maintaining voter confidence

Cuyahoga County, Ohio

Tabulation Equipment Survey

November 9, 2018

Election Systems & Software, LLC
11208 John Galt Boulevard
Omaha, NE 68137

Craig Seibert, Ohio Sales Manager
(402) 321-3865; *cwseibert@essvote.com*

enhancing the voter experience

Enhancing the Cuyahoga County Election Process

Tabulation Equipment Survey

November 9, 2018

Craig Seibert, Ohio Sales Manager
(402) 321-3865; cwseibert@essvote.com

Election Systems & Software, LLC
11208 John Galt Boulevard
Omaha, NE 68137

TABLE OF CONTENTS

COVER LETTER

ELECTION Systems & Software

Ms. Shantiel Soeder
Election and Compliance Administrator
Cuyahoga County Board of Elections
2925 Euclid Ave.
Cleveland, OH 44115

RE: Tabulation Equipment Survey

Dear Ms. Soeder,

Election Systems & Software, LLC ("ES&S") is pleased to present Cuyahoga County this proposal for our latest voting system solution certified by the State of Ohio and the Election Assistance Commission. Your transition to our leading-edge tabulation technology will improve all aspects of the election process for your voters, election staff, and Precinct Election Officials.

ES&S has been privileged to provide election hardware, software, support, and services to jurisdictions across the State of Ohio since 1984. As an ES&S customer since 2008, we have appreciated working with Cuyahoga County in conducting secure and accurate elections.

KEY ASPECTS OF OUR SOLUTION FOR CUYAHOGA COUNTY

Our proposed solution for the County has been used in binding elections throughout the United States:

- DS200 Precinct Scanner and Tabulator
- ExpressVote Universal Voting Device (ADA)
- DS850 High Speed Central Scanner
- Electionware Election Management System

Also included in our proposed solution are:

- Project management services and training
- Hardware and software maintenance with election support services

ES&S: STABILITY

ES&S is the recognized leader in the election industry. ES&S entered the elections industry when the development of optical mark reader technology was in its infancy. Through the continual development and introduction of innovative election products, ES&S has emerged as the leading provider of end-to-end, fully integrated voting solutions.

For more than 20 years, ES&S has enjoyed the same committed owners. With more than 450 election-focused associates, and ownership that provides solid financial strength, ES&S is well-positioned to continue its long-term commitment to its current and future client base and the entire industry.

When deciding between future partnerships, it's important to keep in mind how much experience the company you're choosing has in the election industry. ES&S has been providing election equipment, software, and

ELECTION
Systems & Software

services for nearly 40 years. As our own manufacturer, ES&S can more easily and closely work with our customers, discover your needs and accomplish your goals.

Today, not only do we work with many of the same customers we've served for more than three decades, but also our business has grown to serve 42 states and more than 3,300 clients. Today, nearly 100 million registered voters tabulate with ES&S. Continuing to choose ES&S as your vendor of voting equipment, software, and election services products puts you in good company.

We provide our large customer base with a variety of products and services that include voting system hardware and software sales and support, ballot layout/coding/voice file production, equipment maintenance and support, on-site support for pre-election testing and Election Day activities, 24/7 technical and customer support, project management and implementation services, voter registration services and support, ballot printing, vote by mail packet processing and mail services, electronic pollbook sales and services, and voting system consumables and supplies.

Thank you for considering our proposal. We appreciate the opportunity to present our election-proven voting system to you and look forward to a continued partnership with you and your staff. If you have any questions, please feel free to contact Craig Seibert, Ohio Sales Manager, at (402) 321-3865 or cwseibert@essvote.com. We stand ready to move Cuyahoga County to the next level of voting technology.

Sincerely,

Richard J. Jablonski
Vice President, Finance
Election Systems & Software, LLC

EXECUTIVE SUMMARY

ENHANCING THE CUYAHOGA COUNTY VOTING EXPERIENCE

Election Systems & Software, LLC ("ES&S") is excited to present Cuyahoga County this proposal for our latest certified voting system.

To implement new voting technology, the County needs a partner with a proven track record of experience, innovation and overall company stability. Our award-winning technology, service and support have made ES&S the election industry leader for approximately 40 years.

UNDERSTANDING THE COUNTY'S NEEDS

We understand the County needs a paper-based tabulation system as well as all associated hardware, software and services.

Your transition to our leading-edge technology will enhance the entire voting process for your voters, election staff, and Precinct Election Officials while you continue to enjoy support and service from a trusted partner.

With nearly 35 years of experience supporting elections in the State of Ohio, we are equipped to accommodate the needs of our Ohio customers. Our more than 450 employees allow us to develop, enhance, and maintain the most relevant, easy-to-use, and dependable equipment and software available for elections.

Working with ES&S will ensure a smooth implementation -- we understand and know how to serve the election process in Ohio.

WHAT THE COUNTY CAN EXPECT

A SYSTEM THAT MEETS YOUR NEEDS

ES&S prides itself in providing voting equipment that meets the needs of voters, election staff, and Precinct Election Officials alike. The proposed ES&S system is not only reliable, but also is *the easiest voting system for election staff and Precinct Election Officials to open and close*. The proposed solution also will provide the County with a *voter-verifiable paper trail* and numerous positive enhancements.

ES&S – LONGEVITY AND STRENGTH

ES&S is the largest and most experienced elections-only company in the world.

- ✅ ES&S has installed more than 200,000 voting units in its history
- ✅ ES&S has supported more than 100,000 elections during the past decade alone

ES&S entered the elections industry when the development of the optical mark reader technology was in its

infancy. We also were the first company to develop solutions that enable people with disabilities to vote privately and independently.

Today, not only do we work with many of the same customers we've served for approximately four decades, but our business has grown to *serve 95,955 precincts among more than 3,300 clients in 42 states.* From our humble beginnings supporting a handful of election administrators and voters in 1979, today nearly 100 million registered voters tabulate with ES&S. *You can be assured ES&S will be here to support you now and in the future.*

ES&S provides election systems and services to clients ranging in size from small county governments to state boards of elections. ES&S completed successful installations of statewide voting systems in *Alabama, Arkansas, Georgia, Maine, Maryland, Montana, Nebraska, North Carolina, North Dakota, Rhode Island, South Carolina, South Dakota, and West Virginia.*

We provide our gold-standard service to jurisdictions of all sizes, and we value every customer, regardless of their size. Managing an election is a great responsibility. ES&S takes the worry out of the process by being a partner and working to make sure every election is a success. We are with you every step of the way.

THE ES&S SOLUTION

The award winning ExpressVote® is a Universal Voting System that *combines paper-based voting with touch-screen technology* to create a breakthrough in voting solutions for early vote centers and on Election Day in precincts or vote centers. It *produces a paper-based record for subsequent tabulation*. While the ExpressVote provides the best solution to meet the needs for people with disabilities, the ExpressVote was designed for use by all voters. The simplicity and ease of use provide a very intuitive voting session for any voter, but especially those with disabilities. During disability testing campaigns and in live elections nationally, the ExpressVote continues to dominate the competitor's systems, earning high praise and appreciation. *The ExpressVote is the election industry's Number 1 selling early and Election Day vote center solution.*

EXPRESSVOTE: KEY FEATURES & BENEFITS

- **Ease of use & setup.** The intuitive design offers streamlined simplicity for both election officials and voters alike. For election officials, poll opening and closing is as simple as turning the machine on and off. For the voter, the ExpressVote provides an intuitive voting session and multiple opportunities to review vote choices – including via the interface and on the printed card.

- **Touch-screen interface.** The interconnected touch screen and tactical navigational keypad buttons provide complete independence for the voter as he or she casts a ballot. The official ballot is provided simultaneously in both audio and visual formats. The ExpressVote automatically protects against overvotes and can alert the voter to undervotes.

- **Controlled & reduced costs.** The ExpressVote uses an internal thermal printer to print vote selections, eliminating the need to replace costly consumables like ink, toner, or drums that will need to be replaced on Election Day. Unused cards can be used in future elections, *which eliminates waste with the ExpressVote.* Reducing the need and expense for pre-printed paper ballots cuts traditional ballot printing costs significantly. ExpressVote makes budgeting for recurring expenses easy and accurate.

- **Accessibility compliant.** ExpressVote meets and exceeds the rigorous 2005 Voluntary Voting Systems Guidelines and HAVA section 301 accessibility requirements providing the industry-leading universal voting system for all eligible voters without discrimination of voters with disabilities.

● **Vote Session Activator.** ExpressVote Universal Voting System can provide any approved ballot style for any voter. Election officials no longer must guess the number of ballots to print. Instead, an inexpensive optional Vote Session Activator™ card determines the ballot style presented on the touch screen.

"I just had the most WONDERFUL experience. I am totally blind, and I voted myself in the November general election! I tested/voted on the new accessible voting machines during the primary – but that feeling cannot even begin to compare with how I feel this morning. I was in tears by the time I left the polling station – for the first time in years I VOTED without assistance.

To the manufacturers and trainers of the accessible voting machines, THANK YOU! Because of you I have the capability of exercising my rights as a US Citizen. To the poll workers in Franklin, Virginia, THANK YOU! Because of you, I can vote right along my sighted peers without feeling "frowned" upon. I am now an equal.

Thank you, Franklin, Virginia!

(Note: "My husband said I was "skipping" down the sidewalk this morning with my Guide Dog, Hannah – I was so excited!)."

DS200® PRECINCT SCANNER AND TABULATOR

The **DS200® precinct digital scanner and tabulator** combines the best attributes of a paper-based system with the flexibility and efficiency of a digital environment. Precise ballot sensors simultaneously scan both sides of a ballot in high resolution. As a result, cast vote records and ballot images can be stored on memory devices and reviewed, as needed, on a standard PC. The DS200 is designed with flexibility to support a wide range of ballot configurations and designs. It allows for more efficient accumulation and transmission of votes, directly from the polling place. *More than 34,000 DS200 units are in use in more than 950 jurisdictions in 31 states, 7 Canadian Provinces and 1 U.S. territory.*

DS200: KEY FEATURES & BENEFITS

- ✓ **Unique user-friendly design.** The DS200 tabulator was designed for easy election judge setup – opening the lid powers on the unit in one simple step. The election judge then simply presses "Open Polls," the Zero tapes will print, and the polls are open.

- ✓ **Large display.** Our *12-inch display* enhances voter, election staff, and poll worker interfaces and usability. It provides immediate feedback and instructions to the voter in the language he or she selects.

- ✓ **Internal battery backup.** The DS200 has a *built-in internal* battery backup designed to meet the EAC 2005 VVSG certification standards. No external UPS (universal power supply) is necessary.

- ✓ **Patented technology.** The DS200 employs U.S. *patented* technology to quickly and accurately process ballots, discriminating between valid voter marks and extraneous ballot elements like smudges, spills, and perforations. This advanced technology enhances voting system accuracy. The DS200 can be set to query voters about overvotes, undervotes, blank ballots, and other situations.

- ✓ **Integrated thermal printer.** In response to customer input, the DS200 tabulator's printer eliminates the need for a spool. You simply remove the used plastic core and drop in a new roll of thermal paper – it's that easy.

- ✓ **Accessible.** The DS200 is compatible both with the next generation ExpressVote Universal Voting System.

DS850 HIGH-SPEED CENTRAL SCANNER AND TABULATOR

With the increase in mail and other absentee ballots, a high-speed central scanner and tabulator offers *unrivaled efficiency.* The *DS850® high speed central scanner and tabulator* is unrivaled in speed, accuracy, and the ability to process folded ballots. Our digital-imaging solution allows for smooth, continuous ballot scanning from start to finish.
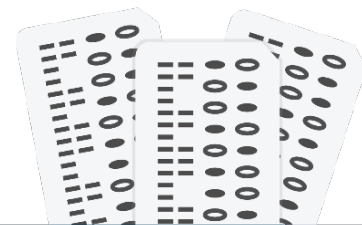
DS850: KEY FEATURES & BENEFITS

- ✓ **User-friendly design and operation.** The durable 15-inch color touch screen and user-friendly interface walk election workers through every step of the process. It is as simple as placing a stack of ballots
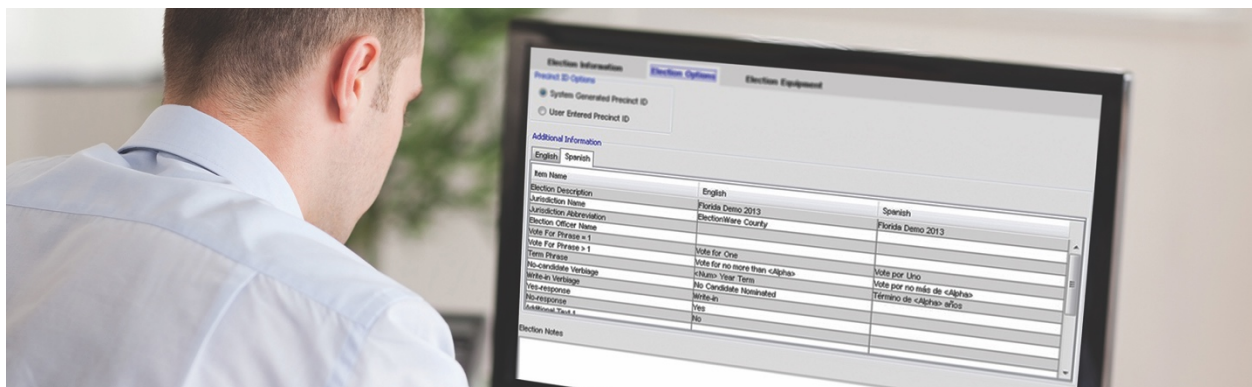
on the scanner and pressing the Start button.

⊘ **High speed sorting.** The DS850 is the only high-speed vote scanner in the marketplace that can sort various ballot sizes at full speed. It scans and sorts 14-inch double-sided ballots at 300 per minute into three output trays, separating ballots into three categories: counted, requires further review, and write-ins. The DS850 adjudicates at approximately three times the speed of competing devices.

⊘ **Auto Adjudication.** The DS850 central tabulator saves you time and money. *Its patented auto-adjudication intelligently recognizes common voter marks automatically as the ballots are scanned, reducing the number sent to the adjudication board by up to 68 percent.* Out of 1,000 ballots our competitors' systems send for costly manual review, the DS850 will automatically and accurately adjudicate up to 680, leaving only about 320 ballots for review. If the adjudication board spent 5 minutes reviewing each ballot, the DS850 would save approximately 56 hours of time and expense. The DS850 was purpose-built by election professionals for election professionals to securely and accurately scan and tabulate ballots. We invite you to do a side-by-side comparison of the DS850 with our competitors' central tabulators. You will see the job gets done faster and more accurately with the DS850.

⊘ **Folded ballot processing.** The DS850 was designed with a series of patent-pending TruGrip™ composite rollers that apply constant control to folded ballots throughout the entire process.

⊘ **Flexibility.** With three separate sorter bins, you can determine whether you want to sort specific types of ballots for further review. The DS850 can separate out ballots with write-in votes, over-votes, or blank ballots without missing a beat.

DS850® reduces the ballots sent for adjudication by up to **68%**

ELECTIONWARE® ELECTION MANAGEMENT SYSTEM SOFTWARE SUITE

Electionware® is our election management system (EMS) software solution that provides complete election management. Electionware software allows users to *create the election information database, format ballots, program ballot scanning equipment, create voice files, count ballots, and generate results reports.* Electionware is a fully integrated election management software application that will allow the

County to complete election management tasks through a uniform user experience. It has a powerful and intuitive interface and a single, common relational database.

ELECTIONWARE: KEY FEATURES & BENEFITS

- ✅ **Ease of use.** Electionware is an intuitive, easy-to-use EMS software application that eliminates wasted effort on unnecessary tasks. This allows ES&S to create, layout, and program your election much faster. In addition, its single database ensures consistency across ballots and machine programming.

- ✅ **Security.** Electionware incorporates the very latest in election security, including heightened audit controls and change management processes that are built-in to make sure your election data is safe and secure. Each user is assigned their own login credentials and level of access while the system tracks all actions in its robust Events Log.

- ✅ **Single user interface.** Electionware comprises several modules, each one representing a stage of the election creation process. Stepping through each module allows the user to systematically proceed with election creation free from worry that key steps have been overlooked.

- ✅ **Help System.** Electionware contains an interactive, comprehensive help system.

- ✅ **Multi-User Support.** Electionware's multiple user support allows County personnel to enter information and prepare data from several workstations simultaneously. Each user is assigned their own login credentials and the system tracks all actions in its robust Events Log.

- ✅ **Election results reporting.** The Electionware suite's election results reporting program can generate paper and electronic reports for election officials, candidates, and the media. Reporting features enable the user to read data from the tabulators, customize report formats, and accumulate accurate election results.

STRENGTHS & BENEFITS

STRENGTHS AND BENEFITS

OF THE ES&S TEAM

The ES&S team offers the County the most elections experience of any vendor. The table below illustrates the benefits of a continued partnership with ES&S for election systems and support services.

Strengths	Benefits
Current relationship with the State/County	ES&S has nearly 35 years of experience providing election equipment and services to the State of Ohio and a decade of experience doing the same for Cuyahoga County. Our experience as the voting system vendor for 42 of the State's 88 counties allow us to hit the ground running.
ES&S' financial strength is unmatched by any vendor in the industry	We have the capacity to scale our solution to the County's needs - providing a technically robust and financially responsible solution. We invest in innovation, so we can continually enhance our products for the benefit of our customers.
Vote tabulation experience	Forty years of ballot tabulation experience at your service. Our team has unmatchable knowledge and experience preparing, maintaining, and conducting elections in Ohio.
ES&S is the elections industry leader	Being the industry leader demands accountability. Our commitment, dedication, and credibility in the industry will give you great assurance that your elections will be accurate, safe, and secure.
Understanding of Ohio election rules and regulations	Because we have served the election process in Ohio for nearly 35 years, we understand the State's election processes and procedures like no other vendor.
The ability to provide for every election need	Our integrated, robust system means our customers can enjoy the efficiency of dealing with one trusted vendor for all their election needs.
Local presence	Ohio is the home of two local field service technicians and Dan Shebesta with Thinking Further, Inc., who are ready to serve you illustrate our commitment to Ohio elections.

WHY ES&S?

WHY SHOULD THE STATE OF OHIO CHOOSE ES&S?

