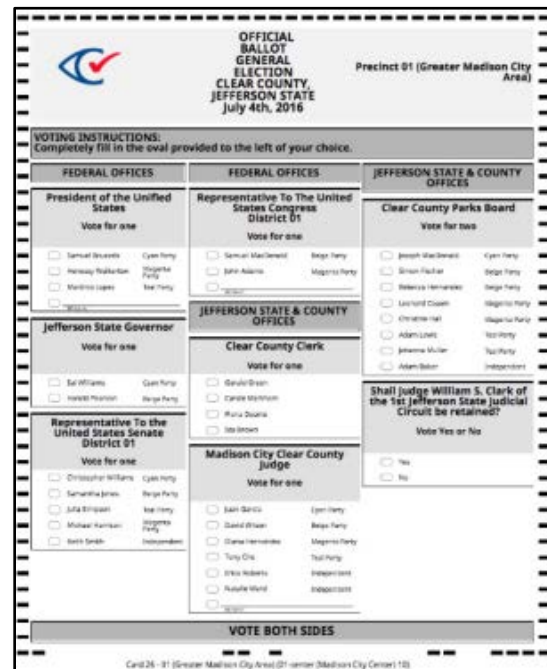
Key Benefits:

- Efficient and easy management of multiple languages, with translation capabilities

- Generates all required ballot formats simultaneously in one database

- Facilitates last-minute ballot edits with "one click" or universal editing and re-generates only edited ballot styles

- Utilizes uniform precinct scanner media; Identical USB sticks are assigned to specific Wards or Precincts during Pre-Election Testing

- Efficient and easy management of recorded audio, built in text to speech, and/or third-party text-to-speech conversion

- Flexible Primary Election configuration

- Easily maintained precinct divisions/splits

- Ability to create and maintain over 15,000 ballot styles per election
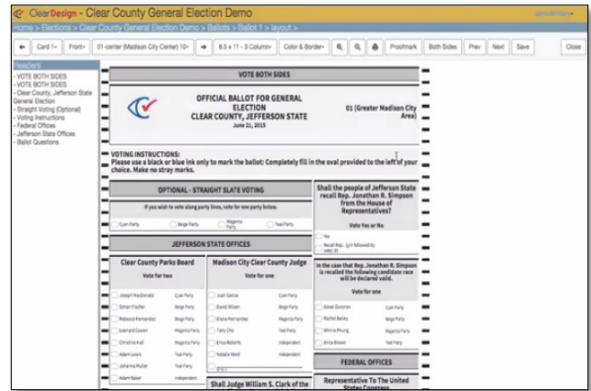
Modern User Interface

ClearDesign's user interface is built to allow non-technical personnel to become experts on ballot design quickly and easily. Clear Design's rich set of ballot layout tools includes drag-and-drop capabilities, flexible text editors, and dynamic ballot proofing. Users with basic proficiency in Microsoft Word can become expert ballot designers in no time.

Easy Ballot Proofing

Seventy-nine ballot-proofing reports help staff ensure that ballots are correct before production begins. The depth and breadth of ClearDesign reporting provides many options to find the proofing method that works best for your office. Reports can be produced in HTML, PDF, or CSV formats.
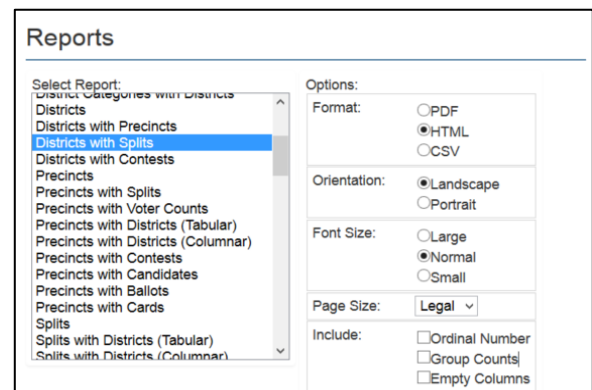
Ballot Sets

The concept of Ballot Sets was developed to eliminate duplicate effort in the programming and proofing of accessible touch screen voting and UOCAVA ballots. ClearDesign allows users to auto-generate ballot styles in various formats that are identical in our tabulation system. It also allows election officials to create a ballot style in multiple formats, such as a 20-inch, double-sided ballot for the polling place, but a 2-card 8.5x11-inch double-sided ballot for UOCAVA voters who may not have access to a large form printer.

HTML Ballot Format

In addition to ClearDesign simultaneously creates PDF ballot formats for printing, ClearDesign simultaneously creates an HTML ballot format to support both UOCAVA Electronic Ballot Delivery and the growing demand for Accessible Ballot Delivery. Redundant proofing and time-consuming precinct relationship mapping are eliminated with ClearDesign. This HTML ballot allows voters to mark their ballot using an EAC approved onscreen ballot marking wizard. Once marked the ballot can be printed, producing a machine-readable marked ballot.

ClearAccess

Accessible Ballot-Marking Solution

ClearAccess is a flexible ballot-marking solution that meets the requirement for independent, accessible balloting in the polling place for voters with disabilities.

ClearAccess is interoperable with the ClearCast and ClearCount tabulators and uses commercially available hardware components for efficiency and cost savings.

Key Benefits:

Accessible

ClearAccess is a universally accessible voting solution that enables voters of all abilities to mark, verify and cast their ballots privately and independently. Developed with input from the disabled voting community, ClearAccess meets or exceeds the highest standards of accessibility, as set forth by Section 508 of the American Disability Act Standards and all ballot marking rules, imposed by the Help America Vote Act.
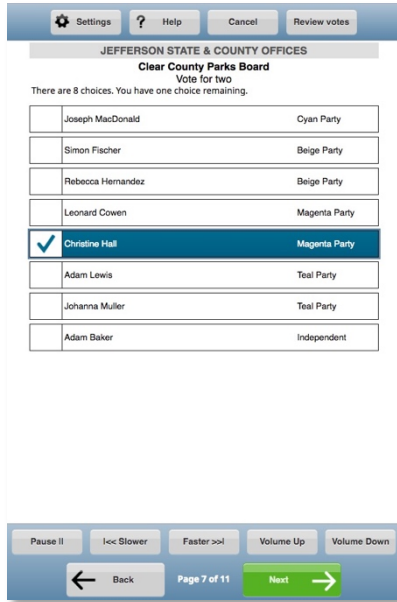
User Tested Voter Interface

ClearAccess is the only commercial application of the *Anywhere Ballot*, an EAC funded project focused on developing standards and best practices for elections. The goal was to increase universal accessibility by allowing citizens to cast their votes on the tens of millions of existing accessible devices—COTS PCs, tablets, and smartphones. The result was a highly intuitive ballot marking session supported by a variety of accessible input devices which prints marked ballots. This allows ClearAccess to print tabulatable marked ballots on low-cost COTS printers.