ES&S offers the County a voting system solution that best meets the County's current needs. In addition, that solution will be implemented, serviced, and supported by the election industry's most experienced and knowledgeable team. We know and understand elections like no other vendor. Above all, we offer the County the promise of our continued outstanding support and customer service. In addition, doing business with ES&S provides the County with:

- **Partnership with a proven, financially stable company.** The County has the peace of mind and security of knowing that ES&S is the most experienced, financially sound elections company. *With approximately 40 years of elections experience and more than 450 employees,* ES&S is well-positioned to support Cuyahoga County.

- **A high-value solution.** ES&S provides you the most cost-effective, efficient, low-risk option available. By selecting ES&S, County officials can be assured their investment is sound and their system will be sustained by one company for at least 15 years.

- **Proven implementation.** We have installed more than 200,000 voting units and supported more than 100,000 elections. No other vendor can compete with ES&S voting equipment implementation and support plans.

- **A truly Universal Voting System.** The award-winning ExpressVote Universal Voting System not only earns accolades from disability advocacy groups, but also provides *touch-screen voting for any voter.*

SUMMARY

Our solution will provide the County with a *reliable, cost-effective, state-of-the-art voting tabulation system* that will continue to meet the needs of local voters well into the future. County staff and Precinct Election Officials will find our equipment *easy to move and set up* on Election Day and *convenient to store and maintain* when the election is over. And, as always, our *team of customer service and technical support experts* will be available to assist with any questions or concerns that arise.

Thank you for this opportunity to present this information. We look forward to future successes as we continue to provide Cuyahoga County with unparalleled election technology, service and support.

TABULATION SURVEY QUESTIONS - ESS

October 2018

TABULATION EQUIPMENT SURVEY

ssoeder@cuyahogacounty.us

Cuyahoga County Board of Elections

TABULATION VENDOR | INITIAL SURVEY

Name

Company

Company Website

Address

Address 2

City   State   Zip Code

Email Address

Phone Number

1. Provide a brief company history including the main business of your company, the length of time in business and number of employees.

2. Provide a current list of customers who are using or have previously used your Tabulation system.
   - Contact name, email and phone number
   - Jurisdiction size
   - Date of implementation
   - Product(s) and quantities purchased
   - What software and firmware versions are currently being used
   Please use attached excel spreadsheet "Vendor Customer List Template".
   For this response, please see the included Vendor Customer List Template.

3. Based on the Cuyahoga County data attached to the email, provide a cost estimative for your paper based tabulation system.
   - At least two (2) precinct ballot scanners per polling location
   - One (1) ADA marking device per location
   - High Speed Ballot Scanners
     o Daily scan period typically six (6) hours per day over a seventeen (17) day period
   - Equipment Reserves (Backup Equipment) for election day
   - Training Equipment
     o NOTE: Approximately 5000 workers attend an election training session during a county-wide election.

   Please attach a separate document for this response.
   Please see the included file named "Question 3 Response," which is a separate document as required.

4. Provide a detailed description of hardware and network product(s) listed in the estimate provided. Please include:
    - All relevant information, including physical descriptions, model numbers, and part numbers, concerning components such as, but not limited to, laptops, tablet computers, printers, cables, connectors, servers, internet connectivity, precinct ballot scanners, high-speed ballot scanners, ADA equipment, etc.
    - Whether a component is proprietary to the Vendor or whether the component is a commercial off-the-shelf product.
    - What is the capacity of all precinct ballot scanners? How are they stored/managed?
    - Are the precinct based scanners programmable for multiple precincts?
    - Specifically identify precinct scanner ballot box options.
    Please attach a separate document for this response.

    Please see the included file named "Question 4 Response," which is a separate document as required.

5. List any additional recommended hardware or software which is not required as part of the tabulation system?

6. What is the throughput for each type of ballot scanner? Include the details for:
    - All ballots sizes available
    - Flat v. Folded ballots
        o NOTE: Our absentee ballots are folded three times prior to being sent out to the voters.

7. Does the high speed ballot scanner(s) have the ability to sort ballots as they are being scanned?
    - Write-ins, Remakes, Blank Ballots, etc.

8. Do the ballot scanner(s) have the ability to save ballot images? If so, what is the capacity, methodology for saving images and how long does the import/export of these images take considering a county of Cuyahoga's size?

9. What is the expected life of all equipment?
    - Battery life
    - Hardware (each piece of equipment)

10. What happens in the event of total loss of power? Is the data saved?

11. What type of ballot stock is required for use with your system. What size options are available?

12. Describe the different levels/types of technical support provided during the initial implementation and for each election moving forward?

13. Do you have a standard implementation process or a list of tasks that must be completed during the implementation phases, who is responsible for those tasks and how long each task is expected to take in a county of our size?
    - Mock elections/Pilot projects
    - Resources available to be devoted to this process
    - How many pieces of equipment would be provided for either process?

14. Provide a copy of the standard acceptance testing process and procedures for all components of the tabulation system.

15. Are sample L&A Testing procedures available?
    - Does your system generate a test deck? If so, is it customizable?
    - Is ballot adjudication available with your system?

16. What end user training is available?
    - Train the Trainer, BOE Staff, PEOs
    - Cost, length (hours per "class"), class size

17. Can you provide us with training documentation and if your system is purchased will you allow us to use your stock photos and edit your procedural documentation to be tailored for use in Cuyahoga County?

18. Provide a list of known anomalies with the system (technical bulletins released) in all versions of the hardware, firmware, and software of certified product.
    - Include details of any material defects or failures of any part of the system along with the election jurisdiction in which the defect or failure was discovered, the nature of the defect or failure, how it was discovered and resolved.

19. Is your system compatible with the CCBOE's current voter registration system and Electronic Pollbook systems and has this compatibility been tested and/or used in other election jurisdictions?
    - Can the system to be updated to be compatible with future voter registration systems the CCBOE may obtain?
    - Describe the middleware system that is used in between the tabulation system DIMS/Precinct Central (Tenex).
    - Is it compatible with the certified Remote Marking Systems? Cuyahoga uses Democracy Live specifically

20. Does the system have the ability to be re-configured and customized to accommodate needs that change or evolve overtime, especially those required by new laws?

21. Do you have a standard maintenance and upgrade schedule for new system releases and patches, including any additional costs associated with maintenance and upgrades or equipment repairs?

22. Provide details of the Audit logs generated by each part of your system.
    - Are all user actions logged?
    - Are the audit logs unencrypted and able to be printed and exported?
    - What is the default format?

23. Briefly describe all results reports the system can generate and provide sample copies of such reports.
    - Can customized reports be designed and will our staff have the ability to customize without vendor involvement?
    - Are the reports searchable or available to be exported into other document formats?
    - Can the reports easily be exported for web viewing?
    - What is the standard/default format used?

24. Do you provide printing services for a county of our size?

VENDOR CUSTOMER LIST TEMPLATE – ESS

Please see the included file named **Vendor Customer List Template_ESS**, which was received as a separate document and is being returned as a separate document.

QUESTION #3

Please see the included file named **Question 3 Response**, which has been provided as a separate document as required.

QUESTION #4

Please see the included file named **Question 4 Response**, which has been provided as a separate document as required.

ESS TECHNICAL RESPONSES

TABULATION EQUIPMENT SURVEY

TABULATION VENDOR INITIAL SURVEY

1. Provide a brief company history including the main business of your company, the length of time in business and number of employees.

ES&S RESPONSE

ES&S is the largest elections-only company in the world and has been providing election equipment, software, and services for nearly four decades. Our corporate headquarters is in Omaha, Nebraska. The company employs more than 450 election professionals located in eight (8) operating locations across the United States.

Our team is composed of seasoned, highly skilled experts whose sole mission is to support our customers from start to finish. ES&S has supported more than 100,000 binding elections in the last decade alone and prides itself as having a single focus of ensuring our customers' elections are safe, secure, and successful.

2. Provide a current list of customers who are using or have previously used your Tabulation system.

• Contact name, email and phone number

• Jurisdiction size

• Date of implementation

• Product(s) and quantities purchased

• What software and firmware versions are currently being used

Please use attached excel spreadsheet "Vendor Customer List Template".

ES&S RESPONSE

ES&S supports 95,955 precincts among 3,300 clients in 42 states. Please see the attached **Vendor Customer List** for an overview of ES&S customers with more than 200,000 registered voters using the same voting system solution that we are proposing to the County, which includes Electionware, DS200, DS850 and ExpressVote units.

3. Based on the Cuyahoga County data attached to the email, provide a cost estimative for your paper based tabulation system.

• At least two (2) precinct ballot scanners per polling location

• One (1) ADA marking device per location

• High Speed Ballot Scanners

o   Daily scan period typically six (6) hours per day over a seventeen (17) day period

• Equipment Reserves (Backup Equipment) for election day

• Training Equipment

o   NOTE: Approximately 5000 workers attend an election training session during a county-wide election.

Please attach a separate document for this response.

ES&S RESPONSE

For a cost estimative for our paper-based tabulation system, please see the included file named **Question 3 Response**, which has been provided as a separate document as required.

4. Provide a detailed description of hardware and network product(s) listed in the estimate provided. Please include:

• All relevant information, including physical descriptions, model numbers, and part numbers, concerning components such as, but not limited to, laptops, tablet computers, printers, cables, connectors, servers, internet connectivity, precinct ballot scanners, high-speed ballot scanners, ADA equipment, etc.

• Whether a component is proprietary to the Vendor or whether the component is a commercial off-the-shelf product.

• What is the capacity of all precinct ballot scanners? How are they stored/managed?

• Are the precinct based scanners programmable for multiple precincts?

• Specifically identify precinct scanner ballot box options.

Please attach a separate document for this response.

ES&S RESPONSE

For this response, please see the included file named **Question 4 Response**, which has been provided as a separate document as required.

5. List any additional recommended hardware or software which is not required as part of the tabulation system?

ES&S RESPONSE

ES&S proposes additional third-party EMS software for networking DS850 units to more efficiently accommodate the County's numerous and often large elections.

6. What is the throughput for each type of ballot scanner? Include the details for:

• All ballots sizes available

• Flat v. Folded ballots

o   NOTE: Our absentee ballots are folded three times prior to being sent out to the voters.

ES&S RESPONSE

THROUGHPUT AND BALLOT SIZES AVAILABLE

PRECINCT COUNT BALLOT SCANNER – DS200

The DS200 nominal processing speed (scan, image, tabulate) in ballots per minute (bpm): 11 inches - 12 bpm; 14 inches - 11 bpm; 17 inches – 10.5 bpm; 19 inches - 10 bpm.

The DS200 was designed to provide a very cost-effective, efficient tabulator for smaller jurisdictions. The DS200 can be used as a central scanner, or precinct-based scanner, as ballots are manually fed into the machine, which scans, images and tabulates the ballot with the average throughput of approximately 10-12 ballots per minute or 720 ballots per hour and 5,760 ballots per 8-hour day.

CENTRAL COUNT BALLOT SCANNER – DS850

At three times the speed of any other tabulator, the DS850 is unbeatable in throughput. The following actual expected throughput numbers are based on actual ballots processed per hour on election night recounts/canvasses.

The DS850 does not stop for write-ins or double-picked ballot sheets. Its intelligent design and clear and simple processes virtually eliminate scanning errors.

	Current Speed Target (ballots/min)	Theoretical Throughput (per Hour)	Actual Expected Throughput (per hour)
11"	368	22,080	11,500
14"	303	18,180	10,350
17"	258	15,480	9,400
19"	235	14,100	8,870

Chart Assumptions:
Transport Speed = 86 in/sec

Load Time = 30 sec
Unload Time = 30 sec

FLAT VERSUS FOLDED BALLOTS

The **DS200** has been uniquely designed to accept ballots that have been folded, those with creases, ballots with stubs torn off, irregularities, and otherwise damaged ballots. The scanner's paper transport safely guides folded ballots through the read heads to avoid paper jams or misreads.

The **DS850** was designed with a series of patent-pending TruGrip™ composite rollers that apply constant pressure to folded ballots throughout the entire tabulating process without losing speed. The DS850 processes flat/non-folded ballots at the same speed as folded ballots.

7. Does the high speed ballot scanner(s) have the ability to sort ballots as they are being scanned?

• Write-ins, Remakes, Blank Ballots, etc.

ES&S RESPONSE

Yes, the DS850 is capable of out-stacking ballots with exceptions (including write-ins, remakes, blank ballots, etc.) without stopping the processing of ballots. The DS850 sorts counted or uncounted ballots into three configurable sorting bins without stopping or slowing throughput.

8. Do the ballot scanner(s) have the ability to save ballot images? If so, what is the capacity, methodology for saving images and how long does the import/export of these images take considering a county of Cuyahoga's size?

ES&S RESPONSE

BALLOT IMAGES

Yes. The **DS200** and **DS850** can save ballot images.

During the election setup in Electionware, the user may decide to use the Capturing Image feature to save all ballot images, no ballot images, or only those ballot images with write-ins.

When ballots are scanned, depending on the Electionware programming, the **DS200** can store a graphic image of the scanned ballot, including write-in text, on the system's USB media device. When the scanner detects a write-in vote, the system stores the write-in ballot image under a special file name to identify the image as a write-in ballot. Ballot images can be reviewed in Electionware. Ballot images can be filtered by various attributes, including displaying only ballots containing write-ins. The Cast Vote Record for the ballot image can be viewed beside the ballot image. Furthermore, Electionware can output a spreadsheet with an entry for each hand-written write-in snippet of the image containing the voters' marks.

The **DS850** stores the front and back side image in a standard compressed CCITT T.4 bi-level TIFF image that can be viewed using commercial off-the-shelf (COTS) software.

CAPACITY AND METHODOLOGY

The internal memory of the **DS200** is 2 GB RAM. The DS200 comes with Delkin USB Industrial Single-Level Cell (SLC) commercial grade flash drives.

The DS200 stores all cast vote records, ballot images (front and back sides), election definition files, and audit data to a removable USB media device that has a standard storage capacity of 4 GB (8 GB or larger drives available, if necessary). On average, a 4GB USB media device will hold approximately 12,000 ballot images.

The **DS850** has capacity for 9,990 precincts, 40 ballot styles per precinct in a Ballots-by-Style election. It contains 1 TB HDD and holds approximately 5 million ballot images and related data.

The ballot Cast Vote Record (CVR) contains the ballot vote data in an .XML file that can be read with a COTS reader. The image files can also be exported in .PDF files for archival or public review.

IMPORT/EXPORT TIME

Import and export times will vary based on what images are being retained, the size of the images and the number of ballots on the USB media devices. Using no images creates the fastest export and import times. Saving all images create the longest import and export times.

DS200 USB media devices with approximately 2,000 ballot images typically imports into Electionware in approximately 10 seconds. Since the USB media devices always have the images there is no export time.

DS850 export the data to the USB media device. The DS850 only exports batches of ballots that have not been previously exported. QA testing showed the following central scanner export times.

2,000 ballots – 2 batches of 1,000

> 52 seconds to get from the DS850 export to completion on the server

> 17 seconds to load into Electionware – 5 secs per batch (commit to load complete status)

Ran election results – all defaults – 10 seconds

Cleared Results

2,000 ballots – 20 batches of 100

> 1:49 to get from the DS850 export to completion on the server

> 21 seconds to load into Electionware – 1 sec per batch (commit to load complete status)

Ran election results – all defaults – 9 seconds

Cleared Results

2,000 ballots – 400 batches of 5

> 21:59 to get from the DS850 export to completion on the server (took about 3-4 secs per batch)

> 24 mins to load into Electionware – 3-4 secs per batch (commit to load complete status)

9. What is the expected life of all equipment?

• Battery life

• Hardware (each piece of equipment)

ES&S RESPONSE

LIFE EXPECTANCY

ES&S designs and manufactures its voting equipment (**including all hardware, firmware, and software**) to withstand normal use without deterioration and without excessive maintenance cost for **a minimum lifecycle of 15 years**.

ES&S ensures that certified repair and replacement parts are always readily available. ES&S' strong financial standing, vast supplier relationships, large customer base, and extensive research and development capability provide a foundation for long-term availability of our products and parts for our customers.

Because ES&S designs and owns all rights to the design and manufacturing of our voting system units, tight control is possible. ES&S uses long-life, industrial components that allow many years of general availability and much longer with end-of-life buying arrangements.

We follow all Voluntary Voting System Guidelines; therefore, our voting systems are HAVA-compliant their entire expected lifecycle.

BATTERY LIFE

DS200

- The DS200 contains an internal backup battery that maintains the system in the case of a power failure during the election process. The battery is a 21-volt, 10 cell lithium-ion battery that needs no special maintenance. The battery obtains its charge automatically from the system power supply any time the unit is plugged in – a separate charging device isn't required. It ensures complete protection from power failure and provides a **minimum of three to four (3-4)** hours of normal operation in the event of a power failure.

- The DS200 Coin Cell Motherboard Battery can last **up to five (5) years** before replacement is required if the battery has been properly maintained and stored.

- The DS200 Internal Rechargeable Lithium Ion Backup Battery can last **up to five (5) years** before replacement is required if the battery has been properly maintained and stored.

EXPRESSVOTE

- If external power is lost, the ExpressVote seamlessly reverts to a backup battery that allows it to operate normally for **at least two to four (2-4) hours**. This battery backup is fully integrated into the unit and includes the ability to print the VVPAT. When the battery gets low, the system will initiate a graceful shutdown before the battery is fully exhausted to ensure no ballots are being scanned or data is being written to the USB media device during shutdown of the unit. When power returns, a recovery procedure allows voting to continue where it left off.

- ✓ The ExpressVote Coin Cell Motherboard Battery should be replaced every **four to five (4-5 years)**.

- ✓ The ExpressVote Internal Rechargeable Lithium Ion Backup Battery should be replaced every **five (5) years**.

DS850

- ✓ The DS850 is certified with a COTS UPS (Uninterruptible Power Supply). In the event of external power failure, the DS850 automatically transitions to being powered by the UPS. When running on UPS power, the tabulator will complete any ballot scanning that is taking place at the time of power transition. From there, the operator can save the current results and print any desired reports. The operator can then shut the unit down manually, or the unit will automatically and gracefully shut down when the UPS battery is exhausted. The UPS battery has an average life of **three to five (3-5) years**, depending on usage.

- ✓ The DS850 internal Motherboard Coin Cell Battery can last **up to five (5) years** if it has been properly maintained and stored.

---

10. What happens in the event of total loss of power? Is the data saved?

ES&S RESPONSE

In the event of a total loss of power, the DS200 and ExpressVote **seamlessly revert to an internal backup battery**. The DS850 automatically transitions to being powered by an **Uninterruptible Power Supply**. **Data is saved**.

---

11. What type of ballot stock is required for use with your system. What size options are available?

ES&S RESPONSE

ES&S recommends that Cuyahoga County use CountRight™ Digital Ballot Stock. Other non-proprietary stock may be used, but it must strictly adhere to ES&S' ballot code stock specifications to ensure proper tabulation of the voter's ballot. ES&S recommends the use of ballot stock containing the same specifications found in our CountRight Digital Ballot Stock with our tabulators.

CountRight is available to the County in two ways. First, as the only authorized distributor of CountRight ballot stock, Veritiv, North America's largest paper distributor, offers CountRight parent sheets and rolls in a variety of sizes and formats. Second, ES&S stocks and markets CountRight Digital Ballot Stock in various sizes and formats. This pre-cut stock is blank with no pre-printing.

Ballot Specifications	
Grain Direction on Finished Ballot	Long
Basis Weight	80# text weight (36.2874 kg)
Thickness	0.0061 in. (0.014595 cm)

Smoothness	130 Sheffields
Moisture	5.5 percent
Opacity	97.0
Brightness	92 to 94
PPI	338

Tolerances	
Band Width	8.5 in. (+.027, -.02)
Ballot Length	11, 14, 17, 19 in. (+/- 0.03)
Ink Density	1.15 to 1.25 wet ink density; 1.10 to 1.15 dry ink density
Oval Thickness	The printed oval line thickness must be within the range of 0.004 inches to 0.006 inches.

12. Describe the different levels/types of technical support provided during the initial implementation and for each election moving forward?

ES&S RESPONSE

IMPLEMENTATION SUPPORT

ES&S provides implementation support via our project management team.

Project/Account Managers (PM/AM) Heather Scott and Kyle Weber shall be responsible for the overall planning, communication, management and coordination of ES&S services. The PM/AM will be the liaison for Cuyahoga County with ES&S as it pertains to all products, services and obligations set forth in the Agreement.

Ultimately, the measure of success in a new voting system implementation is a successful election. Our proven project management approach instills confidence and provides tools and training to ensure you are prepared for each Election Day. ES&S will provide all related aspects of project management to ensure a smooth and successful implementation, which ultimately means trouble-free elections.

All our projects involve several key steps that we manage well. At ES&S, we adhere to the Project Management Body of Knowledge, or PMBOK, project management best practices. Our PMP-certified personnel are committed to ensure our team follows the standards and framework of the Project Management Institute in every step of the project implementation.

PMBOK is recognized worldwide as the best-practices guide to the project management knowledge, skills, techniques and tools known to achieve success. Among other implementation areas, PMBOK provides guidance in organization, planning, staffing, implementation and controlling of a project. ES&S uses the standards and framework of PMBOK to guide our practices. We then build on PMBOK using the lessons learned over approximately 40 years of implementing voting systems to ensure every implementation is a success. Our customized implementations include extensive customer communication, touch points, mutual reporting, ongoing evaluation, and follow-up to ensure we meet each customer's unique requirements and needs.

The project team will employ our vast network of subject matter experts company-wide to provide quality support and sound project management. As a leader in the elections industry, ES&S has implemented thousands of customers. We take every effort to ensure every implementation is a smooth process and that you and your staff are fully prepared throughout each step of the process.

Please see the **Implementation Timeline & Narrative** included as **Appendix A**.

ELECTION DAY SITE SUPPORT

ES&S can provide contracted Election Day support. Representatives can be available to Cuyahoga County before, during, and/or after the election. These support representatives will fulfill your needs at the time, which could include assisting with election administration, procedural guidance, hardware and software operation, Election Day call center staffing, as roving troubleshooters during Election Day, and election night accumulation of results. They also will liaison with the ES&S Help Desk, if necessary.

HELP DESK

Our ES&S Help Desk forms our single-point support system for all aspects of your total system. The Help Desk is staffed with experienced hardware and software technical support representatives who stand ready to resolve any issue you have, whether for the polling place/early voting site equipment, absentee voting system, election management and voter registration system, or electronic poll books.

TECHNICAL SUPPORT

The ES&S Technical Support Team ("Help Desk") offers multiple support channels to assist customers with issues and concerns ranging from simple "how-to" questions to complex functional inquiries. Customers who purchase and maintain ES&S hardware maintenance and software license support services through ES&S agreements automatically receive on-call telephone support.

Your call to the Technical Support Team during our hours of operation will immediately be answered by an expert hardware or software technician who will answer your questions and/or begin resolution of your issue. ES&S uses remote support tools like WebEx as well as Team Viewer and GoToAssist to provide over-the-shoulder assistance when needed. We track all questions or concerns and their resolution to provide continuity of service.

ISSUE RESOLUTION

During Election Day activities, our Technical Support Team is ready to help on its extended-hour schedule (for a 24-hour period beginning at 4 a.m. Central) to meet the various poll open and closing times for our

customers across the United States. During any General Election, ES&S augments our technical support team to further ensure that your issue will receive an immediate response when you contact the Help Desk.

During non-election periods, the Technical Support Team can be reached on weekdays between 7 a.m. to 7 p.m. Central Time. After hours, a representative will return your call as soon as possible, but no later than the next business day.

When a planned system maintenance event is scheduled on evenings, weekends, or holidays, ES&S recommends that Cuyahoga County notify their account manager, who can inform the Technical Support Team to expect potential service calls, ensuring the most rapid response possible.

TOLL-FREE PHONE SUPPORT

Our dedicated toll-free customer support telephone number is 877-ESS-VOTE (877-377-8683). The support line is open 24 hours a day, 7 days a week. Technical Support Team hardware and software technicians will immediately respond to your call during our business hours from 7 a.m. to 7 p.m. (Central Time), Monday through Friday. After hours or during weekend/holidays, Cuyahoga County can leave a message 24/7 and a representative will return your call as soon as possible, but no later than the next business day.

Furthermore, your account manager may be contacted by cell phone 24x7x365. Your account manager will provide Cuyahoga County and its agencies with redundant sources to help you resolve any issue you may have during after hours, weekends, and holidays.

EMAIL SUPPORT

Customers can communicate directly with specialized ES&S support and technical representatives.

ES&S CUSTOMER PORTAL

Cuyahoga County will receive login credentials to the ES&S customer portal. The portal contains copies of all user documentation, including administrator and operator manuals and product advisories. The portal also provides access to request forms and a link to the ES&S supply store website.

---

13. Do you have a standard implementation process or a list of tasks that must be completed during the implementation phases, who is responsible for those tasks and how long each task is expected to take in a county of our size?

• Mock elections/Pilot projects

• Resources available to be devoted to this process

• How many pieces of equipment would be provided for either process?

ES&S RESPONSE

Please see the **Implementation Timeline & Narrative** included as **Appendix A** for tasks, responsible parties, length of tasks, mock elections and resources available.

ES&S will work with Cuyahoga County to determine specific quantities for any requested mock/pilot elections. ES&S will provide all necessary election equipment to demonstrate a successful mock/pilot election.

14. Provide a copy of the standard acceptance testing process and procedures for all components of the tabulation system.

ES&S RESPONSE

Please see **Appendix B** for **Acceptance Checklists**.

In addition, and for the benefit of the County, ES&S has included a copy of its standard Voting System **Sales Order Agreement** ("ES&S Standard Agreement") in **Appendix C**, which provides for the purchase and license of ES&S' voter tabulation system products and services. ES&S Standard Agreement has been designed specifically for the purchase of ES&S' voting system products and services by a customer and contains those provisions specific to such voting system purchase. Please note that the content of this Tabulation Equipment Survey and all provisions of the successful proposal deemed pertinent by the parties may be easily incorporated into ES&S' Standard Agreement.

15. Are sample L&A Testing procedures available?

• Does your system generate a test deck? If so, is it customizable?

• Is ballot adjudication available with your system?

ES&S RESPONSE

L&A TESTING

Please see **Appendix D** for **Sample L&A Testing Procedures.**

DS200

Cuyahoga County Election Staff/ES&S will test the ballot tabulation and mechanical scanning functions of the DS200 during Logic and Accuracy (L&A) testing by feeding an audited stack of pre-marked ballots (the test deck) through the scanners and comparing the resultant scanner totals to the expected test deck totals.

Prior to starting the DS200 L&A testing, an equipment pre-test will be run on each tabulator to verify the equipment status (battery charged, paper roll changed, ink dauber changed, touch screen calibrated, correct date and time setting).

After the pre-test, each tabulator will be powered up and the election qualification code and definition loaded. As the unit boots up, a Configuration report, Ballot Status and Accounting report, and Zero report will print. The tester will verify that no votes are present on the unit; if votes are present, they must be cleared prior to starting the L&A.

When the tester is ready to begin testing the paper ballot portion of the L&A, the test deck ballots are fed into the DS200. Once done, the polls on the DS200 are closed by pressing the Polls Closed button inside the

access door. The unit will automatically print a Results Report and the tester will verify the results with the known results from the pre-marked deck.

The ExpressVote can be used to print vote summary cards of each style and use these to run logic and accuracy tests on ES&S tabulators.

To complete the end-to-end testing, the results on each of the USB media devices are read into Election Reporting Manager (ERM) to validate the pre-marked results with the results achieved from the reporting software. When L&A testing is complete, each scanner should be cleared of all vote totals, a Zero report run to validate the results cleared, and the unit locked and sealed for transport to the polling place. This level of testing ensures the integrity of the entire system.

EXPRESSVOTE

The ExpressVote can be used to print vote summary cards of each style and use these to run logic and accuracy tests on ES&S tabulators.

Self-diagnostic tests verify that firmware is properly installed upon system startup. Initial reports identify the installed election program and firmware versions. Any errors loading system firmware or election programming result in equipment shutdown with a clear error message.

DS850

Before using the DS850 in a live election, ES&S recommends testing to ensure the election has been coded and ballots printed correctly, and that the scanners/tabulators correctly read votes in each possible voting target. In addition, we recommend testing your process for collecting results from your tabulators and entering them in Electionware.

ES&S recommends testing every ballot style in use for an election, as well as testing every voting target on each of those ballot styles. Ballots can be hand marked, or test decks can be marked with a pre-generated sequence using Electionware.

ES&S will work with Cuyahoga County to develop and refine the specific L&A testing protocols to be followed.

The DS850 requires approximately 1-hour to complete L&A testing, depending on the complexity and size of the election.

TEST DECK

Yes. Our **Automated Test Deck Creation module** found within Electionware Toolbox software provides a spreadsheet chart of predetermined results as well as a set of PDF files with pre-marked ovals. The information needed to create the test deck comes directly from the Electionware election definition.

The canvass style spreadsheet chart includes easy-to-identify marks plus overvotes, as well as all election-specific candidate names. Benefits of using ES&S' Test Deck feature includes significant time and costs savings for clerks because manual creation is eliminated, as well as removing the potential for human error from the equation.

Additionally, Electionware Toolbox is able to create automated logic and accuracy test scripts that can be run on the tabulators. These automated scripts can also be supplemented with **customizable** manual logic and accuracy testing if desired. Once testing is complete, the system requires that all test data – automated, manual, or a combination – is cleared from the system in order to prepare for Election Day.

BALLOT ADJUDICATION

Our system offers both electronic and physical adjudication.

ELECTRONIC ADJUDICATION

Electronic adjudication enables an adjudication team to review images of ballots that include exceptions like overvotes, undervotes, marginal marks, blank ballots, and write-ins. You will have all the functionality of the DS850 as well as electronic adjudication.

The adjudication functionality will be intuitive so that the adjudication team will need minimal training to use it. For example:

- The user interface will enable viewing of the ballot image along with the Cast Vote Record (CVR) data that show how the ballot was tabulated.

- The user interface will make it easy to find exceptions, move through contests, and see what was changed compared to how the ballot was originally counted.

- Users will be able to zoom into areas of ballot images, print, and save them.

- Users will be able to update a ballot's status during the adjudication process (not reviewed, reviewed with changes, reviewed with no changes, on hold)

- Users will be able to both use write-in candidate names set in the system and to add write-in candidates "on the fly" and then assign that name to additional ballots

- Users will be able to easily match a physical ballot with the on-screen image

PHYSICAL ADJUDICATION

Our system allows for smooth, continuous ballot scanning while doing the bulk of the adjudication work on the front end to save election staff time and energy on the back end. This will ultimately result in counties processing more ballots with fewer staff in a shorter amount of time.

- Two-thirds less adjudication time. With the DS850 and DS200 you will spend dramatically less time adjudicating ballots. Incomplete voter marks, voter intent and poorly printed ballots commonly cause problems for election administrators. Our patented technologies – Intelligent Mark Recognition (IMR™) and Positive Target Recognition and Compensation (PTRAC™) – solve this problem by ensuring even the most problematic ballots are read accurately, consistently and automatically. They protect voter intent and greatly reduce the amount of time in review and adjudication. The number of ballots that need to be reviewed are reduced by up to 68 percent with the DS850 compared to other systems.

- PTRAC's sophisticated image processing algorithms start by using the ballot's timing marks to quickly create an evaluation window where the oval for each contest is expected to be. Because ballots can skew, stretch, and crumple, PTRAC positively locates every individual oval on the ballot, moving the ballot image as necessary. In other words, our tabulators don't just look where the ovals should be, but find where they are located. Next, PTRAC leaves just the voter's marks visible by detecting the exact center of the oval and digitally removing the oval perimeter line. All that remains is the voter's mark.

Once the voter mark has been identified, our IMR technology takes over. It recognizes traditional marks and non-traditional voter marks (such as X's, checkmarks, and diagonal slashes) with unparalleled accuracy. IMR considers not just pixel count, but also the shape of each mark, its pattern, and the mark's intent. It also avoids getting fooled by inadvertent marks such as smudges or stains and looks for patterns to determine voter intent. The result is a dramatic increase in throughput and accuracy, while leaving fewer ballots for election personnel to review.

Another option to help with adjudicating ballots is our "Scan Sort Setting" option that is available on the DS850. This function allows for the sort functions to be turned off for the next "run of ballots." For example, if a ballot is run through and is outstacked for being an overvote, the ballot will be reviewed and deemed whether it is a true overvote or needs to be adjudicated. If it is deemed to be a true overvote, you simply put the ballot(s) back on the tabulator and enable "Scan Sort Setting" which will turn off the sorts for the next run. The ballots are processed at 300 per minute and all the races will be tabulated EXCEPT for the overvoted race in question. This feature was designed to save time and energy for election officials.

DS850® reduces the ballots sent for adjudication by up to **68%**

The DS850 provides greater flexibility for election workers by providing three separate sorter bins. These bins can be configured to sort specific types of ballots for further review, write-in votes, overvotes, blank ballots, or other exception ballots without slowing down. The throughput is unmatched in the market today and will allow the City to ultimately get results faster on and before Election Day.

The highly scalable DS850 high-speed tabulator will allow the County to keep up with the ever-increasing vote-by-mail population with the least amount of equipment. A single DS850 can do the work of multiple machines that would be required from our competition.

The DS850 will process nearly 9,000 19-inch double-sided ballots per hour, including previously folded ballots – three times the speed of any other tabulator. Not only will you get results faster, but scanner operator time and labor costs will be reduced significantly. What used to take days will now only take hours in most cases.

16. What end user training is available?

• Train the Trainer, BOE Staff, PEOs

• Cost, length (hours per "class"), class size

ES&S RESPONSE

Each of our end user training courses equips participants with the knowledge and skills to train election staff. Additional training is available, if needed, for $1,700 per day.

For associated costs of end user training, please see our included **Pricing.**

Course description	Course pre-requisite(s) and audience
DS200 Operations Course	
Course Length – ½ Day	
This course introduces **election personnel** to the DS200 precinct scanner and tabulator. Successful participants gain the knowledge, skills, and abilities to operate the ES&S DS200 precinct ballot tabulation system. Covered topics include: • In-depth overview of the DS200 tabulator, including hardware components, ballot boxes, setup, battery, and charging. • Pre-election preparation requirements. • Election Day operations, including opening and closing the polls for Early Voting and Election Day, scanning voted ballots, and transmission of election results. • Troubleshooting procedures.	Pre-Requisite(s): • None Audience: • Election staff Number of Participants: • 1 - 20
ExpressVote BMD Operations Course	
Course Length – ½ Day	
This course introduces **election personnel** to the ES&S ExpressVote Universal Voting System that is used to mark ballots. Successful participants gain the knowledge, skills and abilities to operate the ExpressVote system. Covered topics include: • In-depth overview of the ExpressVote, including hardware components, setup, battery, and charging. • Pre-election preparation requirements.	Pre-Requisite(s): • None Audience: • Election staff Number of Participants: • 1 - 20

- Election Day operations including marking the vote summary card and how the device meets usability and disability standards.

- Troubleshooting procedures.

DS850 Operations Course

Course Length – 1 Day

The ES&S DS850 course gives **election personnel** a nuts and bolts introduction to the high-speed central scanner and tabulator. Covered topics include:

- Overview of the machine

- Cleaning the machine

- Scanner setup and pre-Election Day testing

- Printing reports

- Election Day preparation

- Scanning ballots

Pre-Requisite(s):

- None

Audience:

- Election staff

Number of Participants:

- 1 - 10

Electionware Course

Course Length – 5 Days

The Electionware course will provide **election personnel** with general knowledge of the ES&S Electionware election management system. The participants will be able to capture and design ballot layout, program election hardware, and produce summary and customized election reports for your election.

In the Electionware modules, the facilitator will provide the participants with the knowledge, skills, and abilities to:

- Define - Build, store, and update all election-related information (i.e., precincts, districts, offices, candidates, referenda) in one database.

- Design - Create an election ballot layout for Paper, Touch Screen, and Accessible Ballot.

- Deliver – Configure election tabulation equipment, as well as package media for Election Day.

- Results –

Pre-Requisite(s):

- None

Audience:

- Coding staff

Number of Participants:

- 1 - 10

- · Accumulate election results, generate and display standard and customized reports, in both paper and electronic formats.
  - · Review and adjudicate ballot images, as well as, manage write in reviews.
  - · Manage Provisional ballots.
- Manage - Manage user account and security access for Electionware software.

---

17. Can you provide us with training documentation and if your system is purchased will you allow us to use your stock photos and edit your procedural documentation to be tailored for use in Cuyahoga County?