ClearCast

Digital Scanner and Tabulator

ClearCast is the first precinct digital scan voting system to be built with modern software tools, offering election officials an alternative to proprietary equipment that can quickly become obsolete. ClearCast is built with commercially available, modular components that deliver top ballot-processing performance at lower cost. The ease of upgrading or replacing these modular components prevents obsolescence and ensures the system withstands the test of time.

Key Benefits:

Quality

Rather than creating proprietary and expensive hardware, Clear Ballot opted to use existing high-speed, commercial scan engines and Intel's® Next Unit of Computing (NUC). This off-the-shelf mini PC kit allows ballots to be cast and processed in a matter of seconds, leading to shorter lines at the polls and an overall better voting experience. High quality, off-the-shelf components provide optimal throughput for every precinct with 200 DPI grayscale images, the highest quality digital ballot imaging of any voting system on the market today.

Ease of Use

ClearCast is the first precinct tabulator built on modern technology. ClearCast was designed to be easy to use, from poll worker set-up to its compact design.

ClearCast programming is fast and easy with universal media, meaning each USB is the same prior to testing. Poll worker's jobs are simplified; the device turns on when plugged in, a large HD screen (15.5") with simple commands allows for streamlined set-up, and the compact size of both the machine and ballot bag allow for easy transportation and storage. We also provide a larger ballot box for larger jurisdictions.

ClearCast can easily be programmed to prevent overvotes and discourage undervotes. It can also be programmed to report multiple zero and results reports including write-in images. The ClearCast battery doubles federal requirements providing over 4 hours of battery life in the case of a power outage.

ClearCast Security

In today's political environment, the emphasis on providing a secure voting system is critical. Clear Ballot understands this and works every day to ensure your investment in ClearCast shows the stakeholders in your jurisdiction that you place a high priority on the security and integrity of elections. ClearCast has many security features, both on the physical device and in the underlying software, that have been designed to give election officials peace of mind.

ClearCast Security Features

- Keyed locks on all poll worker access
- Keyed locks on the maintenance access
- Intel® NUC uses BIOS password to protect settings
- USB sticks are authenticated (images, results, logs) to ensure they have not been tampered with
- USB sticks can be encrypted to prevent unauthorized system access
- All-metal shell to deny physical access, mischief, or damage in transit

ClearCount

High Speed Scanners and Tabulators

ClearCount is the first new ballot tabulation system developed from the ground up in the United States in the last 10 years. Our software-based system allows jurisdictions to leverage COTS scanners, which provide huge advantages in scalability, support, and longevity of useful life. ClearCount's ballot processing capabilities and easy-to-learn visual software make it an ideal solution for all counties regardless of size.

Key Benefits:

Central Absentee Scanning

Commercially available hardware provides significant advantages in the support, flexibility, cost, and the useful lifespan of voting systems. Clear Ballot has worked with hardware manufacturers to evaluate technologies that meet the unique challenges of election officials. We chose several companies based on their superior technology as it applied to elections, their willingness to create custom support tailored for the election official, and the long-term availability of their systems and easy migration paths for upgrades. These strategic partnerships have brought world class capabilities to the election community. Clear Ballot uses Fujitsu for scanning equipment and Dell for computing assets.
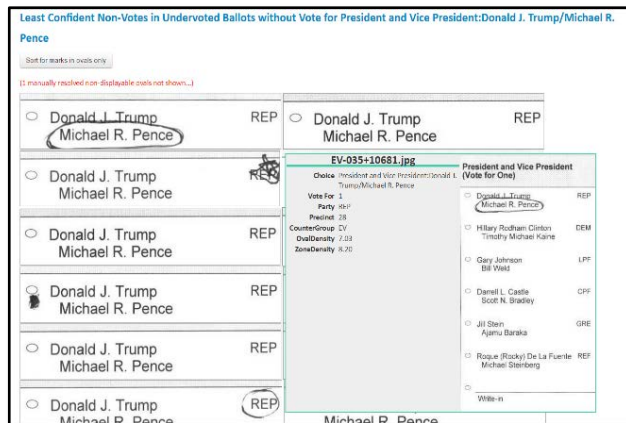

Fujitsu 6800	Fujitsu 6400
6,000 ballots per hour	4,500 ballots per hour

### *Visualization of Voter Intent*

One of the most important capabilities of any voting system is its ability to interpret voter intent. Clear Ballot's foundational insight is the importance of allowing counties to "see the result". Until now, jurisdictions have only had two methods of assessing voter intent; trusting unverifiable machines or counting ballots by hand.

Our technology digitally sorts every voted oval in an election making it easy for our customers to look at and confirm voter intent. ClearCount identifies and categorizes ovals by density in the candidate target area, which may represent uncaptured voter intent, ensuring every ballot is counted as intended.

The transparency and power of our vote visualization technology reveals the intent of the electorate like it has never been seen before. Each voter-marked oval is linked to its corresponding high-resolution digital ballot image which can be accessed with a single mouse click. Election administrators can review overvotes, blank ballots, write-in votes, and marginal marks without having to handle or remake the physical ballot.
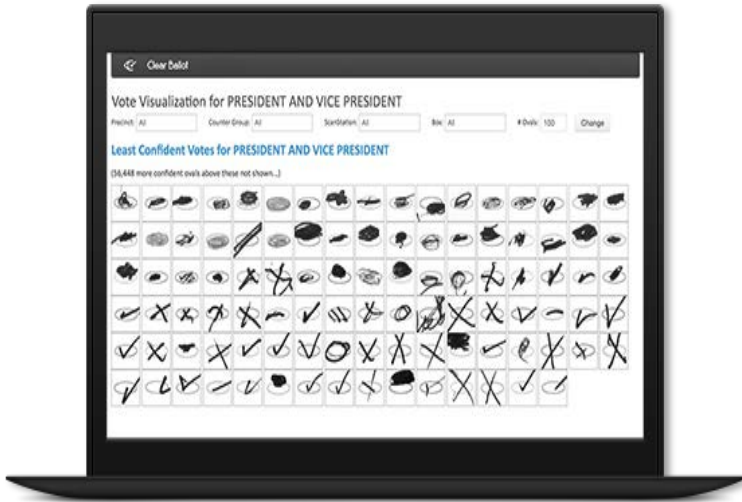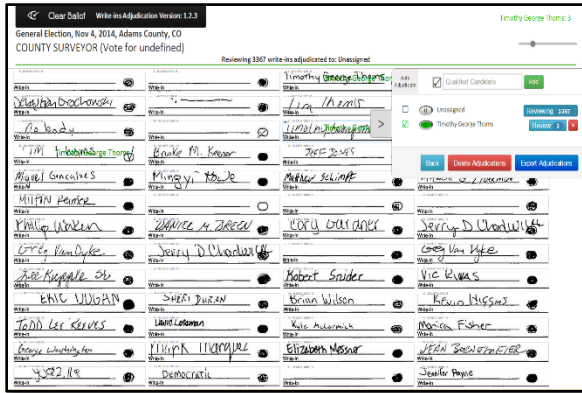

Transparency of Results

ClearCount's unparalleled visualization of ballot images, down to the individual ovals, provides a level of transparency that no other voting system can match. ClearCount is the first system that logically organizes voters' actual vote marks to provide visual cues that allow election officials to identify where they need to focus their attention. After reviewing our Statement of Votes Cast record for 5 minutes, one election administrator referred to this level of transparency as "administrative confidence" because in an election with a 5-vote difference, he felt sure that every vote was counted accurately.

Reporting

ClearCount offers results reports in a variety of formats to meet your jurisdiction's needs. Interim reports can be created on Election Night as results are accumulated. District reports can be generated as needed for customized data. Final Election Canvass reports can be created in detail and shared with media and stakeholders. Web reports can be exported in various formats as required. Additionally, our PDF reports give officials the ability to label and present data in a convenient, easy-to-use way. Clear Ballot will work with your jurisdiction to create the types of exports required by your state or constituents, ensuring that all the required deliverables of your elections are met.

Write-in Management Tool

ClearCount's Write-In Adjudication utility allows officials to assign certified write-in candidates into digital "buckets" with the click of a mouse. This allows staff to count write-in votes quickly and accurately. Multiple staff can work on the same contest at the same time, allowing for a managed and organized approach to large write-in contests. Non-certified candidates can be assigned to a single bucket or assigned to individual buckets as required.

Digital Adjudication

ClearCount eliminates the need for election officials to manually duplicate paper ballots. Absentee ballots deemed unreadable by the system can be reviewed digitally. This allows officials to quickly and easily process ballots for voter intent by examining high-resolution images of the cast ballots, reducing the risk of human error inherent in ballot-handling, and significantly improving the speed and integrity of the tabulation process.
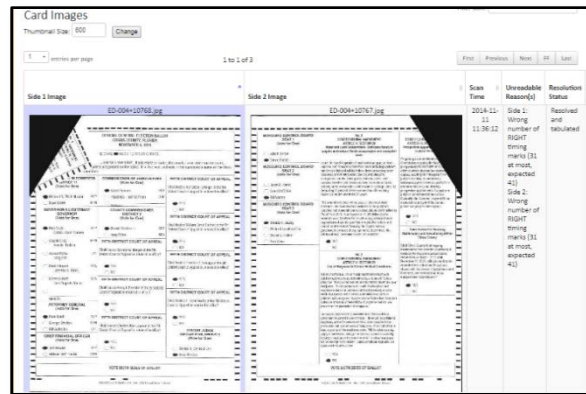
Electronic Poll Books

Clear Ballot strives to provide the best solutions for our clients. Clear Ballot has established reseller partnerships with several electronic pollbooks (ePB) developers to provide coordinated integration and support as part of our proposal. We believe in providing options that work seamlessly with our voting system to allow superior functionality as well as usability. This will ensure Georgia gets the best overall solution possible.

Clear Ballot will provide detailed descriptions of our partners' ePB solutions as a part of our RFP response. We have included pricing for budgetary guidance (See answer #18).

2.   Describe how your solution would accommodate each of the proposed methods of in-person voting described in Section 3.4. Discuss the pros and cons of each method as it relates to your solution.

Clear Ballot proposes the ClearVote solution as an option for **Method 1**. This system includes digital scan tabulators and accessible ballot marking devices that produce identical paper ballots for in-person voting that are scanned in each precinct. This would be complimented by high-speed commercially available scanners for absentee, UOCAVA, and provisional ballots which would be tabulated centrally at the county office.

We believe this is the solution Georgia should consider for the following reasons:

- It provides an identical paper ballot for every voter
- There is no system "reinterpretation" of the voter's intent on summary ballots or bar codes
- It provides the greatest level of auditability, transparency, and anonymity
- It is the most cost-effective solution of the 3 methods under consideration
- It would provide the greatest adaptability to technical and legislative change in a time when change is highly probable
- It has the smallest physical footprint allowing counties to significantly reduce shipping and storage costs

Clear Ballot's proposed configuration would give Georgia the optimal technical solution while lowering costs and cutting storage space in half.

3.   Describe the paper stocks associated with your proposed solution. What are its storage requirements in regards to climate and space?

A variety of paper, in different weights, has been tested and used successfully with our system. Recycled paper, which is virtually indistinguishable from new paper, scans and tabulates perfectly. Clear Ballot has found that the following white paper and paper specifications work best:

Paper Type	Weight Range
Cover Stock	60 lb. to 90 lb.
Index Stock	65 lb. to 90 lb.
Bond Ledger	32 lb. to 53 lb.

Paper Feature	Recommendations
Grain	Ballots should be printed with the paper grain parallel to the ballot width (grain short) to minimize dimensional changes.
Smoothness	Ballot stock should feature a Sheffield smoothness rating of at least 120, although 130 is recommended.
Moisture Content	The moisture content of ClearVote ballot stock is recommended to be 4.5%.
Brightness	Ballot stock should feature a minimum brightness rating of 88, with 91 to 94 being preferred.
Fluorescence	The fluorescence level of ClearVote ballot stock should be at least 4%.
Opacity	Ballot stock should feature an opacity rating of 97.
Stubbing	If stubs are required, they should be cut to an inch size nominal, with 36 micro perforations per inch. Consult with Clear Ballot if two stubs per ballot are required, since one stub may be run through the tabulating equipment intact to the ballot, and the correct effective length would need to be determined.
Printing	Ballots printed from PDF files must be printed at 100% scale (not shrink to fit). Printers must ensure that timing marks and code channel marks are present on all four sides of the ballot, and that the width of the left and right timing marks is as expected.
Color	Ballot stock should be pure white. Color should never be included in the timing mark area or in the candidate zones of a ballot.