ES&S RESPONSE

If awarded this contract, ES&S will provide training documentation to the County upon delivery and implementation. In the event the County purchases and licenses ES&S' voting system, ES&S will agree to allow the County to use ES&S' photos as well as tailor ES&S' procedural documentation for use solely within Cuyahoga County provided the County maintains all copyright, trademark, patent or other intellectual or proprietary rights notices that are set forth on the documentation.

18. Provide a list of known anomalies with the system (technical bulletins released) in all versions of the hardware, firmware, and software of certified product.

• Include details of any material defects or failures of any part of the system along with the election jurisdiction in which the defect or failure was discovered, the nature of the defect or failure, how it was discovered and resolved.

ES&S RESPONSE

ES&S is not aware of any failures and/or defects with EVS 6.0.0.0 since its EAC certification approval in July 2018. No technical bulletins or product advisories been necessitated for the hardware, firmware, or software versions of this certified product.

EVS 6.0.0.0 was successfully used in 19 Utah counties during the State's 2018 Primary Election using the same configuration being offered in this proposal. This solution will be used again by the Utah counties in the November 2018 General Election.

Additionally, EVS 6.0.0.0 also was used in Johnson County, Kansas, during the State's 2018 Primary Election in a different configuration than that being proposed, which included the ExpressVote Tabulator in its first election use in a large county wide election. While no failures were experienced, and the elections results were secure and accurate, ES&S was dissatisfied with the performance of the Electionware Results reporting module that resulted in the County's ability to report the results to the public in a timely manner.

Once the issues encountered by Johnson County were identified and corrected, ES&S submitted the updated Results module software to the Election Assistance Commission (EAC) for certification on September 5. EVS 6.0.2.0 received federal certification from the EAC on October 4, followed by state certification from the Kansas Secretary of State's Office on October 11.

No other components of the EVS 6.0.0.0 system were necessary to be modified in the certification of the EVS 6.0.2.0 release. ES&S has applied for Ohio state certification of EVS 6.0.2.0 and anticipates final approval to be granted by 2019. For further details, complete results of the EAC testing of EVS 6.0.2.0 are available on their website.

19. Is your system compatible with the CCBOE's current voter registration system and Electronic Pollbook systems and has this compatibility been tested and/or used in other election jurisdictions?

• Can the system to be updated to be compatible with future voter registration systems the CCBOE may obtain?

• Describe the middleware system that is used in between the tabulation system DIMS/Precinct Central (Tenex).

• Is it compatible with the certified Remote Marking Systems? Cuyahoga uses Democracy Live Specifically

ES&S RESPONSE

COMPATIBILITY

Our proposed solution is compatible with the CCBOE's current voter registration system.

For the purposes of activating a voting session, the ES&S ExpressVote Universal Voting Device has been integrated with the following Pollbooks used in Ohio:

- ExpressPoll Tablet, EZRoster Version 3.2.2.0 (ES&S)
- ExpressPoll Tablet, EZRoster Version 3.3.1.0 (ES&S)
- ExpressPoll Tablet, EZRoster Version 3.5.0.0 (ES&S)
- ExpressPoll Tablet, EZRoster Version 3.7.0.0 (ES&S)
- VoteSafe Electronic Pollbook (VOTEC)
- KNOWiNK Poll Pad (KNOWiNK)
- Precinct Central Touchpad (Tenex)

If the State has additional specific integration requirements, we are available for further clarification.

COMPATIBILITY WITH FUTURE VOTER REGISTRATION SYSTEMS

ES&S will work with the County to ensure compatibility of our system with future voter registration systems the CCBOE may obtain.

MIDDLEWARE SYSTEM

DIMS exports raw data regarding contests, candidates, precincts, districts, etc. Electionware imports that raw data saving keyboard time. Electionware is used to complete the election building process. Users export data out of Electionware. Tenex software imports the data from Electionware.

Ultimately, the voter checks into the Tenex pollbook. The pollbook produces a voter receipt document with a barcode that can be scanned by the ExpressVote to choose a ballot style.

CERTIFIED FOR REMOTE MARKING SYSTEMS

ES&S agrees and will comply.

---

20. Does the system have the ability to be re-configured and customized to accommodate needs that change or evolve overtime, especially those required by new laws?

ES&S RESPONSE

Yes. ES&S continually upgrades and scales our systems and products to conform to both federal guidelines and state law requirements. Throughout the years, our scalable technology has allowed ES&S to build and adapt systems to conform to and be federally certified to meet the increasing technology demands of the 1990 FEC, 2002 NASED, and 2005 EAC Voluntary Voting System Guidelines, while also meeting the demands of state certification requirements.

When federal guidelines and state law changes require new releases of our products, ES&S works with our customer base to develop federal and state certification timelines and upgrade strategies to ensure that the upgrades occur around the election calendars of the jurisdictions.

21. Do you have a standard maintenance and upgrade schedule for new system releases and patches, including any additional costs associated with maintenance and upgrades or equipment repairs?

ES&S RESPONSE

During the warranty period and thereafter so long as the County continues to subscribe to and pay for the post-warranty software license, maintenance and support services from ES&S, ES&S will provide upgrades, new releases and maintenance patches to ES&S' proprietary software, along with appropriate documentation, on a schedule defined by ES&S without additional charge. Any hardware or third-party software upgrades required as a result of these upgrades will be borne by the County at pricing to be provided by ES&S. Additional fees may apply for assistance with EMS network and update installations and for training the County on the updates, if such training is requested by the County. When ES&S determines that an update is needed for a customer, ES&S will notify the customer through email.

Upon a request to ES&S to receive the new release files, the new software release will be delivered to the customer via DVD media. If there is a desire to upgrade to the new software release, your ES&S Account Manager will work with you to coordinate a time to perform the upgrade. To ensure a certified, hardened, and secure configuration of the Election Management System (EMS), it is highly recommended to engage ES&S Technical Services to perform all EMS installations and upgrades. Installation services can occur either on-site at the customer location or through an off-site installation with the EMS equipment being shipped to the ES&S Technical Services lab for configuration. An ES&S technician will build the EMS systems and ensure that they are built in the configuration that meets State and Federal certification guidelines for the specific release, as well as do full end-to-end testing to ensure functionality. ES&S Technical Services provides post-installation documentation that includes installation checklists, information regarding system specific configurations, and network diagrams when appropriate.

New versions of voting system firmware will also be delivered to the customer. Upgrading voting systems consists of inserting the new firmware into the equipment, via a USB media device, while the equipment is powered down. Once the device is inserted and the unit is powered on, the firmware will load on the equipment.

If an upgrade requires advanced operations, an ES&S field service technician will arrange with each customer to go on-site or to a central location and install the upgrades. Advanced upgrades are usually performed during a preventative maintenance event and are covered under annual license agreements.

After the initial warranty period, ES&S offers hardware extended maintenance packages:

Extended Warranty with Annual Maintenance: Under the Extended Warranty with Annual Maintenance Program, ES&S provides a routine preventative maintenance service event every year. This on-site event includes the inspection, cleaning, calibration, and testing of covered equipment and all labor and parts except for consumable items. Our ES&S technicians carry the diagnostic programs, specialized tools, certified spare parts, and test ballots needed to service and test the product per hardware specifications and the maintenance agreement. Under this maintenance program, hardware repairs are covered when failures are system-related.

Extended Warranty with Biennial Maintenance: Includes the same features as the Extended Warranty with Annual Maintenance Program, except that the routine preventative maintenance service event occurs every other year rather than annually.

All maintenance programs include use of certified replacement parts, repairs by certified technicians, priority status for repair services, technical Help Desk support, and one annual invoice for budgeting peace of mind.

For further details, please see the **Appendix C** for the **Sales Order Agreement**.

22. Provide details of the Audit logs generated by each part of your system.

• Are all user actions logged?

• Are the audit logs unencrypted and able to be printed and exported?

• What is the default format?

ES&S RESPONSE

All user actions are logged and can be printed or exported.

Audit logs from the hardware components can be exported in a common industry format that could be used for third-party log aggregation, and additionally can be imported into Electionware and exported as a PDF.

DS200

The DS200 audit log report lists all events --- including errors, alarm conditions, ballot-handling exceptions, and user-initiated functions --- that occur on the system from the time an election worker inserts the terminal's USB media device into the machine until it is removed. Each event appears in the audit record with a date/timestamp.

EXPRESSVOTE

The ExpressVote maintains an audit log or operations log that records all significant operational events, including election-related events, errors and operator interactions with the device, that have occurred on the unit. The operations log provides both critical and non-critical status messages. These incidents are tagged with the time and date the incident occurred.

DS850

The DS850 records errors and major events, tagging these incidents with the date and time the incident occurred.

ELECTIONWARE

Electionware maintains an Election Audit Events log for every action the user performs within the application. Additionally, an Admin Audit Events log is maintained, which stores all events that are generated when an election is not currently open. Both logs use date/timestamps to track each event, as well as the name of the user who performed the action.

The Election Reporting Manager (ERM) System Log records all activities performed within the application. This log uses date/timestamps to track each event, as well as the User ID of the person who performed each action.

23. Briefly describe all results reports the system can generate and provide sample copies of such reports.

• Can customized reports be designed and will our staff have the ability to customize without vendor involvement?

• Are the reports searchable or available to be exported into other document formats?

• Can the reports easily be exported for web viewing?

• What is the standard/default format used?

ES&S RESPONSE

Customized reports can be designed without vendor involvement. Reports are searchable and can be exported in other formats. Reports can be easily exported for web viewing.

The **standard/default format used** in the Electionware reporting software produces reports in ASCII, CSV, XML, HTML, PDF, RTF, and XLSX (Excel). Excel files can be imported into Access.

ES&S' election results reporting program generates comprehensive paper and electronic reports for election officials, candidates, and the media that meet federal and state requirements. Report editing features enable the user to read data from the tabulators, customize report formats, and generate accurate election results. It is highly flexible, providing a library of on-demand report types (election district, summary – with or without group details, canvass, and log) that can be customized to meet Cuyahoga County's needs. It stores election district-level results into up to 14 user-defined groups (such as absentee, Election Day, and provisional reporting). Cuyahoga County can create reports that contain all applicable election districts or contests, or the County can select the election districts and/or contests to be included. For any summary report, Cuyahoga County can control whether counts for overvotes and undervotes are included. The County can specify that the report display vote results as a percentage of votes cast, or as a percentage of eligible voters. This wide array of user-configurable election reports, displays, and results files can be exported in different formats to create custom reports. It can also display updated election totals on a monitor as results are received from polling locations, as well as rolling up countywide results. The display program scrolls automatically through the live results with a user-definable time delay. It has several export capabilities that will allow results to be posted on a website. The State may create ad hoc reports, filtering certain election districts and/or contests as needed, which may be saved for re-use for various elections.

The reporting modules of Electionware also produce additional ways to view final election results, such as viewing the ballot images alongside their Cast Vote Records, and you can view images of the write-ins. Electionware's Election Results - Summary Report can be viewed and saved in XML or HTML format. This

report contains the results of all loaded ballots. Electionware can be used to export election data and voting results as XML or CSV files, which can be used to filter data and create customized reports.

24. Do you provide printing services for a county of our size?

ES&S RESPONSE

ES&S and Marketing Communication Resource, Inc. (MCR), our partner printer, welcome the opportunity to continue to provide printing services to Cuyahoga County.

APPENDIX A: IMPLEMENTATION TIMELINE & NARRATIVE

Cuyahoga County, Ohio - Proposed Project Plan

ID	WBS	Task Name	Start	Finish	Resource Names
1	1	Project Initiation & Management	Mon 5/6/19	Wed 11/20/19	
2	1.1	Contract Signing	Mon 5/6/19	Mon 5/6/19	ES&S/County
3	1.2	Order Received	Tue 5/7/19	Tue 5/7/19	ES&S/County
4	1.3	Order Hardware/Software and Services	Wed 5/8/19	Wed 5/8/19	ES&S
5	1.4	Notification of Order to Affected Teams	Thu 5/9/19	Thu 5/9/19	ES&S
6	1.5	Kickoff/Initial Project Planning Meeting	Wed 5/15/19	Wed 5/15/19	ES&S/County
7	1.6	Finalize Implementation Schedule	Fri 5/17/19	Fri 5/17/19	ES&S/County
8	1.7	Weekly Status Meetings - Review of Action Items	Wed 5/22/19	Wed 11/20/19	ES&S/County
9	2	Trade-in Equipment Prepare and Pickup	Mon 6/17/19	Fri 6/28/19	
10	2.1	Schedule Pickup for Trade-in Equipment	Mon 6/17/19	Fri 6/21/19	ES&S/County
11	2.2	Prepare Equipment for Pickup	Mon 6/24/19	Wed 6/26/19	County
12	2.3	Pick up Trade-in Equipment	Thu 6/27/19	Fri 6/28/19	ES&S
13	3	Equipment Delivery	Mon 7/8/19	Mon 9/2/19	
14	3.1	Tabulation Hardware	Mon 7/8/19	Mon 8/5/19	
15	3.1.1	Stage & Prepare Tabulation Hardware for Shipment	Mon 7/8/19	Fri 8/2/19	ES&S
16	3.1.2	Ship Tabulation Hardware to Customer Site	Fri 8/2/19	Fri 8/2/19	ES&S
17	3.1.3	On-site Delivery of Tabulation Hardware	Mon 8/5/19	Mon 8/5/19	ES&S
18	3.1.4	Sign-off on Delivery	Mon 8/5/19	Mon 8/5/19	County
19	3.2	Voting System Installation	Mon 7/8/19	Fri 8/30/19	
20	3.2.1	Schedule Voting System Installation Personnel	Mon 7/8/19	Fri 7/12/19	ES&S
21	3.2.2	Installation of Tabulation Hardware	Mon 8/5/19	Fri 8/30/19	ES&S
22	3.3	Acceptance Testing	Mon 8/5/19	Mon 9/2/19	
23	3.3.1	Conduct Acceptance Testing on Voting System	Mon 8/5/19	Fri 8/30/19	ES&S/County
24	3.3.2	Verify Results	Mon 9/2/19	Mon 9/2/19	ES&S/County
25	3.3.3	Sign-off on Delivery & Acceptance Testing	Mon 9/2/19	Mon 9/2/19	County
26	4	Documentation	Mon 8/26/19	Mon 8/26/19	
27	4.1	Product Documentation Delivery - Portal	Mon 8/26/19	Mon 8/26/19	
28	4.1.1	Hardware Tabulation User Operations & Maintenance Manuals	Mon 8/26/19	Mon 8/26/19	ES&S
29	4.1.2	EMS Software User Operations Manual	Mon 8/26/19	Mon 8/26/19	ES&S
30	4.2	Training Documentation	Mon 8/26/19	Mon 8/26/19	
31	4.2.1	Tabulation Hardware Pre-Election Day & Election Day Checklists	Mon 8/26/19	Mon 8/26/19	ES&S
32	4.2.2	EMS Software Training Documentation	Mon 8/26/19	Mon 8/26/19	ES&S
33	5	Training	Mon 9/2/19	Fri 9/13/19	
34	5.1	Tabulation Hardware Operations Training	Mon 9/2/19	Wed 9/4/19	ES&S/County
35	5.2	EMS Software Training	Mon 9/9/19	Fri 9/13/19	ES&S/County
36	6	Ballot Production and Media Preparation	Mon 9/9/19	Fri 10/4/19	
37	6.1	Election Coding & Ballot Layout	Mon 9/9/19	Fri 9/20/19	ES&S/County
38	6.2	Ballot Proofing	Mon 9/23/19	Fri 9/27/19	County
39	6.3	Ballot Approval	Mon 9/30/19	Wed 10/2/19	County
40	6.4	Media Preparation	Wed 10/2/19	Fri 10/4/19	County
41	7	Mock Election	Tue 10/8/19	Tue 10/8/19	
42	7.1	Mock Election	Tue 10/8/19	Tue 10/8/19	ES&S/County
43	7.2	Verify Results	Tue 10/8/19	Tue 10/8/19	ES&S/County
44	8	Pre-Election Testing	Mon 10/14/19	Thu 10/31/19	
45	8.1	Perform Logic & Accuracy Test	Mon 10/14/19	Wed 10/16/19	ES&S/County
46	8.2	Perform Public Accuracy Test	Thu 10/31/19	Thu 10/31/19	ES&S/County
47	9	Election Dates	Wed 10/9/19	Wed 11/6/19	
48	9.1	Early Voting	Wed 10/9/19	Mon 11/4/19	ES&S/County
49	9.2	Election Day	Tue 11/5/19	Tue 11/5/19	ES&S/County
50	9.3	Site Support	Mon 11/4/19	Wed 11/6/19	ES&S
51	10	Post Election Closeout	Wed 11/20/19	Wed 11/20/19	
52	10.1	Lessons Learned	Wed 11/20/19	Wed 11/20/19	ES&S/County
53	10.2	Scheduling for Next Election	Wed 11/20/19	Wed 11/20/19	ES&S/County

Task		Milestone	◆	Project Summary	Inactive Milestone	Manual Task	Manual Summary Rollup	Start-only	External Tasks	Deadline	Manual Progress
Split		Summary		Inactive Task	Inactive Summary	Duration-only	Manual Summary	Finish-only	External Milestone ◇	Progress	

Note: Project Dates are estimates. Actual timeframes will be established at the time of contract execution. Following contract execution, project plans will be solidified.

IMPLEMENTATION NARRATIVE

INTRODUCTION

Ultimately, the measure of success in a new voting system implementation is a successful election. Our proven project management approach instills confidence and provides tools and training to ensure you are prepared for each Election Day. ES&S will provide all related aspects of project management to ensure a smooth and successful implementation, which ultimately means trouble-free elections.

All of our projects involve several key steps that we manage well. At ES&S, we adhere to the Project Management Body of Knowledge, or PMBOK, project management best practices. Our PMP-certified personnel are committed to ensure our team follows the standards and framework of the Project Management Institute in every step of the project implementation.

PMBOK is recognized worldwide as the best-practices guide to the project management knowledge, skills, techniques and tools known to achieve success. Among other implementation areas, PMBOK provides guidance in organization, planning, staffing, implementation and controlling of a project. ES&S uses the standards and framework of PMBOK to guide our practices. We then build on PMBOK using the lessons learned over approximately 40 years of implementing voting systems to ensure every implementation is a success. Our customized implementations include extensive customer communication, touch points, mutual reporting, ongoing evaluation, and follow-up to ensure we meet each customer's unique requirements and needs.

The project team will employ our vast network of subject matter experts company-wide to provide quality support and sound project management. As a leader in the elections industry, ES&S has implemented thousands of customers. We take every effort to ensure every implementation is a smooth process and that you and your staff are fully prepared throughout each step of the process.

ES&S PROJECT MANAGEMENT APPROACH

PROJECT SCOPE

Our experienced project managers and account managers will collaborate with Cuyahoga County to complete all steps of the implementation process. We understand your need to purchase a uniform voting system that will utilize ballot marking devices and central count voting scanners/tabulators, as described in RFP, including:

- DS850
- DS200

- ExpressVote BMD
- Electionware

The project will include the installation and training and support of all the above listed equipment and software.

The basis for the scope of the project will begin with the contract between ES&S and Cuyahoga County. The contract defines specific milestones, deliverables and tasks that will be further detailed in the final Project Management Plan after collaboration between ES&S and Cuyahoga County. The Project Management Plan

scope will define all specific hardware, software and service deliverables and will be documented by the ES&S project team with continual review from Cuyahoga County. Below are the key aspects of the project scope that will be documented in the Project Management Plan:

KEY ASPECTS OF THE PROJECT MANAGEMENT PLAN

- ✓ **Specified project deliverables** – equipment delivery, acceptance, training, etc.

- ✓ **Formal acceptance/verification procedures** – process, criteria, documentation

- ✓ **Success requirements** – key inputs, conditions, capabilities, and expectations

- ✓ **Project management approach and control strategy** – scope/risk/change strategy

- ✓ **Delivery and implementation plan**s – delivery milestones, critical paths

- ✓ **Project roles and organizational structure** – project team, communication approach

- ✓ **Project risks** – key risks and project dependencies

- ✓ **Change control procedures** – process for making changes to project scope

PHASES OF AN IMPLEMENTATION

PHASE 1: INITIATING THE PROJECT

We know every customer has unique and specific election needs. We will start by making sure we understand every detail of Cuyahoga County 's needs so that we are prepared to deliver. We will then work with you to fine-tune our approach and determine the contract terms that define what you can expect throughout the process.

During this phase, you can expect the following:

- A Project Kickoff meeting with ES&S staff and Cuyahoga County:

  - Initial task and timeline planning

  - Review of existing processes and systems

  - Discuss the transition from your existing or previous voting system

PHASE 2: PLANNING THE PROJECT

During this phase, ES&S and Cuyahoga County staff collaborate to create:

- The formal Project Management Plan, including:

  - A Work Breakdown Structure (WBS) for all implementation deliverables

  - A project schedule collaboratively defined between Cuyahoga County and ES&S

  - Documented milestones

- Documented resources necessary to complete every task
- Documented clear responsibility for every task
- A Communications Plan to ensure all lines of communication are clear and open

Definition of the multiple tracking and communication methods that will be used to monitor the status of project deliverables and milestones

- The initial Action Item list

In addition, ES&S and Cuyahoga County staff will perform review and customizations of all ES&S standard tools and procedures to ensure they meet Cuyahoga County 's needs and standards, such as:

- Acceptance testing checklist
- Logic & Accuracy testing procedures
- Training plans, documents, and courses
- Content and timing of status reports
- Risk assessment and issue mitigation

PHASE 3: EXECUTING THE PROJECT

Step 3 focuses on executing on all tasks and meeting deliverables on time and in a quality manner. It includes constant communication, customer sign-off procedures, and documentation of:

- Delivery of the new voting equipment
- Installation of all hardware
    - ES&S Field Services technicians will install all equipment at your site
    - ES&S technicians will assist in acceptance testing of the equipment per the agreed-upon acceptance testing checklists and obtain Cuyahoga County approval

Any hardware that does not meet Cuyahoga County approval will be immediately remedied

- Installation of all necessary software, networks and third-party items
    - ES&S technicians will perform a final Quality Assurance check and obtain Cuyahoga County approval
- Training of County staff on all facets of the ES&S voting system
- Pre-election ballot layout and coding

- ES&S will collaboratively work with Cuyahoga County staff to lay out ballots and code the election

- Pre-election Logic and Accuracy testing

  - ES&S will work with Cuyahoga County staff to perform Logic and Accuracy testing, from marking ballot through results reporting

- Post-election processing

  - ES&S will assist Cuyahoga County with canvassing and close-out tasks

PHASE 4: MONITORING

ES&S will perform constant monitoring throughout all the other phases to ensure the project stays on track. The following activities will be customized to meet your needs:

- Routine status meeting check-ins with all key personnel and stakeholders

- Updated Status Reports detailing the progress on all agreed upon tasks, deliverables and milestones defined in the project plan

- Creation of and continuous review of the Action Item list

- Risk assessment and issue mitigation plans

- Continued partnership and open lines of communication to ensure we achieve Cuyahoga County 's 100 percent satisfaction throughout the entire implementation

PHASE 5: CLOSING THE PROJECT

At ES&S, we see a new voting system implementation as a first-step in an important and long-term partnership. After a successful implementation — resulting in a successful election — ES&S will work closely with Cuyahoga County to review all phases of the implementation process.

During this phase of the implementation you can expect:

- Review of all phases of the project

- Lessons learned for future elections; for example, any changes in processes from beginning to end

- Discuss additional training needs

- Detailed follow up on any outstanding items

KEY ASPECTS OF AN ES&S PROJECT MANAGEMENT PLAN

PRODUCT ACCEPTANCE

Product acceptance is one important aspect of the Project Management Plan. The ultimate goal of the project will be to implement a quality, usable and dependable voting system that Cuyahoga County and its voters can trust. In order to achieve that goal, quality and performance assurance strategies in these specific categories will be managed and monitored for all product and service deliverables:

- Security
- Reliability
- Accessibility
- Sustainability

The acceptance process for all equipment, services and documentation will follow the specific procedures defined by Cuyahoga County. ES&S will provide recommended acceptance checklists and procedures and will ensure that Cuyahoga County is allowed time to review, modify and approve the procedures prior to the provision of related deliverables. The project team will ensure that the resulting acceptance test scripts are followed specifically, and that documented approvals are acquired for each deliverable and/or key milestone. Specific plans and step-by-step checklists will be documented and developed within the acceptance and testing plan, including all user acceptance testing procedures.

MILESTONES MATTER

The project milestones for each phase of the implementation, tasks and deliverables will be detailed in the Project Management Plan and include a timeline and status of events.

Jurisdiction	Status	Contract Signed	Kickoff Meeting	Status Meeting Start Date	Est. Delivery Date (Hardware)	Pick-Up Trade-In	ES&S Equipment Installation	3rd Party Network Installation	Jurisdiction Acceptance Testing	Hardware Training	Software Training
M = Milestone D = Deliverable T = Task	✅										

Key milestones include delivery of the new voting equipment, acceptance testing, installation of any necessary software and/or IT networks, training election personnel on all facets of system operation, and supporting the logistics of a trouble-free election day (Logic and Accuracy testing, managing the transfer of equipment from a central location to the voting locations, etc.)

For each phase of the implementation, there are key milestones including:

Milestone	Description
Kick-off meeting(s)	Following contract execution, the ES&S team will meet with key personnel and stakeholders to solidify project plan details.
Deliver project and system documentation	Initial project plans and documentation will be provided early in the project.
Finalize training plan	The ES&S training lead will work with Cuyahoga County to develop a comprehensive training and knowledge transfer plan.
Complete System Installation and Acceptance Testing	Throughout the delivery phase, system and unit level testing will be completed. Once all system components have been delivered, an end-to-end system integration test will be completed. ES&S will provide suggestions and guidance on the system test, but ultimate acceptance requirements and procedures will be determined and approved by the Cuyahoga County.
Complete on-site training	ES&S will provide on-site training for users to provide a hands-on training experience at each course location. ES&S will provide training for each hardware device and software that make up the voting system.
Data collection and system configuration	Data will be imported into the Election Management System and basic election configuration steps will be completed.
Setup and L&A testing	Pre-election setup will be completed and verification and Logic and Accuracy (L&A) testing will be conducted prior to full system deployment. Testing can begin prior to the finalization of VR data to confirm data integrity, feature functionality, configuration options, and hardware/accessory performance.
System Deployment	As soon as ballot and voter data is loaded and the system is configured and tested, the system can be deployed for the election.
Provide Election Support	During the critical period prior to, during, and after Election Day, ES&S will assure that essential support resources are available and committed to project success.
Post-Election Support	ES&S will provide support to Cuyahoga County following each election.

QUALITY MANAGEMENT APPROACH FOR SUCCESS

Quality management is another important aspect of the Project Management Plan. Under direction of Cuyahoga County, the ES&S project team will develop sub-plans for quality management and project management configuration within the overall Project Management Plan.

The quality management sub-plan will describe all characteristics surrounding successful product and project acceptance.

The project management configuration sub-plan will define procedures for submitting, approving, tracking and verifying all changes to the configuration of the products and the overall project.

PROJECT STATUS REPORTING

The ES&S project team will stay in constant communication internally and with Cuyahoga County. Regular meetings/conference calls are scheduled so progress can be shared and challenges proactively avoided.

The ES&S project manager is responsible for verifying that you receive all of the goods and services agreed to in the contract. The project manager manages status reporting to you on the consumption of those resources on a regular basis and manages the communication and agreement on any changes to the scope of services or products you request.

Where necessary, the project manager takes requested changes to the appropriate parties within ES&S for authorization and approval. These changes can take the form of new product releases, configuration changes, quantity changes, or scope of service changes. The project manager works directly with you to identify any proposed changes as well as any of your requested changes.

Where appropriate, the project manager will work with you or others within ES&S to determine the effect of any changes, resolve any financial impact in cooperation with you and your account manager, and reflect any agreed-upon changes in the project timeline and status reporting. We have developed an internal approach to managing these changes. These same practices are used throughout our organization.

RISK MANAGEMENT APPROACH

Every project has risks. Preparing for these risks in advance helps to plan for and mitigate those risks. The ES&S project team will develop and utilize a comprehensive risk management strategy to manage all potential risks throughout the project. Early in the implementation, the ES&S project team will meet with Cuyahoga County to identify potential project risks and develop initial mitigation strategies. Subsequent to this meeting, the ES&S project team will expand the identification of these risks and develop detailed plans for avoiding potentially negative effects of the identified and unidentified risks.

CHANGE MANAGEMENT APPROACH

ES&S will systematically assess the current state of Cuyahoga County 's election operation. During the process, the on-site personnel will document and work with Cuyahoga County staff to address current practices, guiding Cuyahoga County through managing this change and reengineering current procedures and process.

While assessing the current state and consulting on the future state, ES&S personnel will engage with Cuyahoga County key stakeholders. They will identify key personnel who are to be involved in defining the new processes and rolling out any changes to Cuyahoga County staff.

In some instances, the assessment might indicate process changes are desirable. However existing processes may need to stay intact either permanently or temporarily. Or, they may need to be eliminated entirely.

Additionally, ES&S will help communicate any needed changes, ensuring there is a clear expression of the reasons for the change. ES&S personnel, along with the Cuyahoga County 's key personnel, will assess the training needs driven by the new system, when and how it will be implemented.

Our experience with election process and voting system changes has proven that operating end-to-end mock and/or simulated elections, using actual users, helps to identify potential improvements and risks. If possible, ES&S recommends operating multiple small-scale mock elections, where lessons can be learned, and changes

implemented and documented between mock elections. This will serve as a comprehensive approach to manage change. This human-centered approach has proven most effective, especially when dealing with both full-time and seasonal users (i.e., poll workers). ES&S believes in a collaborative and inclusive process and human change management approach that ensures that key resources are included and involved in the change.

TEAM ROLES

Name	Title
Roberta Shoemaker	Vice President of Account Management
Kyle Weber/Heather Scott	Project/Account Manager(s)
Trent Schlautman	Internal Project Manager
Al Moraczewski	Field Service Technician
Gary Jacobson	Field Service Technician

ES&S VICE PRESIDENT OF ACCOUNT MANAGEMENT

The ES&S Vice President of account management will be overseeing the project and will serve as an escalation point and project sponsor to Cuyahoga County and the ES&S project team.

ES&S PROJECT MANAGER

A project manager appointed by ES&S shall be responsible for the overall planning, communication, management and coordination of ES&S services in conjunction with the account manager. This person shall be the liaison for Cuyahoga County with ES&S as it pertains to all products, services and obligations set forth in the Agreement.

ES&S ACCOUNT MANAGER

The ES&S account manager will work closely with the project manager and Cuyahoga County to develop a timeline of activities, provision of deliverables, and critical milestones. Your account manager will ensure Cuyahoga County is fully supported and knowledge is successfully transferred to Cuyahoga County staff. The ES&S account manager will be onsite and use various proven reporting tools and status updates reports throughout the project to communicate with Cuyahoga County. The account manager will also bring technical, election system implementation experience along with consulting and training capabilities.

ES&S TECHNICAL SERVICES

Responsible for the design and installation of the election management system (EMS) network.

ES&S TECHNICAL SUPPORT TEAM (HELP DESK)

The ES&S Project Team includes a Technical Support Team (Help Desk) staffed with experienced hardware and software support technicians and engineers. The ES&S Technical Support Team utilizes a systematic 3-tiered escalation process to assure that all issues and questions, whether minor or major, are quickly addressed by the appropriate subject matter experts. The Technical Support Team has direct access to Tier 3 product engineers, system administrators, and software developers and is available 24x7 during election critical periods.

ES&S FIELD SERVICES TECHNICIANS

ES&S will leverage its existing regional support network to provide support and assistance throughout the implementation and on-going phases of the project.

ES&S TIER 3 SUPPORT AND DEVELOPMENT

The Tier 3 Support team includes product engineers, system administrators, and software developers. As needed, the ES&S Project Team and Cuyahoga County will have access to Tier 3 ES&S resources capable of addressing advanced requests, questions, or issues. These same resources will be responsible for the development and deployment of system changes, including any updates or enhancements.

ES&S CONTRACTOR STAFF

Occasionally, ES&S uses contractors, trained and vetted by ES&S to supplement their staff. These individuals work directly for ES&S and have experience in all aspects of the election process, including installation, acceptance testing, logic and accuracy testing and Election Day support.

COMMUNICATION PLAN

A key factor in providing structure for a project is the methodology used to establish guidelines and control project activities throughout a project lifecycle. By using a proven methodology, the project team can significantly improve communications, planning, and performance from the initial proposal stage, through completion of project deliverables to final closure of the project.

The assigned ES&S project manager and account manager will communicate with Cuyahoga County on a mutually agreed-upon regular basis, as required based on the task at hand. The account manager will be on-site as needed during the initial phase of the implementation. On-site time increases as we get closer to the election.

Task	Communication Plan
Point of Contact	The ES&S account manager will serve as the Cuyahoga County's point of contact throughout the life of the project.
Account Management	The ES&S account manager provides day-to-day coordination and interaction with Cuyahoga County personnel. The account manager serves as a single point of contact and control for management, coordination, and resolution for all project activities.

Task	Communication Plan
Status Reporting	The ES&S project manager supplies Cuyahoga County with regular implementation progress reports. These reports detail the work completed, scheduled tasks, milestones, and other related progress reports.
Status Meetings	Status meetings are on a regular basis, and are a review of the Work Plan, including items completed since the previous meeting and items to be completed prior to the next meeting. This discussion also includes a review of the party responsible for the task completion as well as any potential/foreseen roadblocks.
Contract Management	The assigned ES&S project manager is responsible for contract management.
Audits	It is the responsibility of both Cuyahoga County and the ES&S project manager to continuously audit the project as well as all items pertinent to the project.
Planning	Planning is a joint effort between Cuyahoga County and the ES&S account manager and is documented on the Work Plan.
Priorities	Priorities are agreed upon between Cuyahoga County and the ES&S account manager.
Service Request	Any needed service requests, both outside and inside of the contract scope, are discussed between Cuyahoga County and the ES&S project manager.

PROJECT MANAGEMENT: WHY ES&S?

ES&S prides itself in our long history of successful voting system implementations for nearly 40 years. We have carried out thousands of implementations of voting systems – projects of every size and complexity. Written plans and execution tools are important pieces of a successful implementation equation. However, project management know-how, and project managers and account managers who instinctively understand what must be done to achieve a trouble-free election, are what sets the ES&S project management approach apart from the rest. We will serve as a trusted partner to ensure successful Elections and continual support from the first use and beyond.

Should you choose ES&S, you can expect:

- A trusted and experienced partner in elections

- Customized implementation approach

- Project team led by PMP-credentialed staff who will work tirelessly to ensure a smooth and organized process during all phases of the project

- Support from first use and throughout the life of your voting system

- Successful elections from the first use and beyond

ES&S, as a leader in the elections industry, has implemented thousands of customers. We take every effort to ensure the implementation is a smooth process and that you, your staff, and Cuyahoga County will be fully prepared throughout each phase of the process.

APPENDIX B: ACCEPTANCE CHECKLISTS

ES&S EQUIPMENT INSTALLATION: DS200

Date: _____   Machine SN: _____   Certified Firmware: _____

Visual Inspection:

☐   Ensure that there are no scratches or gouges on any part of the unit

☐   Verify that all labels are placed in their appropriate place and in their correct orientation

☐   Ensure the Printer paper roll is installed in the Printer.

Physical Inspection:

☐   Apply AC to Wall Power Adapter. Connect Wall Power Adapter to the back of the unit and press the "POWER" button.

☐   Observe the rear LED, located next to the Wall Power Adapter Cord Connector, if the LED is amber and blinking slowly this indicates that the Battery Pack is charging. If the LED is a solid green, the Battery Pack is completely charged.
    o   Verify AC Plug Icon is present and does not have an "X" located in upper right corner of the screen.

☐   Enter the Touch Screen Calibration by pressing the "Close Polls" button for two seconds when prompted to do so at the Startup screen.
    o   Touch the two circles (one in the Upper Left Corner and one in the Lower Right Corner of the screen) and then touch the "Save & Exit" button.

☐   Verify the **DS200 Firmware Version is _____; PMB is _____; Scanner is _____** on Startup Printout.

☐   Insert the 512MB Flash Drive containing the Favorite Things Demo Election in USB port\B. When the unit recognizes the 512MB Flash Drive w/ Demo Election, the Election Icon will go from having an "X" to a green ✓ mark on it.

☐   Check the date and time on the top portion of the display to ensure the date and time is correct.
    o   If a change is needed, press the lower right arrow on the display screen then press the "go to admin button" and on the next screen enter the password.
    o   Go to "systems settings", "date and time" and then press date or time and a keyboard will come up so you can make changes. Press the "enter key". You will go back to the original screen where you will press previous and here you will "accept new time."