Climate controlled storage is best for all paper stock used for ballots. Clear Ballot recognized that for both vote-by-mail and in-person voting the ballot stock would be subject to a range of temperature and humidity. The ballot intake size and geometry of the ClearCast unit was designed specifically to accept ballots sized under or over the nominal 8.5 inches. Similarly, the ClearAccess printers and ClearCount scanners can accommodate ballots whose width has been affected by environmental conditions.

The thermal paper used for ClearCast reports is affected by the environment. Extended exposure to high heat conditions (100°F and above) will cause the readability of the thermal tape to diminish. If this is a concern, archival quality thermal paper, carrying additional coatings to protect against degradation due to heat, is available.

The ClearDesign EMS, ClearCount tabulation system, the ClearCast precinct tabulator, and the ClearAccess accessible ballot-marking solution support ballots of the following sizes within an election:

ClearVote Compenent	Size Range	Trim	Squareness
ClearDesign	8.5"x 5" to 8.5"x 22"	+/-0.025inch	+/-0.025inch
ClearCount	8.5"x 5" to 8.5"x 22"	+/-0.025inch	+/-0.025inch
ClearCast	8.5"x 5" to 8.5"x 22"	+/-0.025inch	+/-0.025inch
ClearAccess	8.5"x 5" to 8.5"x 18"	+/-0.025inch	+/-0.025inch

4.   Please provide a number of scanners and ballot-marking devices that Georgia would need for each proposed method of in-person voting described in Section 3.4, keeping in mind that currently voters are allowed to vote at any early voting location in the county during absentee in-person voting.

While there are a number of variables that affect this figure Clear Ballot typically proposes a minimum of one ClearAccess (ballot marking device) and one ClearCast (scanner) for each polling place. For in-person early voting or polling locations with a large number of registered voters, we recommend additional ClearCast tabulators to ensure the appropriate throughput, which would be determined by the State, local election official, and the Clear Ballot project manager. Based on the State's approximate 2,365 polling locations, we would recommend between 3500 to 4000 ClearCast tabulators; this would cover the State while also providing a reasonable number of spares. We also recommend a single ClearAccess system per polling location, plus a percentage for spares for approximately 2500 ClearAccess units. For early voting, Clear Ballot would propose our low-cost PrintNow solution to print ballots in the polling place for in-person absentee voting. We would propose one PrintNow station per early voting check-in station.

5.   Depending on the method of in-person voting described in Section 3.4 that Georgia adopts, it may have a need for ballot-on-demand printing capability. Please describe your solution to our potential need for ballot-on-demand printing.

Clear Ballot's PrintNow product has been designed to be an efficient and powerful ballot on demand solution with a seamless integration into the ClearVote voting system. The PrintNow solution enables poll workers to print single ballots or to integrate with the e-pollbook to print directly from the pollbook. PrintNow has multiple sizes based on the expected printing demand and has bulk printing capabilities. It can be used in the central HQ to print test decks and absentee ballots. There is no additional programming for PrintNow as it uses the same files that are used to program the ClearAccess system.

6.   Explain how your solution meets each of the basic requirements in Section 3.5.

Solution must have been deployed successfully in another state.

ClearVote has been successfully certified and deployed in the States of Washington, Oregon, Colorado, New York, and Wisconsin. Additionally, our ClearAudit product, which is powered by the same tabulation system as ClearVote, has been deployed in the States of Florida and Vermont as well as statewide in Maryland.

Solution must have functionality to quickly and accurately audit voting records.

ClearVote is the most transparent and auditable voting system ever built. Clear Ballot was founded as an audit technology company and was instrumental in the evolution of audit methods in elections over the last 9 years. Our technology is currently being used to provide independent, automated audits in the states of New York (also being certified as a voting system), Vermont, Florida, and Maryland. By leveraging ClearVote, the State of Georgia will have the ability to instantly visually verify the integrity of the tabulation, down to the individual voted marks (See example below). With our proposed Election Night Reporting system, the State will be able to provide online, statewide, public audit capabilities, should you choose to provide that level of granularity.
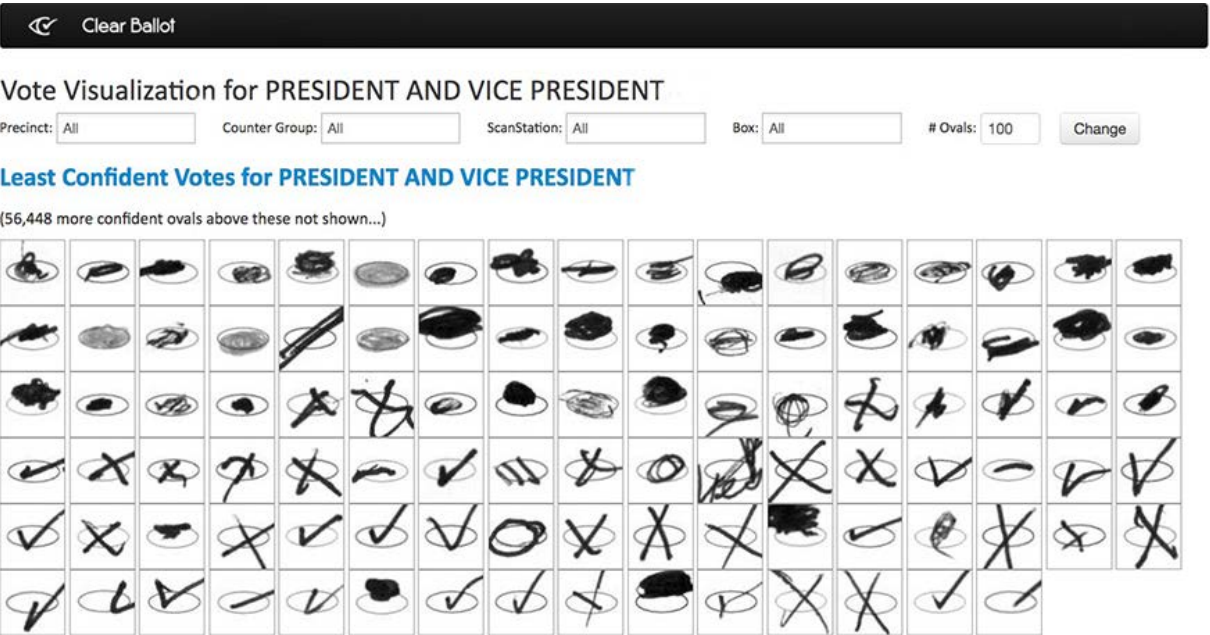
Solution must support overlapping and concurrent elections.