☐   Press the "OPEN POLLS" button on the screen to scan the Favorite Things Demo Ballots.

☐   Ensure that the test ballots scan in all four orientations.

☐   Insert the 2 Demo Ballots to check the Multi-Sheet Sensor. Two sheets should be rejected.

☐   Press and hold the "CLOSE POLLS" button for two seconds to close the polls.

☐   Verify that the Precinct Report Printout should read 4 ballots cast.

☐   Disconnect the Wall Power Adapter cord from unit.
    o   Unit should continue to operate, and the X should appear over the AC icon.

☐   Re-connect Wall Power Supply cord
    o   The X should disappear from the AC icon.

☐   Check Modem Operation. (If Unit is equipped with a Modem)

☐ Power down the unit by touching the "Shutdown" button on the Touch Screen.

☐ Verify that the Display switch operates correctly by completing the following:
- o With the Wall Power Adapter still connected to the unit, lower the Display to the closed position.
- o Raise the Display back to the opened position.
- o The unit should power back up.

Note: The Display switch will not operate if the Wall Power Supply cord has been removed.

☐ Verify all Locks and Doors have a smooth function and are locked.

ES&S EQUIPMENT INSTALLATION: DS850

Date: _____   **Machine SN:** _____   **Location:** _____

Visual Inspection:

☐ Insure that there are no scratches, or gouges on any part of the unit

☐ Labels in correct location and orientation

☐ Printer paper roll installed

Physical Inspection:

☐ Power up on D/C

☐ **Firmware Version _____ Power Management_____ Scanner _____**

☐ Rear LED and Power Icon check when A/C applied

☐ Display switch operation

☐ Date and time

☐ Touch Screen Calibration

☐ Election Icon

☐ OPEN POLLS

☐ Ballots scan in all four orientations (DAC and All-Fill)

☐ Multi-Sheet Sensor.

☐ CLOSE POLLS

☐ Precinct Report Printout, verify results

☐ Power down by Shutdown button on screen

☐ Locks and Doors have a smooth function and are locked.

Inspector: _____

ES&S EQUIPMENT INSTALLATION: EXPRESSVOTE

Date: _____ (Format: mm/dd/yy)   **Machine SN:** _____   **Location:** _____

Visual Inspection:

☐   Confirm that there are no scratches, or gouges on any part of the unit

☐   Labels in correct location and orientation

☐   Verify that the battery is installed

☐   Inspect all fasteners and plastic parts

Setup:

☐   Place the ExpressVote on level surface.

☐   Connect to A/C power

☐   Unlock left side access door, flip power switch to ON position

☐   Connect navigation keypad to RJ port near power switch

☐   Insert USB stick containing the EQC data and enter code when prompted

☐   Insert USB stick containing sample Election Data and enter code when prompted.

Print Testing:

☐   Insert a ballot activation card and begin voting following instructions on screen

☐   Insert additional activation cards to test each ballot configuration in the election.

☐   Review printed card for complete, dark print

☐   Reinsert voted card and review summary to confirm scanner is working properly

Audio Testing:

☐   Plug in audio headset to listen to audio

☐   Verify audio can be heard throughout the voting process

☐   Use the triangular navigation buttons to navigate the ballot

☐   Press the Repeat key, Tempo and volume buttons to confirm all operations.

☐   Activate all buttons to confirm navigation keypad is fully operational

Inspector: _____

Attach printed paper records from ExpressVote to this checklist.

ES&S EQUIPMENT INSTALLATION

CERTIFICATE OF COMPLETED ES&S EQUIPMENT INSTALLATION

The undersigned do hereby certify that the ES&S Equipment listed below has been installed under the criteria specified in the Agreement. Serial Numbers of respective Equipment are attached.

DS200 Units	**DS850 Units**	**ExpressVote Units**
Units Delivered	Units Delivered	Units Delivered
Units Installed	Units Installed	Units Installed

Firmware Version: _____

Customer: _____

Representative: _____
                         (Printed Name & Title)

_____
                         (Signature)

ES&S
Representative: _____
                         (Printed Name)

_____
                         (Signature)

Date: _____/_____/_____

APPENDIX C: SALES ORDER AGREEMENT

ES&S
ELECTION
SYSTEMS & SOFTWARE

11208 JOHN GALT BLVD
OMAHA, NE 68137-2364
(402) 593-0101

Sales Order Agreement

Customer P.O. #: _____

1st Election Date: To be Agreed Upon by the Parties

Estimated Delivery Date: To be Agreed Upon by the Parties

Customer Contact, Title: _____   Phone Number: _____

Customer Name: _____   Fax Number: _____

Type of Sale: ☐ **NEW**

Type of Equip: ☐ **NEW**   ☐ **REFURBISHED**

Bill To: _____   Ship To: _____

	Item	Description	Qty	Price	Total
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Freight Billable: yes ☐   no ☐

Order Subtotal | $ -
Discount | $ -
Order Total | $ -

_____   _____
Regional Sales Manager   Customer Signature   Date

Sales Order Agreement

_____		_____	
V.P. of Finance	Date	Title	

Special Notes:	
Payment Terms	100% of Order Total due Thirty (30) Calendar Days after the later of (a) Equipment Delivery, or (b) Receipt of Corresponding ES&S Invoice.
	Note 1: Any applicable state and local taxes are not included, and are the responsibility of the Customer.
	Note 2: In no event shall Customer's payment obligations hereunder, or the due dates for such payments, be contingent or conditional upon Customer's receipt of federal and/or state funds.
Warranty Period (Years):	One (1) Year After Equipment Delivery

Hardware Maintenance and Software License, Maintenance and Support Services (Post-Warranty Period)
The terms, conditions, and pricing for the Hardware Maintenance and Software License, Maintenance and Support Services (Post-Warranty Period) are set forth in Exhibit A attached hereto.

SEE GENERAL TERMS AND CONDITIONS

1. **Purchase/License Terms.** Subject to the terms and conditions of this Agreement, ES&S agrees to sell and/or license, and Customer agrees to purchase and/or license, the ES&S Equipment, ES&S Software and ES&S Firmware described on the front side of this Agreement. The ES&S Firmware and ES&S Software are collectively referred to hereinafter as the "ES&S Software." The payment terms for the ES&S Equipment and ES&S Software are set forth on the front side of this Agreement. Title to the ES&S Equipment shall pass to Customer when Customer has paid ES&S the total amount set forth on the front side of this Agreement for the ES&S Equipment. The consideration for ES&S' grant of the license during the Initial Term for the ES&S Firmware is included in the cost of the ES&S Equipment.

2. **Grant of Licenses.** Subject to the terms and conditions of this Agreement, ES&S hereby grants to Customer nonexclusive, nontransferable licenses for its bona fide full time, part time or temporary employees to use the ES&S Software and related Documentation in the Jurisdiction while Customer is using the ES&S Equipment and timely pays the applicable annual ES&S Software License, Maintenance and Support Fees set forth on Schedule A1. The licenses allow such bona fide employees to use and copy the ES&S Software (in object code only) and the Documentation, in the course of operating the ES&S Equipment and solely for the purposes of defining and conducting elections and tabulating and reporting election results in the Jurisdiction.

3. **Prohibited Uses.** Customer shall not take any of the following actions with respect to the ES&S Software or the Documentation:

a. Reverse engineer, decompile, disassemble, re-engineer or otherwise create, attempt to create, or permit, allow or assist others to create, the source code or the structural framework for part or all of the ES&S Software;

b. Cause or permit any use, display, loan, publication, transfer of possession, sublicensing or other dissemination of the ES&S Software or Documentation, in whole or in part, to or by any third party without ES&S' prior written consent; or

c. Cause or permit any change to be made to the ES&S Software without ES&S' prior written consent; or

d. Allow a third party to cause or permit any copying, reproduction or printing of any output generated by the ES&S Software (except finished ballots by ballot printers selected by Customer) in which ES&S owns or claims any proprietary intellectual property rights (e.g., copyright, trademark, patent pending or patent), including, but not limited to, any ballot shells or ballot code stock.

4. **Term of Licenses.** The licenses granted in Section 2 shall commence upon the delivery of the ES&S Software described in Section 2 and shall continue for a **one (1) year period** (the "Initial License Term). Upon expiration of the Initial License Term, the licenses shall automatically renew for an unlimited number of successive one-year periods (each a "License Renewal Term") upon the payment by Customer of the annual software license and software maintenance and support fee as set forth on the front side of this Agreement. ES&S may terminate either license if Customer fails to pay the consideration due for, or breaches Sections 2, 3, or 9 with respect to, such license. Upon the termination of either of the licenses granted in Section 2 for ES&S Software or upon Customer's discontinuance of the use of any ES&S Software, Customer shall immediately return such ES&S Software and the related Documentation (including any and all copies thereof) to ES&S, or (if requested by ES&S) destroy such ES&S Software and Documentation and certify in writing to ES&S that such destruction has occurred.

5. **Updates.** During the Initial License Term or any License Renewal Term, ES&S may provide new releases, upgrades or maintenance patches to the ES&S Software, together with appropriate Documentation ("Updates"), on a schedule defined by ES&S. Customer is responsible for obtaining any upgrades or purchases of Third Party Items required to operate the Updates as well as the cost of any replacements, retrofits or modifications to the ES&S Equipment which may be necessary in order to operate the Updates. All Updates shall be deemed to be ES&S Software for purposes of this Agreement upon delivery. Customer may install the Updates in accordance with ES&S' recommended instructions or may request that ES&S install the Updates. ES&S may charge Customer at its then-current rates to (i) install the Updates; (ii) train Customer on Updates, if such training is requested by Customer or (iii) provide maintenance and support on the ES&S Software that is required as a result of Customer's failure to timely or properly install an Update. Customer shall be responsible for any claim, damage, loss, judgment, penalty, cost, amount paid in settlement or fee which is caused by Customer's failure to install and use the most recent Update provided to it by ES&S. If Customer proposes changes in the ES&S Software to ES&S, such proposals will become ES&S' property. ES&S may, in its sole discretion, elect to make or not to make such changes without reference or compensation to Customer or any third party. ES&S represents to Customer that the Updates will comply with all applicable state law requirements at the time of delivery. Customer shall be responsible to ensure that it has installed and is using only certified versions of ES&S Software in accordance with applicable law. In the event that any Updates are required due to changes in state law, ES&S reserves the right to charge Customer for the following:

(i) the total cost of any third party items that are required in order to operate the Updates;

(ii) the total cost of any replacements, retrofits or modifications to the ES&S Equipment contracted for herein that may be developed and offered by ES&S in order for such ES&S Equipment to remain compliant with applicable laws and regulations; and

(iii) Customer's pro-rata share of the costs of designing, developing and/or certification by applicable federal and state authorities of such state mandated Updates.

Customer's pro-rata share of the costs included under subsection (iii) above shall be determined at the time by dividing the number of registered voters in Customer's jurisdiction by the total number of registered voters in all counties in Customer's state to which ES&S has sold and/or licensed the Equipment and/or Licensed Software purchased and licensed by Customer under this Agreement. Customer shall pay ES&S the entire costs incurred for design, development and certification of any Update which is required due to a change in local law or is otherwise requested or required by Customer.

6. **Delivery; Risk of Loss.** The Estimated Delivery Dates and First Election Use (if any) set forth on the front side of this Agreement are estimates and may only be established or revised, as applicable, by the parties, in a written amendment to this Agreement, because of delays in executing this Agreement, changes requested by Customer, product availability and other events. ES&S will notify Customer of such revisions as soon as ES&S becomes aware of such revisions. Risk of loss for the ES&S Equipment and ES&S Software shall pass to Customer when such items are delivered to Customer's designated location. Upon transfer of risk of loss to Customer, Customer shall be responsible for obtaining and maintaining sufficient casualty insurance on the ES&S Equipment and ES&S Software and shall name ES&S as an additional insured thereunder and, at ES&S' request, shall deliver written evidence thereof to ES&S until all amounts payable to ES&S under this Agreement have been paid by Customer.

7. **Warranty.**

a. **ES&S Equipment/ES&S Software.** ES&S warrants that for a **one (1) year period** (the "Warranty Period"), it will repair or replace any component of the ES&S Equipment or ES&S Software which, while under normal use and service: (i) fails to perform in accordance with its Documentation in all material respects, or (ii) is defective in material or workmanship. The Warranty Period will commence upon delivery. The Warranty shall not include the repair or replacement of any ES&S Equipment components that are consumed in the normal course of operating the ES&S Equipment, including printer ribbons, printer cartridges, paper rolls, batteries, removable media storage devices, PCMCIA cards or marking devices. Any repaired or replaced item of ES&S Equipment or ES&S Software shall be warranted only for the unexpired term of the Warranty Period. All replaced components of the ES&S Equipment or ES&S Software will become the property of ES&S. This warranty is effective provided that (I) Customer notifies ES&S within three (3) business days of the discovery of the failure of performance or defect and is otherwise in compliance with its obligations hereunder, (II) the ES&S Equipment or ES&S Software to be repaired or replaced has not been repaired, changed, modified or altered except as authorized or approved by ES&S, (III) the ES&S Equipment or ES&S Software to be repaired or replaced is not damaged as a result of accident, theft, vandalism, neglect, abuse, use which is not in accordance with instructions or specifications furnished by ES&S or causes beyond the reasonable control of ES&S or Customer, including acts of God, fire, floods, riots, acts of war, terrorism or insurrection, labor disputes, transportation delays, governmental regulations and utility or communication interruptions, and (IV) Customer has installed and is using the most recent update provided to it by ES&S. This warranty is void for any units of equipment which: (i) have not been stored or operated in a temperature range according their specifications, (ii) have been severely handled so as to cause mechanical damage to the unit, or (iii) have been operated or handled in a manner inconsistent with reasonable treatment of an electronic product. The terms of post-warranty license, maintenance and support are set forth on Exhibit A

b. **Exclusive Remedies/Disclaimer. IN THE EVENT OF A BREACH OF SUBSECTION 7(a), ES&S' OBLIGATIONS, AS DESCRIBED IN SUCH SUBSECTION, ARE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES. ES&S EXPRESSLY DISCLAIMS ALL WARRANTIES, WHETHER EXPRESS OR IMPLIED, WHICH ARE NOT SPECIFICALLY SET FORTH IN THIS AGREEMENT, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. FURTHER, IN THE EVENT CUSTOMER DECLINES ES&S' INSTALLATION AND ACCEPTANCE TESTING SERVICES OR IN ANY WAY AT ANY TIME ALTERS, MODIFIES OR CHANGES ANY EQUIPMENT, SOFTWARE, THIRD PARTY ITEMS AND/OR NETWORK (COLLECTIVELY "SYSTEM") CONFIGURATIONS WHICH HAVE BEEN PREVIOUSLY INSTALLED BY ES&S OR WHICH ARE OTHERWISE REQUIRED IN ACCORDANCE WITH THE CERTIFIED VOTING SYSTEM CONFIGURATION, ALL WARRANTIES OTHERWISE PROVIDED HEREUNDER WITH REPECT TO THE SYSTEM PURCHASED, LEASED, RENTED AND/OR LICENSED UNDER THIS AGREEMENT SHALL BE VOID AND OF NO FURTHER FORCE AND EFFECT.**

8. **Limitation Of Liability.** Neither party shall be liable for any indirect, incidental, punitive, exemplary, special or consequential damages of any kind whatsoever arising out of or relating to this Agreement. Neither party shall be liable for the other party's negligent or willful misconduct. ES&S' total liability to Customer arising out of or relating to this Agreement shall not exceed the aggregate amount to be paid to ES&S hereunder. By entering into this Agreement, Customer agrees to accept responsibility for (a) the selection of, use of and results obtained from any equipment, software or services not provided by ES&S and used with the ES&S Equipment or ES&S Software; or (b) user errors, voter errors or problems encountered by any individual in voting that are not otherwise a result of the failure of ES&S to perform. ES&S shall not be liable under this Agreement for any claim, damage, loss, judgment, penalty, cost, amount paid in settlement or fee that is caused by (y) Customer's failure to timely or properly install and use the most recent update provided to it by ES&S or (z) Customer's election not to receive, or to terminate, the Hardware Maintenance Services or the ES&S Software Maintenance and Support.

9. **Proprietary Rights.** Customer acknowledges and agrees as follows:

ES&S owns the ES&S Software, all Documentation and training materials provided by ES&S, the design and configuration of the ES&S Equipment and the format, layout, measurements, design and all other technical information associated with the ballots to be used with the ES&S Equipment. Customer has the right to use the aforementioned items to the extent specified in this Agreement. ES&S also owns all patents, trademarks, copyrights, trade names and other proprietary or intellectual property in, or used in connection with, the aforementioned items. The aforementioned items also contain confidential and proprietary trade secrets of ES&S that are protected by law and are of substantial value to ES&S. Customer shall keep the ES&S Software and related Documentation free and clear of all claims, liens and encumbrances and shall maintain all copyright, trademark, patent or other intellectual or proprietary rights notices that are set forth on the ES&S Equipment, the ES&S Software, the Documentation, training materials and ballots that are provided, and all permitted copies of the foregoing.

10. **Termination.** This Agreement may be terminated, in writing, at any time by either party if the other party breaches any material provision hereof and does not cure such breach within 30 days after it receives written notification thereof from the non-breaching party.

11. **Disputes.**

a. **Payment of Undisputed Amounts.** In the event of a dispute between the parties regarding (1) a product or service for which payment has not yet been made to ES&S, (2) the amount due ES&S for any product or service, or (3) the due date of any payment, Customer shall nevertheless pay to ES&S when due all undisputed amounts. Such payment shall not constitute a waiver by Customer or ES&S of any of its rights and remedies against the other party.

b. **Remedies for Past Due Undisputed Payments.** If any undisputed payment to ES&S is past due more than 30 days, ES&S may suspend performance under this Agreement until such amount is paid. Any disputed or undisputed payment not paid by Customer to ES&S when due shall bear interest from the due date at a rate equal to the lesser of one and one-half percent per month or the maximum amount permitted by applicable law for each month or portion thereof during which it remains unpaid.

12. **Assignment.** Except in the case of a reorganization of the assets or operations of ES&S with one or more affiliates of ES&S or the sale, transfer or assignment of all or substantially all of the assets of ES&S to a successor who has asserted its intent to continue the business of ES&S, neither party may assign or transfer this Agreement or assign, subcontract or delegate any of its rights, duties or obligations hereunder without the prior written consent of the other party hereto, such consent not to be unreasonably withheld or conditioned, nor unduly delayed.

13. **Compliance with Laws.** ES&S warrants to Customer that, at the time of delivery, the ES&S Equipment and ES&S Software sold and licensed under this Agreement will comply with all applicable

requirements of federal and state election laws and regulations that are mandatory and effective as of the Effective Date and will have been certified by the appropriate state authorities for use in Customer's state. The ES&S Equipment and ES&S Software, including all components will be provided to Customer with a hardened network for the election management software ("EMS"), in accordance with the guidelines of the United States Election Assistance Commission. During the Term of this Agreement, in the event Customer fails to maintain EMS in the hardened network or allows any internal or external access to the hardened network, Customer agrees to indemnify and hold harmless ES&S from and against any and all claims, damages, losses, liens, obligations, liabilities, judgments, assessed damages, costs, expenses (including reasonable attorney's fees) and the like arising out of or related to the Customer's breach of its obligations hereunder.

14. **Voting System Reviews.** In the event that the Jurisdiction or the State require any future reviews or examinations ("Reviews") of current or previous versions of state-certified ES&S voting systems or components thereof that are not otherwise required as a result of any changes or modifications voluntarily made by ES&S to the ES&S Software and/or ES&S Equipment licensed and sold hereunder, Customer shall be responsible for:

(i) Customer's pro-rata share of such Review costs;

(ii) Customer's pro-rata share of the costs of designing, developing, manufacturing and/or certification by applicable federal and state authorities of any mandated modifications to the ES&S Equipment and/or ES&S Software that may result from such Reviews; and

(iii) the total cost of any third party items that are required in order for the ES&S Equipment and/or ES&S Software to satisfy any new requirements resulting from such Reviews in order to remain certified;

Customer's pro-rata share of the costs included under subsections 14(ii) and 14(iii) above shall be determined at the time by dividing the number of registered voters in Customer's jurisdiction by the total number of registered voters in all counties in Customer's state to which ES&S has sold and/or licensed the ES&S Equipment and/or ES&S Software purchased and licensed by Customer under this Agreement.

15. **Entire Agreement.** This Agreement, including all exhibits hereto, shall be binding upon and inure to the benefit of the parties and their respective representatives, successors and assigns. This Agreement, including all Exhibits hereto, contains the entire agreement of the parties with respect to the subject matter hereof and shall supersede and replace any and all other prior or contemporaneous discussions, negotiations, agreements or understandings between the parties, whether written or oral, regarding the subject matter hereof. Any provision of any purchase order, form or other agreement which conflicts with or is in addition to the provisions of this Agreement shall be of no force or effect. In the event of any conflict between a provision contained in an Exhibit to this Agreement and these General Terms, the provision contained in the Exhibit shall control. No waiver, amendment or modification of any provision of this Agreement shall be effective unless in writing and signed by the party against whom such waiver, amendment or modification is sought to be enforced. No consent by either party to, or waiver of, a breach by either party shall constitute a consent to or waiver of any other different or subsequent breach by either party. This Agreement shall be governed by and construed in accordance with the laws of the State in which the Customer resides, without regard to its conflicts of laws principles. The parties agree that venue for any dispute or cause of action arising out of or related to this Agreement shall be in the state and federal courts of the United States located in the State in which the Customer resides. ES&S is providing equipment, software and services to Customer as an independent contractor, and shall not be deemed to be a "state actor" for purposes of 42 U.S.C. § 1983. ES&S may engage subcontractors to provide certain of the equipment, software or services, but shall remain fully responsible for such performance. The provisions of Sections 1-5, 7(b), 8, 9, 11(b), 12-15 these General Terms shall survive the termination of this Agreement, to the extent applicable.

EXHIBIT A
HARDWARE MAINTENANCE AND SOFTWARE LICENSE, MAINTENANCE AND SUPPORT
SERVICES
(POST-WARRANTY PERIOD)

ARTICLE I
GENERAL

1.   **Term; Termination.** This Exhibit A for Hardware Maintenance and Software License, Maintenance and Support Services shall be in effect for the coverage period as described in Schedule A1 (the "Initial Term"). Upon expiration of the Initial Term, this Exhibit A shall automatically renew for an unlimited number of successive **One-Year Periods** (each a "Renewal Period") until this Exhibit A is terminated by the first to occur of (a) either party's written election not to renew, which shall be delivered to the other party at least thirty (30) days prior to the end of the Initial Term or any Renewal Period, as applicable, (b) the date which is thirty (30) days after either party notifies the other that it has materially breached this Exhibit A, if the breaching party fails to cure such breach (except for a breach pursuant to subsection (e), which will require no notice), (c) the date which is thirty (30) days after ES&S notifies Customer that it is no longer able to procure replacement parts that may be needed in order to perform the Hardware Maintenance Services contemplated hereunder, (d) the date on which the Equipment or firmware installed thereon is no longer certified by federal and/or state authorities for use in Customer's jurisdiction, or (e) the date which is thirty (30) days after Customer fails to pay any amount due to ES&S under this Exhibit A. The termination of this Exhibit A shall not relieve Customer of its liability to pay any amounts due to ES&S hereunder and shall only entitle Customer to a prorated refund of any fees already paid to ES&S in the event that this is Exhibit A is terminated pursuant to subsection 1(c) or 1(d) above.

2.   **Fees.** In consideration for ES&S' agreement to provide Hardware Maintenance and Software License, Maintenance and Support Services under this Exhibit A, Customer shall pay to ES&S the Hardware Maintenance and Software License, Maintenance and Support Fees set forth on Schedule A1 for the Initial Term. The Hardware Maintenance and Software License, Maintenance and Support Fees for the Initial Term are due as set forth on Schedule A1. ES&S may increase the Hardware Maintenance and Software License, Maintenance and Support Fees for a Renewal Period by not more than 5% of the amount of the most recent Fees paid by Customer. All fees for any Renewal Period shall be due and payable no later than thirty (30) days prior to the beginning of such Renewal Period. The Software License, Maintenance and Support Fee shall be comprised of (i) a fee for the Software License, Maintenance and Support provided for the ES&S Firmware, and (ii) a fee for the Software License, Maintenance and Support provided for all other ES&S Software, and shall be in addition to any fees or charges separately referred to in any Section of this Exhibit A. If Customer elects to receive Software License, Maintenance and Support for an Add-On or New Product during the Initial Term or any Renewal Period thereof, ES&S will charge an incremental Software License, Maintenance and Support Fee for such services.

ARTICLE II
HARDWARE

1.   **Maintenance Services.** The Hardware Maintenance Services to be provided to Customer under this Agreement for the ES&S equipment set forth on Schedule A1 (the "Products") shall be subject to the following terms and conditions:

a.   **Routine Maintenance Services.** An ES&S Representative shall provide such services as may be necessary to keep the Products identified on Schedule A1 as **"Extended Warranty with Annual Maintenance"** Coverage and **"Extended Warranty with Biennial Maintenance"** Coverage working in accordance with their Documentation, normal wear and tear excepted ("Normal Working Condition"). The services provided by ES&S pursuant to this Subsection 1(a) are referred to herein as "'Routine Maintenance Services. Routine Maintenance Services shall be provided once each **Twelve (12) Months** during the Initial

Term or any renewal thereof for those hardware products identified as "**Extended Warranty with Annual Maintenance**" Coverage on Schedule A1. Generally, Routine Maintenance Services shall include cleaning, lubrication, diagnostic check, and calibration services. An ES&S Representative shall provide such services as may be necessary to keep the Products in Normal Working Condition ('Routine Maintenance Services") once each **Twenty-Four (24) Months** during the Initial Term or any renewal thereof for those hardware products identified as **"Extended Warranty with Biennial Maintenance"** Coverage on Schedule A1. The Routine Maintenance Services shall not include the repair or replacement of any ES&S Equipment components that are consumed in the normal course of operating the Equipment, including, but not limited to, printer ribbons, printer cartridges, paper rolls, batteries, removable media storage devices, PCMCIA cards or marking devices. Customer may request that Routine Maintenance Services be performed more than once during the Initial Term or any Renewal Period. Any such request shall be made at least sixty (60) days before the Routine Maintenance Services are desired. The per-unit fee for such additional Routine Maintenance Services is set forth on Schedule A1 and shall be due within thirty (30) days after invoice date. ES&S will schedule the Routine Maintenance Services with Customer. The Routine Maintenance Services will be provided at Customer's Designated Location. Customer's "Designated Location" shall mean Customer's owned or leased facility at which Customer desires ES&S to perform the Hardware Maintenance Services.

b. **Repair Services.**

i. **Defects Under Normal Use and Service.** If a defect or malfunction occurs in any Product while it is under normal use and service, Customer shall promptly notify ES&S, and ES&S shall use reasonable efforts to restore the item to Normal Working Condition as soon as practicable. The services provided by ES&S pursuant to this Subsection 1(b)(i) are referred to herein as "Repair Services". ES&S will perform Repair Services in conjunction with a Routine Maintenance Service event at the Customer's Designated Location.

ii. **Defects Due to Customer Actions or Omissions.** If a defect or malfunction occurs in any Product as a result of (1) repairs, changes, modifications or alterations not authorized or approved by ES&S, (2) accident, theft, vandalism, neglect, abuse or use that is not in accordance with instructions or specifications furnished by ES&S or (3) causes beyond the reasonable control of ES&S or Customer, including acts of God, fire, flooding, riots, acts of war, terrorism or insurrection, labor disputes, transportation delays, governmental regulations, and utility or communication interruptions, rodent infestation, or if Customer does not notify ES&S within 72 hours after it knows of the defect or malfunction, Customer shall pay ES&S for the Repair Services at ES&S' then-current rates, as well as for the cost of all parts used in connection with such Repair Services.

iii. **Timing.** The date(s) on which any Repair Services shall be provided shall be mutually agreed upon by ES&S and Customer. If Customer requires ES&S to provide "emergency" Repair Services (which shall be defined as Repair Services that are provided by ES&S within 48 hours after Customer notifies ES&S of the need therefore), and such emergency Repair Services are not needed as a result of an action, error or omission by ES&S, Customer shall pay a surcharge, as set forth on Schedule A1.

iv. **Loaner Unit.** At Customer's request and if such product is available, ES&S shall use reasonable efforts to promptly make available to Customer a product that is the same as, or substantially similar to, the Product for which Repair Services are being performed (a "Loaner Unit"). If the Repair Services are being performed pursuant to Subsection 1(b)(ii) above, Customer shall pay ES&S for the use of the Loaner Unit at ES&S' then-current rates including the cost of shipping.

c.   **Exclusions.** ES&S has no obligation under this Agreement to (i) assume the obligations under any existing or expired warranty for a Third Party Item; (ii) repair or replace Product components that are consumed in the normal course of operating the Product, including, but not limited to, printer ribbons, printer cartridges, paper rolls, batteries, removable media storage devices, PCMCIA cards or marking devices, or (iii) repair any Product from which the serial number has been removed or altered. In addition, ES&S may, at any time in its discretion, determine that any Product is no longer fit for Hardware Maintenance Services because it is in such poor condition that it cannot practically be restored to Normal Working Condition, or cannot be restored to Normal Working Condition at an expense that is less than the then-current value of the Product. If such a determination is made, ES&S shall no longer be required to provide Hardware Maintenance Services for such Product. ES&S shall also refund to Customer an amount equal to (1) that portion of the most recent fee paid for Hardware Maintenance Services that is attributable to such Product, multiplied by (2) a fraction, the numerator of which is the remaining number of days in the respective period within the Initial Term or Renewal Period for which such fee was paid and the denominator of which is the total number of days in the respective period within such Initial Term or Renewal Period.

d.   **Sole Provider; Access.** Customer shall not permit any individual other than an ES&S Representative to provide maintenance or repairs with respect to the Products for so long as the Initial Term or any Renewal Period is in effect. Customer shall provide ES&S Representatives with all information necessary to enable them to provide Hardware Maintenance Services. Customer shall likewise provide full access to the Products and adequate working space for all Hardware Maintenance Services performed at its Designated Location, including sufficient heat, lights, ventilation, electric current and outlets.

e.   **Environmental Conditions.** Products should be stored in a clean, dry and secure environment. During the storage and operation of the Products, the temperature and moisture ranges should be maintained in accordance with the Products' Documentation.

f.   **Reinstatement of Hardware Maintenance Services; Inspection.** If the Initial Term or any Renewal Period thereof expires without being renewed, Customer may thereafter resume receiving Hardware Maintenance Services upon (a) notification to ES&S and (b) the granting to ES&S of access to the Products. ES&S requires Customer to allow it to inspect such Products before it provides any Hardware Maintenance Services. The purpose of such inspection shall be to determine whether or not the Products are in Normal Working Condition. The cost of such inspection will be at ES&S' then current rates and shall be due from Customer within thirty (30) days of its receipt of ES&S' invoice therefore. If any of the Products is not in Normal Working Condition, ES&S, at the option of Customer, (i) shall provide such repairs and replacements as it deems reasonable and necessary to restore such item to Normal Working Condition, at Customer's expense with respect to the cost of any labor (charged at ES&S' then current rates) and parts used in such repairs or replacements, or (ii) shall not provide any Hardware Maintenance Services with respect to such Product(s).

ARTICLE III
SOFTWARE LICENSE, MAINTENANCE AND SUPPORT SERVICES

1.   **License and Services Provided.** ES&S shall provide license, maintenance and support services ("Software License, Maintenance and Support") for the ES&S Software and ES&S Firmware (collectively, "ES&S Software"), to allow Customer to continue to license and use the software in accordance with the license terms set forth in Sections 2-4 of the General Terms as well as to enable it to perform in accordance with its Documentation in all material respects, and to cure any defect in material or workmanship. The specific Software License, Maintenance and Support services provided by ES&S and each party's obligations with respect to such services are set forth on Schedule A1.

2.   **Updates.** During the Initial Term and any Renewal Period thereof, ES&S may continue to provide Updates in accordance with the terms of Section 5 of the General Terms.

3.   **Conditions.** ES&S shall not provide Software License, Maintenance and Support for any item of ES&S Software if such item requires such services as a result of (a) repairs, changes, modifications or alterations not authorized or approved by ES&S, (b) accident, theft, vandalism, neglect, abuse or use that is not in accordance with instructions or specifications furnished by ES&S, (c) causes beyond the reasonable control of ES&S or Customer, including acts of God, fire, flooding, riots, acts of war, terrorism or insurrection, labor disputes, transportation delays, governmental regulations and utility or communication interruptions, (d) Customer's failure to timely and properly install and use the most recent update provided to it by ES&S, or (e) Customer's failure to notify ES&S within three (3) business days after Customer knows of the need for such services. Any such Software License, Maintenance and Support shall be provided at the fees to be agreed upon by the parties if and when the need for such Software License, Maintenance and Support arises. Replacement versions of Software requested by Customer as a result of items set forth in this Section 3 or as a result of Customer's actions or inactions shall be billable to Customer at ES&S' then current rates.

4.   **Proprietary Rights.** ES&S shall own the entire right, title and interest in and to all corrections, programs, information and work product conceived, created or developed, alone or with Customer or others, as a result of or related to the performance of this Exhibit A, including all proprietary rights therein or based thereon. Subject to the payment of all Software License, Maintenance and Support Fees, ES&S hereby grants to Customer a non-exclusive license to use that portion of such corrections, programs, information and work product that ES&S actually delivers to Customer pursuant to this Exhibit A. All licensed items shall be deemed to be ES&S Software for purposes of this Exhibit A. Except and to the extent expressly provided herein, ES&S does not grant to Customer any right, license, or other proprietary right, express or implied, in or to any corrections, programs, information, or work product covered by this Exhibit A.

5.   **Reinstatement of Software License, Maintenance and Support.** If the Initial Term or any Renewal Period thereof expires without being renewed, Customer may thereafter receive a Software License and resume receiving Software Maintenance and Support upon (a) notification to ES&S, (b) payment of all fees, which would have been due to ES&S had the Initial Term or any Renewal Period not expired, and (c) the granting to ES&S of access to the ES&S Software, so that ES&S may analyze it and perform such maintenance as may be necessary before resuming the Software License, Maintenance and Support services.

Schedule A1
Pricing Summary

Summary:		
Description	**Refer To**	**Amount**
ES&S Hardware Maintenance Fees	ES&S Hardware Maintenance Description and Fees Below	
ES&S Software License, Maintenance and Support Fees	ES&S Software License, Maintenance and Support Description and Fees Below	
ES&S Firmware License, Maintenance and Support Fees	ES&S Firmware License, Maintenance and Support Description and Fees Below	
Total Maintenance Fees for the Initial Term:		
Payment Terms: ES&S shall Invoice Customer annually for each year of the Initial Term. Payment is due before the start of each period within the Initial Term.		
Terms & Conditions:		
Note 1: Any applicable state and local taxes are not included, and are the responsibility of Customer.		
Note 2: In the event the Customer subsequently acquires any ES&S Equipment and or ES&S Software, the post warranty maintenance and support periods will be adjusted to synchronize the dates in order to conform with the current term.		

ES&S HARDWARE MAINTENANCE DESCRIPTION AND FEES

Initial Term: Expiration of the Warranty Period through the ***** anniversary thereof

Qty	Description	Coverage Period	Annual Maintenance Fee Per Unit	Maintenance Fee In Total
	(Extended Warranty with Annual Maintenance)	Year 1		
	(Extended Warranty with Biennial Maintenance)	Year 1		
Total Maintenance Fees for the Coverage Period *** through ***** or Year 1**			██████	
	(Extended Warranty with Annual Maintenance)	Year 2		
	(Extended Warranty with Biennial Maintenance)	Year 2		
Total Maintenance Fees for the Coverage Period *** through ***** or Year 2**			██████	
	(Extended Warranty with Annual Maintenance)	Year 3		
	(Extended Warranty with Biennial Maintenance)	Year 3		
Total Maintenance Fees for the Coverage Period *** through ***** or Year 3**			██████	
Total Hardware Maintenance Fees for the Initial Term				

Note 1: The Per-Unit Fees if Customer requests more than one Routine Maintenance visit in a 12-month period for "Extended Warranty with Annual Maintenance" Coverage Items shall be 55% of the then current maintenance fee per unit. The Per-Unit Fees if Customer requests more than one Routine Maintenance visit in a 24-month period for "Extended Warranty with Biennial Maintenance" Coverage Items shall be 75% of the then current maintenance fee per unit.

Note 2: Surcharge for Emergency Repair Services shall be the daily maintenance service rate in effect at the time such service is requested.