Clear Ballot's voting system can support overlapping and concurrent elections. While overlapping or concurrent elections can be difficult to administer, our intuitive software, which minimizes the physical handling of paper ballots, and our experienced customer success staff will provide Georgia with the best solution to ensure the success of concurrent elections.

Solution must have write-in candidate capability.

Because of the visual nature of ClearVote, tabulating write-in votes is a quick and easy process. ClearVote displays a visual representation of each write-in for every ballot cast which are organized by contest and candidate. The system also provides the ability to export a tally of all write-in votes by contest. These can be classified into a macro that allows for officials to review and assign every vote to a candidate or otherwise classify them as unassignable votes, depending on Georgia law. Write-in votes can be counted digitally without ever having to handle the physical paper, and officials can tabulate thousands of write-in votes in hours rather than days.

See example of write-in processing below:
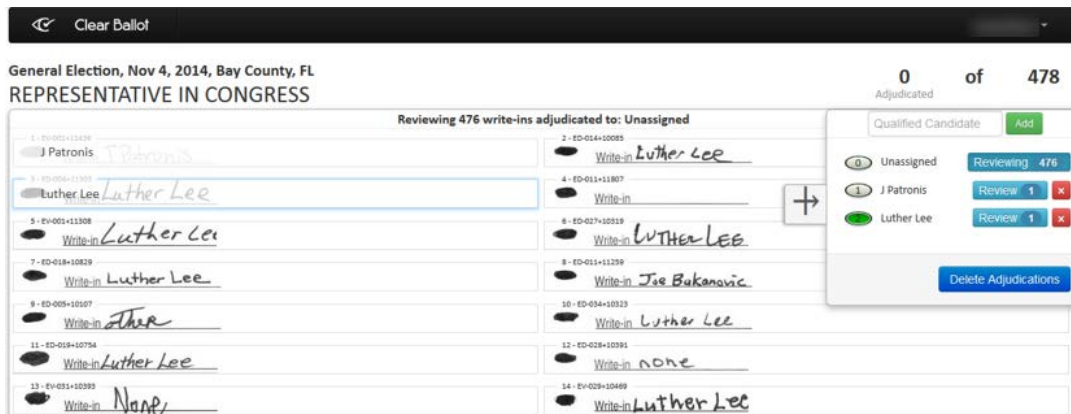
Solution must incorporate encryption and digital signatures as security measures.

The ClearVote system employs FIPS 140-2 certified cryptography throughout the system. All network traffic on the closed ClearDesign and ClearCount networks is encrypted with TLS/SSL. All election data stored on USB media drives is encrypted with AES-256 or stronger encryption and digitally signed. All digital signatures are verified by the receiving party.

7.   Describe how your proposed solution provides unofficial results on Election Night at the polling place.

Clear Ballot has pioneered the use of modern smartphone technology to securely and reliably transmit unofficial election night results. Using county issued smart phones, poll workers can use a very simple and user-friendly phone application to scan a results barcode generated and displayed on the ClearCast precinct tabulator. Once scanned, the application does an initial pass over the data to validate that it scanned correctly and came from a valid ClearCast tabulator. It then displays a digital results tape to the user. The digital results tape matches the format and content of the paper results tape printed from the scanner. Once the poll worker confirms the digital and paper results tapes match, the application will transmit the results to the central results accumulation server and confirm the receipt of the transmission. The application gives feedback to the user on whether the results have been sent successfully and will not allow the same results to be accumulated multiple times. The application can use any data network the phone can use. This includes Local Area Network (LAN), Wide-Area Network (WAN), Public Switched Telephone Network (PSTN), Metropolitan Area Network (MAN), Wireless Networks, Cellular and PCS, and Satellite Networks.

8.   Describe how your proposed solution transfers data collected from Ballot Marking Devices, Digital Scanners, High Speed Scanners, and Tabulators to the Election Management System and vice versa.

ClearVote consists of 4 products which talk with each other through the transfer of files of USB media sticks. Two of the ClearVote products – ClearDesign and ClearCount – have their own networks of servers and clients. ClearDesign and ClearCount communicate with their individual networks over encrypted ethernet connections. Encryption and data integrity is provided by TLS/SSL for these networks. The USB media used to communicate between products transfers 3 types of data:

1.   Ballot Definition Files (BDF) - the BDF is created by ClearDesign and is used to program ClearCast and ClearCount. The BDF tells these tabulators how to tabulate and report on the election.

2.   Accessible Definition Files (ADF) - the ADF is created by ClearDesign and is used to program ClearAccess machines.

3.   Results and Ballot Images – Results data and ballot images are captured by ClearCast

Whenever data is stored on USB media, the information is encrypted and digitally signed.

a.   Include a description of the essential peripherals that are used in the data transfer process (i.e. flash drives, memory cards, and other items that will have to be replaced periodically). Are these items proprietary and are replacements purchased directly from the vendor or are they commercially available?

All Clear Ballot flash drives, memory cards, and USB cables are available for purchase commercially, as well as through Clear Ballot. All the components are certified for use with the ClearVote product.

Signature Implementation:

In ClearVote, whenever data is written in the USB media, corresponding signatures are calculated and included with the data on the USB media by the originating party. The receiving party will recalculate the signatures after the user has entered the password and compare the values. This provides authentication and integrity verification. If the password is incorrect or the content of the data was changed, the check will fail and the receiving party will reject the USB media.

Here are the areas a signature is applied:

- Ballot Definition Files (BDF) - these are the election definition files created by ClearDesign
- Log files - signatures are calculated and included for each log file. A signature is computed over the entire log each time a new entry is added.
- Scanned ballots - signatures are included for each side of the scanned ballots (each image)
- Database - A signature is re-calculated every time the database stored in the SSD is updated, i.e. a ballot is cast. The signature is stored in the database

9. Does your solution include Election Night Reporting capabilities? If so, please describe your Election Night Reporting solution, including security features.

Clear Ballot's ResultsNow product is our election night reporting offering. We provide secure and highly available hosting. The voter interface uses rich graphics to display results and is seamlessly integrated with the ClearVote voting system. There is zero data conversion between ClearVote and ResultsNow. Counties can export results reports from ClearVote and import them directly into ResultsNow. In addition to the voter interface, ResultsNow supports precinct level results and summary level results while also providing custom reports which can be tailored to your specific requests and used for media queries and other purposes.

10. Georgia plans to begin using the new voting system by the 2020 Presidential Preference Primary, which was last held in March. Please provide an approximate timeline to implement your proposed solution.

A statewide ClearVote implementation in Georgia will take approximately 9 months and the project will be led by a Clear Ballot Senior Project Manager with extensive experience in implementing statewide voting systems. The project team will include the Clear Ballot Customer Success Manager, and IT Specialists and Trainers to insure constant communication and progress to complete the project on time and on budget.

The project plan will include procedures for removal of existing equipment, centrally staging new equipment, followed by the delivery to each jurisdiction. Extensive training for all State and County election administrators is provided in-person using hands-on mock election exercises. The process to stage and deploy equipment to jurisdictions will be repeated over the course of 9 months in batches of approximately 200-400 units until every jurisdiction is adequately trained and equipped with ClearAccess accessible voting stations and ClearCast vote casting units.

To adequately equip each jurisdiction, the recommendation is 1 ClearAccess accessible voting station per polling location, and 1 ClearCast precinct tabulator per 2500 registered voters. For polling locations with more than 2500 registered voters, 2 or more ClearCast units would be recommended. Each piece of hardware comprising the ClearVote system is unpacked, setup and extensively tested before the State performs final acceptance testing. A checklist of each test point verified by Clear Ballot IT Specialists accompanies each unit for the State's inspection. Clear Ballot's commercial, off the shelf hardware provides the best of breed scanners, printers and computer hardware available in the market today with Technical Support provided by Clear Ballot and certified hardware vendors.

The implementation timeline estimate is largely based on the total number of machines needed. An estimated 2500 ClearAccess units and 4000 ClearCast units are needed in the State of Georgia. Staging and delivering 200 units per week would take 32 weeks, or 8 months, to equip jurisdictions with needed equipment. If the State can house more than 200 units at once, the timeline could be reduced. Training would be delivered to jurisdictions immediately following each equipment delivery.

Our services delivered to the State of Georgia during this 9-month period is an opportunity to build robust relationships and partnerships between Clear Ballot team members and election administrators in the State of Georgia. Providing exceptional service is what sets Clear Ballot apart from our competitors, and we look forward to proving that from day one. We are committed to your success and satisfaction and look forward to providing the most modern, secure, paper ballot voting system to the State of Georgia.

11.   Georgia has a fairly centralized election creation process where the state builds the ballots for the counties. How does your election management system work efficiently in this state-centered model? Describe how your proposed solution transfers election data and ballot information created at a state level to local jurisdictions for execution, including security features.

ClearVote is uniquely capable of handling this centralized model due to its linear process flow. ClearDesign is the ClearVote ballot design and election programming software. ClearDesign creates 3 sets of files which are used by all downstream products. These are the ballot PDFs, the ADFs (Accessible Definition Files), and the BDFs (Ballot Definition Files). The State would operate ClearDesign, which was built with this use case in mind and can lay out ballots for every county. The counties would only need to use ClearAccess, ClearCast, and ClearCount. ClearAccess is programmed with the ADF; ClearCast and ClearCount are programmed with the BDF. The ADF and BDF are not specific to a counter group or a polling location so the state and the counties only need to exchange one version of these files. The counties can then use the ADF and BDF to program *any* ClearAccess or ClearCast machine, as well as ClearCount, for their election. ClearCount provides the central tabulation and results reporting capabilities so there is no need to import anything back into ClearDesign.

All BDF and ADF files are digitally signed by ClearDesign and verified by ClearAccess, ClearCast, and ClearCount. They can also be transferred to counties on encrypted media to provide an extra level of protection.

12.   Describe the security features of your proposed solution including, but not limited to, cyber security; physical security; and data integrity verification and validation.

Clear Ballot is the most transparent and most auditable voting system available today. The Department of Homeland Security suggests, to enhance election system integrity, that officials should prioritize, purchase, and deploy auditable voting systems. The Clear Ballot system produces the highest quality digital images of identical paper ballots in the industry. This provides voter anonymity and transparency. This is essential to ensuring the security and auditability of your elections.

Additional Security measures included in the Clear Ballot system:
Clear Ballot products are built around the concepts of attack prevention and attack detection.

Attack prevention:

The Clear Ballot system is designed as an isolated, hard-wire connected, stand-alone network. Physical control of the hardware is the first and the most critical step to ensure security. The small physical footprint of each component facilitates secure storage (e.g., in locked cages or storage boxes) when the system is not in use. Because all election software resides on a single, powerful database server, the Clear Ballot software is delivered to the local network of password-protected computers on an as-needed basis.

When the system is in use, attacks are prevented by password-protected, role-based access controls. Additional security measures, called "hardening", prevent attacks by ensuring that only known software can be run on these computers and that unauthorized storage media are not recognized by the operating system. Preventing attacks on the integrity of the election is facilitated by a design that minimizes physical handling of the ballots. There is no physical out-stacking of paper ballots, which creates the potential for human error or malicious attack.

Attack detection:

Audit logs provide a detailed record of; all users who log in and when, all reports that are generated, and all human adjudication of ballots. Attempts of unauthorized users to log in are captured in these logs. Additionally, all media contents are digitally signed and verified. If any signatures are found to be invalid, the media is rejected, and the administrators are made aware of it.

13.   Describe the accessibility features of your proposed solution for voters with disabilities.

ClearAccess™

The ClearAccess™ accessible voting solution runs on a commercially available touchscreen computer. After an election worker selects the correct ballot style, the voter can privately and independently indicate the choices on the touchscreen, review the selections, make corrections as necessary, print a machine-marked ballot, and cast it in to a clear cast unit then into a secure ballot box.

Hardware components

Each standalone ballot-marking station consists of unconnected and unmodified commercially available hardware.

The ballot-marking station pictured here is an all-in-one (ELO) touchscreen.

Ballot-marking station:

The computer shown above runs the software in a browser. On the ballot-marking station is a web server that serves up HTML pages for both voting and administration. The ballot-marking device runs in kiosk mode and is never connected to the internet.

Personal assistive-technology devices:

Each ballot-marking station provides the following assistive input devices, as well as devices that the voter may bring to the polling place:

- Mouse
- Headphones
- Sip-and-puff
- EZ Access keypad

Printer:

A commercially available printer, attached to the ballot-marking device with a USB 2.0 or USB 3.0 cable, is capable of printing two-sided ballots on a variety of readily available paper stock, including paper with recycled content.

Ballot-style transfer stick:

A commercially available USB 2.0 or 3.0 memory stick having at least 1GB of memory is used to transfer the ballot styles from the ballot design environment to the ballot-marking device.

Privacy screen:

A folding screen ensures privacy for the voter during ballot marking.

Uninterruptible power supply:

Ensures graceful shutdown in the event of power outages. A standalone accessible unit UPS can be provided upon request.

Software functions:

The ClearAccess software performs the following functions, which are presented as a series of HTML pages in a browser interface that is never connected to the internet:

- Configures the ballot-marking device
- Marks the ballot
- Verifies and prints the ballot
- Logs all transactions without compromising voter privacy

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14.   Have any third party groups vetted the accessibility and/or security features of your proposed solution? If so, please provide their assessments.

The ClearVote system is U.S. EAC certified, it was thoroughly vetted for security, usability and accessibility features. A rigorous security evaluation was performed by Pro V&V, an NVLAP accredited voting system test laboratory, by a heavily accredited security team. Pro V&V also performed accessibility testing using standards set up by VVSG. In addition to the Pro V&V evaluation, ClearVote's accessibility has twice been evaluated by the Perkins School for the Blind. During this independent evaluation, users representing multiple types of disabilities participated in a formal evaluation of the ClearAccess and ClearCast systems. The Perkins reports were then evaluated by the EAC as a part of their certification decision.

ClearAccess is ClearVote's accessibility voting device. It has gone through multiple iterations of the Common Industry Format (CIF) usability testing with the Perkins Institute for the Blind in Watertown, Massachusetts. This testing involved voters with disabilities, and ESL voters. Clear Ballot chose to work specifically with Perkins for this testing because of their world-wide and historic reputation for excellent service to people who require accessible solutions.

The CIF testing meets the VVSG requirement to conduct summative usability testing with these populations:

- Voters from the general population (Section 3.2.1.2)

- Voters who need alternative languages (Section 3.2.7-A.4)

- Voters with low vision (Section 3.3.2-A)

- Voters who are blind (Section 3.3.3-A)

- Voters with dexterity disabilities (Section 3.3.4-A)

- Voters with impaired mobility - Poll Workers (Section 3.2.8.1-B)

ClearAccess uses the Anywhere Ballot as the basis of its software platform.

The original design of the Anywhere Ballot was tested with people with low literacy and mild cognitive disabilities.

15.   Does your solution include decommissioning of the existing voting system, including DREs, optical scanners, and electronic pollbooks? If so, please describe your decommissioning process.

Clear Ballot has worked with technology recycling companies that safely recycle computer hardware in a way that minimizes their impact on landfills. Should we be selected as your voting system provider, we would work with the State to decommission your existing voting system from a central location as part of our proposed transition and implementation plan.

16.   Provide a recommendation for a training plan that takes into account all stakeholders, which includes – at the minimum – state users, county election officials, voters, and voter advocacy entities.

State users will be trained to use the ClearVote system to design and code ballots, proof ballots, prepare ballot PDFs, test them using a marked test deck with expected results by scanning them and running ClearVote reports. The Election Official(s) responsible for Ballot Design would take a 1-week, hands-on course to use ClearDesign to create ballots, proof them, prepare PDFs for printing and how to test the tabulation of each ballot style.

The Election Official(s) responsible for tabulating ballots would take a 1-week, hands-on course on how to use ClearCount to tally results provided by each county, to scan ballots, if applicable (i.e. absentee ballots received by the State) and run election reports. The State will be asked to also designate a person, or people, to learn how to use ClearAccess, the accessible ballot marking solution, and ClearCast, the precinct tabulator. ClearAccess and ClearCast training will take 2 days.

County users will be trained on how to use ClearAccess and ClearCast, they will also be taught how to train poll workers and others. A series of courses will be scheduled and provided either in-person or

remotely. Counties are welcome to attend more than 1 training session until they are comfortable with how to use their equipment. A series of training sessions will be scheduled over the course of 8 to 10 weeks to accommodate everyone's schedule and to coincide with when the equipment is delivered. Training will be conducted only after a jurisdiction has received their equipment. Training sessions can include multiple counties at a time.

All initial training for State and County users will be provided in-person and refresher training can be made available remotely via webinar. Initial training and remote refresher trainings are included in the cost of the implementation. In-person refresher training is available for an additional fee.

Clear Ballot can prepare and provide voter and voter advocacy entities with educational material so that they can learn how the ClearVote system works. This reminds voters how to properly mark their ballot and how to use the ClearCast machine to cast their ballot. These educational materials would likely be in the form of a video that can be posted to the State website for widespread access by voters and voter advocacy group members.

17.   Describe the useable components (e.g., paper and ink) of your voting system solution, including whether or not they are proprietary, have to be replaced by purchasing directly from you, or can be replaced commercially through other vendors?

All ClearVote consumables can be replaced through Clear Ballot or commercially through other vendors.

The ClearVote system does not require a specific brand or type of ink, beyond meeting the black density and bonding requirements typical to ballot printing.

Clear Ballot provides enormous flexibility when it comes to printing ballots. Counties are free to choose any print vendor they want. We offer a certification process for local printers to ensure the ballots they print meet our specifications.

18.   For budget purposes, please provide an estimated cost of your voting system solution, including hardware, software, any necessary licenses, peripherals, implementation, decommissioning, training, and maintenance.

REDACTED

19.   For budget purposes, is there an option to lease equipment instead of purchasing equipment under your solution? If so, please provide an estimated cost to lease each component of your proposed solution where leasing is an option and whether the leasing option includes updates to the software.

Clear Ballot Group is willing to work with the State to structure a lease option for its ClearCast voting system. The pricing will be dependent upon the final system configuration, lease duration and inclusion of system updates.

20.   Describe your proposed solution's technical support system, including, but not limited to, how it will provide ongoing software and system support; conduct regular source code auditing and analysis; escrow source code; share information about source code auditing and reviews; share information about each code release; and offer security enhancements for state and local officials.

All users of the ClearVote system have access to Technical Support for any questions or problems they may have. The team of Clear Ballot Support Agents are available during business hours Monday-Friday 8AM through 5PM in your time zone. These hours are extended during the election season to provide support when you need it most. The Clear Ballot Group Technical Support team can be reached by email, phone and online using our Support Portal. The Support Portal can be used to create new cases, review existing cases and review knowledge base articles. Clear Ballot will work with the State to provide software updates on an agreed upon schedule.

Clear Ballot typically warranties all hardware and software for a period of 12 months. Clear Ballot's hardware warranty program provides assurance that all system hardware is free of all defects on material and workmanship for a period of 12 months. All warranty repairs are performed by Clear Ballot or an authorized Clear Ballot representative. For commercially available equipment, warranties are supplied by the manufacturer or an authorized manufacturer's representative.

Software maintenance includes annual technical support (which would include first tier diagnosis of hardware issues), software patches, certified upgrades, and would provide Georgia preferred status for future product enhancements. Clear Ballot will allocate a central helpdesk, online issue tracking, and local technical support representatives to give responses to technical support issues in accordance with agreed upon services levels. This will ensure Georgia election officials get the best and most timely support possible.

Clear Ballot can also provide Georgia with an extended warranty and technical support programs for multiple years that would allow the State to lock in annual costs for the type of program that makes the most sense for the State. Clear Ballot intends to provide multi-year technical support programs specifically designed to meet the State's needs as laid out on any future RFP.

To ensure the integrity and adherence to federal and state certification requirements, Clear Ballot provides multiple levels of source code review of the ClearVote system.

During the development phase, Clear Ballot engineers establish all our software to the following standards:

- United States Election Assistance Commission (EAC) 2005 Voluntary Voting Systems Guidelines (VVSG)
- EAC Decision on Request for Interpretation (RFI) 2010-02 and
- PEP 8 – Style Guide for Python Code (legacy.python.org/dev/peps/pep-0008/)

Clear Ballot does a comprehensive peer review of all source code prior to any new release to undergo certification. Our build process and development environment dependencies are thoroughly documented. Upon release of source code and documentation to the Voting System Testing Laboratory

(VSTL), the Lab performs independent compliance review and comprehensive security analysis based on the standards listed above. Once the software passes the above criteria, the VSTL independently generates a "Trusted Build" and archives the source code. The VSTL then provides a Test Report which includes the SHA-256 hashes of the Trusted Build(s) to ensure that election officials can verify that the software matches the System Identification Guide.

To ensure that both deployed and stored system versions within the State remain as intended, as certified by the Secretary of State, and never tampered with or augmented without going through documented re-certification process, Clear Ballot will escrow all source code to a third party. This will allow the State to independently audit or otherwise analyze escrowed source code to safeguard the integrity of Georgia's electoral process.

21.   Describe the physical and power attributes of your Ballot Marking Devices, Digital Scanners & Tabulators, High Speed Scanners and Tabulators, and Statewide Electronic Pollbook System, including but not limited to:

Dimensions;

Weight;

Battery backup system capabilities; and

Power needs and ability to daisy chain equipment to a power source.

ClearCast:
Height: 14.2"
Width: 16"
Depth: 10"
Screen: 16" X 9.5"
Weight: 32lbs
Battery Backup Capabilities: 4 hours
Daisy Chain: None

ClearAccess:
Height: 16"
Width: 9"
Depth: 6.5"
Screen Size: 16" X 9.5"
Weight: 4.7lbs
Daisy Chain: None

22. Describe any special storage requirements associated with the components of your proposed solution including climate control specifications and stacking restrictions.

Climate controls (power, air conditioning, etc.) and off-line storage:

The commercially available components of the ClearVote voting system are sourced from leading manufacturers, such as Dell, that test their products to rigorous use conditions. The units are capable of withstanding frequent loading and unloading, stacking and unstacking, assembling, disassembling, reassembling, and other routing handling during normal storage and operation.

The ClearCast tabulator is built for resilience. Its internal components are securely enclosed within an all-metal shell. It is shipped in a custom transportation box that has been tested to provide shock and vibration resistance. The unit includes grips on each side, making it easy to carry while also occupying a small footprint, and can be stacked tightly when stored.

All proposed voting system components can perform in a wide range of climates and humidity levels without ballot jams or other malfunctions. The ClearCast tabulator has been tested to operate at temperatures ranging from below 32°F, up to 100°F.

Fujitsu scanners

Operating temperature: 41°F to 95°F

Operating humidity: 20%–80%

Storage temperature: –4°F to 140°F

Storage humidity: 8%–95%

23. In what states and jurisdictions therein, has your proposed solution been installed?

The proposed tabulation system has been installed in the following jurisdictions:

Jurisdiction	State	Number of Registered Voters
Douglas County	CO	233,294
Bay County	FL	119,126
Broward County	FL	1,191,887
Columbia County	FL	38,083
Leon County	FL	208,524
Nassau County	FL	61,760
Putnam County	FL	47,843
St. Lucie County	FL	193,027
Clinton County	NY	51,039
Jefferson County	NY	65,510
Saratoga County	NY	165,926
Warren County	NY	46,196
Coos County	OR	34,271
Curry County	OR	13,559
Deschutes County	OR	105,834
Douglas County	OR	62,499
Harney County	OR	4,321
Hood River County	OR	12,143
Jackson County	OR	123,356
Josephine County	OR	52,994
Klamath County	OR	34,203
Lane County	OR	212,627

Linn County	OR	66,564
Multnomah County	OR	454,754
Wasco County	OR	13,525
Washington County	OR	297,340
Yamhill County	OR	54,277
Benton County	WA	107,298
Clallam County	WA	51,055
Grays Harbor County	WA	40,429
King County	WA	1,283,558
Lewis County	WA	45,877
Mason County	WA	37,719
Pierce County	WA	495,661
Skamania County	WA	7,549
Snohomish County	WA	455,668
Whatcom County	WA	135,715
Sheboygan County	WI	61,732

Amendments

Find signed amendment acknowledgment attached at the end of the document.

RFX Addendum Form

RFX Number: 47800-SOS0000035	**RFX Title: New Voting System**
Requesting State Entity: Secretary of State	
Issuing Officer: **Verneicher Favors**	RFX Initially Posted to Internet: See GPR
eMail Address: vfavors@sos.ga.gov	Telephone: 404-656-0998
Addendum Number: 1	Date: 08/20/2018

The purpose of this addendum is to post the responses to questions.

 All other information remains the same.

Note: In the event of a conflict between previously released information and the information contained herein, the latter shall control.

A signed acknowledgment of this addendum (this page) should be attached to your RFX response.

Clear Ballot Group, Inc.
Supplier's Name

Robert Hoyt
Signature

Robert Hoyt   PRESIDENT
Printed Name and Title

Revised 02/11/11   SPD-SPR013