Note 3: Customer's Designated Location:

Note 4: The Per Unit Surcharge for performance of Routine Maintenance visit at more than one Customer Designated Location shall be $25.00 per unit for all units located at second or more locations.

Hardware Maintenance Services Provided by ES&S Under this Schedule A1

1. Telephone Support.

2. Issue Resolution.

3. Technical Bulletins will be available through Customer's ES&S Web-based portal.

4. Routine Maintenance Services.

- Onsite scheduled maintenance inspection per Article II, Section 1(a). The Inspection includes:

    o Service performed by an ES&S trained and certified technician.

    o Performance of factory approved diagnostics on the unit, identifying and making adjustments where necessary as indicated by the testing.

    o Replacement of worn or defective parts with new or remanufactured federally and state certified parts.

    o Conducting a final test to verify that the unit is working according to manufacturer's specifications.

    o Use of a checklist tailored for each piece of ES&S Equipment.

5. Repair Services.

    - Customer will receive coverage for interim repair calls.

        o Interim repair calls may be provided during a scheduled Routine Maintenance Services event or scheduled in conjunction with other service work being performed in close proximity to Customer's location if such repairs are not election critical.

        o A Product may be sent to ES&S' Depot location for repairs at a time to be mutually agreed upon by ES&S and Customer.

6. Priority Services.

    - Customer has access to the ES&S Help Desk for assistance.
    - The customer receives priority on service calls.
    - The customer receives priority on response time.
    - The customer receives priority on certified ES&S parts inventory.

Note: Except for those Hardware Maintenance Services specifically set forth herein, ES&S is under no obligation and shall not provide other Hardware Maintenance Services to the Customer unless previously agreed upon in writing by the parties.

ES&S SOFTWARE LICENSE, MAINTENANCE AND SUPPORT DESCRIPTION AND FEES
SOFTWARE

Initial Term: Expiration of the Warranty Period through the ********* anniversary thereof

Listed below is the Software and Fees for which Software License, Maintenance and Support will be provided:

Qty	Description	Coverage Period	Software License, Maintenance and Support Fee In Total
		Year 1	
		Year 1	
Total License, Maintenance and Support Fees for the Coverage Period ***** through ***** or Year 1	███████████	
		Year 2	
		Year 2	
Total License, Maintenance and Support Fees for the Coverage Period ***** through ***** or Year 2	███████████	
		Year 3	
		Year 3	
Total License, Maintenance and Support Fees for the Coverage Period ***** through ***** or Year 3	███████████	
Total Software License, Maintenance and Support Fees for the Initial Term		

ES&S SOFTWARE LICENSE, MAINTENANCE AND SUPPORT DESCRIPTION AND FEES
FIRMWARE

Initial Term: Expiration of the Warranty Period through the ********* anniversary thereof

Listed below are the Hardware Products and Fees for which Firmware License, Maintenance and Support will be provided:

Qty	Description	Coverage Period	Annual Firmware License, Maintenance and Support Fee Per Unit	Firmware License, Maintenance and Support Fee In Total
		Year 1		
		Year 1		
		Year 1		
Total License, Maintenance and Support Fees for the Coverage Period ***** through ***** or Year 1		███████████	

Qty	Description	Coverage Period	Annual Firmware License, Maintenance and Support Fee Per Unit	Firmware License, Maintenance and Support Fee In Total
		Year 2		
		Year 2		
		Year 2		
Total License, Maintenance and Support Fees for the Coverage Period ***** through ***** or Year 2			■■■■■	
		Year 3		
		Year 3		
		Year 3		
Total License, Maintenance and Support Fees for the Coverage Period ***** through ***** or Year 3			■■■■■	
Total Firmware License, Maintenance and Support Fees for the Initial Term				

Software License, Maintenance and Support Services Provided by ES&S under the Agreement

1. Telephone Support.

2. Issue Resolution.

3. Technical Bulletins will be available through Customer's ES&S Web-based portal.

Note: Except for those Software License, Maintenance and Support services specifically set forth herein, ES&S is under no obligation and shall not provide other Software License, Maintenance and Support services to the Customer unless previously agreed upon by the parties.

Software License, Maintenance and Support and Hardware Maintenance and Support Services – Customer Responsibilities

1. Customer shall have completed a full software training session for each product selected.

    - Customer shall have completed training at a proficiency level to successfully use the hardware (firmware) and software products.

    - Customer shall have the ability to install firmware and application software and make changes to date and time settings.

    - Customer shall have the ability to change consumable items. Any other changes made by the customer must be pre-approved in writing by ES&S.

2. Customer shall have reviewed a complete set of User Manuals.

3. Customer shall be responsible for the installation and integration of any third-party hardware or software application or system purchased by the Customer, unless otherwise agreed upon, in writing, by the parties.

4. Customer shall be responsible for data extraction from Customer voter registration system.

5. Customer shall be responsible for implementation of any security protocols physical, network or otherwise which are necessary for the proper operation of the ES&S Equipment and ES&S Software.

6. Customer shall be responsible for the acceptance of the Equipment and Software, unless otherwise agreed upon, in writing, by the parties.

7. Customer shall be responsible for the design, layout, set up, administration, maintenance or connectivity of the Customer's network.

8. Customer shall be responsible for the resolution of any errors associated with the Customer's network or other hardware and software not purchased or recommended by ES&S and not otherwise identified in the User Guides as part of ES&S' Equipment and Software.

9. Customer shall be responsible for all costs associated with diagnosing ballot printing problems resulting from the use of non-ES&S Ballot Partner Printers ballots.

10. Customer shall be responsible for the payment of additional or replacement Software CDs or DVDs requested by Customer. The price for such additional or replacement Software CDs or DVDs shall be at ES&S' then current rates.

APPENDIX D: L&A TESTING PROCEDURES

DS200 L&A Procedures

Precinct: _____

Protected Count Number at end of test: _____

Technician: _____   **Date of Test:** _____

DS200 Serial #:_____

Visual Inspection & Documentation:
- ☐ You will need the following items: barrel key, flat key, Qualify flash drive, Election Data flash drive, your test deck with regular and Express Vote ballots, seals, new roll of print paper, Isopropyl alcohol and a can of pressurized air.
- ☐ Inspect the physical structure of unit for potential problems.
- ☐ Inspect ballot bin to verify the bin is empty and free of any ballots or extensions cords.
- ☐ Document the precinct, your name, and the DS200 Serial # in the box above prior to starting the test. The Protected Count and Seal Numbers will be documented later.

Physical Inspection:
- ☐ Plug in AC power adapter to the outlet and make sure the power strip is turned on.
  - o Observe the rear LED, located next to the Wall Power Adapter Cord Connector, is amber and blinking to indicate that the Battery Pack is charging. If the LED is solid green, the Battery Pack is completely charged
- ☐ Open lid of the DS200 clamshell and unlock and lift the DS200 screen.
- ☐ The machine should turn on automatically once the screen is lifted if connected to electrical power. If the machine did not turn on, open the access door and press the "**POWER**" button.
  - o Verify the AC Plug Icon is present in the upper right-hand corner of the touch screen and does not have a battery icon
- ☐ Insert the Qualify flash drive to Clear and Initialize the DS200 into Port B
  - o Press the Continue button
  - o Enter the Qualification code. (Qualify1)
  - o When the "Initialize Complete" screen appears, remove the Qualify flash drive
- ☐ Insert the flash drive containing the Election Data in Port B
  - o Enter the Election Code. (Election1)
  - o When the unit recognizes the flash drive with the Election Data, the Election Icon will go from having an "**X**" to a checkmark "✔"

- ☐ Press the "**Admin Shield**" on the display screen then press the "**Log In**" button.
  Enter the Admin password on the next screen (Admin001)
- ☐ Select System settings
- ☐ Enter the Touch Screen Calibration by pressing the "**Calibrate Touch Screen**" button
  - o Touch the two circles (one in the upper left corner and one in the lower right corner of the screen) and then press the "**Save & Exit**" button
  - o Then "**Date & Time Options**".

- If you need to change the date, select "**Change Date**", select the new date, then select "**Apply**" and then "**Back**".
- If you need to change the time, select "**Change Time**", select the Hour, Minute or AM/PM and use the up/down arrows to make changes. To save the time, select "**Apply**" and then "**Back**".
- If you need to change the time zone, select "**Change Time Zone**", select the Chicago Timezone, then select "**Apply**" and then "**Back**".
- Press "**Apply**", then press "**OK**" on the "**Successful!**" screen.
- Press "**Logout**" and then "**Exit**" (both on the lower right)
☐ Press the "**OPEN POLLS**" button on the screen to scan the test ballots. Press the "**Go to Voting Mode**" button

Zero Report:
☐ Ensure that the public count and that all candidate totals on the printed tape are zeros.

Test Ballots

Run the test deck:
☐ Scan all test deck ballots for the specific precinct being tested
 ○ Verify that the Precinct Report Printout matches the test deck plan totals. The results must be identical. Contact the election office if you have any discrepancies.

Run the test deck:
☐ Insert the ballots into the DS200 in all 4 orientations. (Front-Top, Front-Bottom, Back-Top, Back-Bottom)
☐ Insert the ballot marked **blank** into the DS200. The ballot will be held while the screen shows you that the ballot is blank.
☐ Insert the ballot marked **overvote** into the DS200. The ballot will be held while the screen shows you that there are overvoted races.
 ○ The scanner must query the voter for any ballot that includes an overvoted race. Review the screen which will display the races that were overvoted. Select the **Cast** button to go ahead and cast the ballot.
☐ Insert all ballots marked by **ExpressVote** into the DS200.
☐ Insert two test ballots stacked atop each other to test the **multi-sheet** Sensor. Both ballots should be rejected if the sensor is operating correctly.
☐ Ensure the **"Public Count"** corresponds with the number of ballots you tested in the machine.
☐ Press and the "**CLOSE POLL**" button to close the polls. Press the "**Close Poll**" button on the touch screen to confirm closing polls.
☐ Verify that the Precinct Report Printout matches the test deck plan totals. The results must be identical. Contact the election office if you have any discrepancies.
☐ Verify that the write-in images correctly printed on the results tape for both the regular and the Express Vote ballots.
☐ Document your protected count number in the box on page 1.
☐ Power down the unit by touching the "**Finish and Turn Off**" button on the touch screen.
☐ Wait for the unit to power down completely. The screen will move through several different images as the unit powers down. The screen should be completely dark and the red light on the Power button inside the access door should not be lit when you remove the memory stick.

- ☐ Open front door of the ballot box using your flat key and remove the test ballots. Make sure you have both the regular ballots as well as the smaller Express Vote ballots.
- ☐ Bring the flash drive to the Election Office for uploading of that precinct's public test results. Once the Election Office uploads have been done, the Election Office will return the memory stick to you.
- ☐ Insert the Election flash drive back into Port B of the correct precinct's DS200 and press the Power button to turn the machine on. (Refer to the flash drive log for reference with matching flash drive to precincts. **The precinct name listed on the screen of the DS200 when you put the flash drive in should match the cart you have the machine on.**)

Clearing Votes & Setting for Election:
- ☐ When the machine boots back up, perform the following steps:
    - ○ When prompted, enter the Election Code. (Election1)
    - ○ Select "**Re-Open Poll**" and enter the Override code. (Overrride1)
    - ○ Select "**Clear Votes**" and then "**Clear Votes and Continue**"
    - ○ Select "**Report Options** "and then Select **"Zero Report**" and "**Print"**
    - ○ Select "**Cancel**" to return to the main screen.
    - ○ Select the Admin shield in the upper right corner.
    - ○ Log in using the Admin password (Admin001)
    - ○ On the left side, select "**Access Code Bypass**".
    - ○ Select "**Edit**" and select "**Enable**", and then select the "**Apply**" button.
    - ○ Select "**Log Out**", and then "**Exit**" to return to the main screen.
    - ○ On the left side, select "**Don't Open-Turn off**".
    - ○ Place new roll of print paper in thermal printer compartment.
    - ○ Use pressurized canned air under black tray to clear paper dust.
    - ○ Open the rear access compartment and wipe down transport with Isopropyl alcohol wipe.
    - ○ Wait for the unit to power down completely and lock the access door using your barrel key.
    - ○ Clean touch screen with Isopropyl alcohol wipe.
    - ○ Place a blue tamper evident seal over the access door crease.
- ☐ Close the DS200 screen and lock it down using your flat key. Close, latch, and lock the hydraulic clamshell lid.

EXPRESSVOTE L&A

Precinct: _____

Technician: _____ **Date of Test:** _____

Express Vote Serial #: _____

Visual Inspection & Documentation:

☐ You will need the following items: barrel key, Qualify flash drive, Election Data flash drive, blank Express Vote ballots, headphones and Isopropyl wipes.

☐ Inspect the physical structure of unit for any potential problems.

☐ Document all items in the box above prior to starting the test.

Official Mode

☐ With unit in **"Official Mode"** Insert the Qualify flash drive (EQC) in Port B and enter the "Clear and Initialize" Qualification password (Qualify1) and press **Accept.** Press **Clear and Initialize**. Remove flash drive when initialization is complete.

☐ Insert the flash drive containing the Election Data in Port A and enter the Election password (Election1) when prompted and select **OK**.

☐ Press "Battery Status" button. Verify: Battery Status reads "**External**"/ Battery Strength reads "**Good**"/ Charge Level reads "**Fully Charged.**" Press **Exit**.

☐ Press "Calibrate touch screen" and follow instructions on the screen to calibrate touch screen.

☐ Check date and time in the upper right corner of the screen.

　　o If a change is needed, select **System Maintenance** and enter the Admin password (Admin).

　　o Select **Set Time Zone/Date/Time**. Check and verify they are correct. If date or time need to be changed, Select **Clear**, enter new date/time and select **Apply.** Select **Exit** (you will reboot later to finalize change).

☐ Switch Mode to "**Voter**" within the access door.

Visual & Touchscreen Checks:

Insert a blank ballot, and without marking the ballot perform the following steps:

☐ Verify that all the buttons on the navigation bar at the bottom of the touchscreen function.

☐ Verify the correct office headings, number to vote for and candidate names appear on the screen.

☐ Select/de-select each voting position in each race.

☐ Verify that the over-vote and under-vote functions are programmed correctly.

Audio Ballot/Keypad – Use the headphones and keypad:

☐ Plug in the headphones and listen for the prompts.

☐ Use the keypad and verify all buttons emit a beep when pressed, and are functioning correctly. (Screen, Up, Back, Select, Forward, Repeat, Down, Tempo -/+, Home, Pause, Volume –/+)

☐ Verify the correct audio for office headings, number to vote for and candidate names is stated.

☐ Select/de-select each voting position in each race.

☐ Verify that the over-vote and under-vote functions are programmed correctly.

Voting your test ballot:

☐ Mark a ballot on the Express Vote.

☐ Review printed ballot to ensure that your selections printed correctly.

☐ Reinsert your voted ballot and review the summary to confirm the scanner is working properly.

☐ Place your voted Express Vote ballot with the rest of the test deck for that precinct. These ballots will be tabulated on the DS200 later. **This ballot generated by the Express Vote will be an addition to your test deck and NOT a replacement.**

☐ Switch unit off by Power switch to "**Off**" and lock the access door using the barrel key.

☐ Clean touch screen with Isopropyl wipes.

Central Count Logic and Accuracy Testing Certification

Date: _____   Machine SN: _____

Polling Location: _____   Initials: _____

Pre-testing Checklist:

☐ USB Flash Drives - EQC Media, Central Count Media

☐ 1 Set of keys

☐ Premarked Test Deck Ballots, spreadsheet with expected results

☐ Marked ExpressVote Cards, make sure these are added to expected results

Setup:

☐ Open side door and turn on unit

☐ Insert the EQC Media after the unit boots up

☐ Enter EQC code when prompted

☐ Verify the Election Name. If correct, press Clear and Initialize

☐ Remove the EQC stick when prompted

☐ Insert Central Count Media containing Election Data

☐ Enter Election code when prompted, follow all on screen instructions, verify the input and output trays are set for your ballot length

☐ You will need to go into the Configuration menu and set your bin sorting and bin reports,

☐ Print and Verify Zero report(s) If correct, press Go to Scanning mode

Testing:

☐ Run all Paper ballots, including the ExpressVote cards in the test deck through the scanner

☐ Once scanning is completed, insert blank ES&S stick and go to Results, select export files

☐ Print a Results report and verify results match your expected results.

☐ Read results into ERM Reporting Software.

☐ Verify results are correct

Inspector Signature: _____

MARKETING MATERIALS

Enhancing Elections in
WILSON COUNTY

Upgrading voting technology can be a daunting task. The varied needs of election officials make it necessary for systems to multitask, now and in the future. For Wilson County, Tennessee, the ExpressVote and DS200 provided a viable, secure and flexible solution for this year's election cycle and beyond.

With a reputation for some of the best-run elections in Tennessee, the Wilson County Election Commission took the job of finding new voting technology quite seriously. An Election Systems & Software (ES&S) customer since 2006, their iVotronics were aging and a viable replacement would soon be needed. Realizing customer needs had changed, ES&S worked diligently to get the ExpressVote® Universal Voting System certified in the State of Tennessee, providing Wilson County with an enhanced voting solution. After extensive testing along with the DS200® precinct scanner, Wilson decided to extend their partnership with ES&S and purchase visionary voting solutions. During their August 4 Primary, which marked their first use of the ExpressVote and DS200, both poll workers and voters experienced a simplified Election Day while enjoying the extra security of verifiable paper records and streamlined polling place procedures.

CHALLENGES

- **Quick implementation.** Wilson County faced a quick turnaround period for implementation. Within eight weeks, poll workers were trained and equipment was delivered, tested and deployed for the August Primary.

- **No major adjustments for voters.** Wilson County wanted to ensure voters were able to exercise their right to vote without added complication or confusion during the Primary.

- **New Election Day/Night procedures.** New processes for opening and closing the polls were necessary and poll workers needed to be trained to enable the new voting solutions to work seamlessly on Election Day.

SOLUTIONS

- **Familiar interface + added security.** Wilson County voters were already familiar with touch screen voting. Their printed vote records allowed them a last minute review before casting their vote.

- **Streamlined poll place opening/closing.** The easy set-up requirements for both the ExpressVote and DS200 empowered many poll workers. Poll places were opened and ready for voters in less time without requiring troubleshooting calls to Election Central. Poll workers also enjoyed simple closing procedures and a single memory stick to keep track of.

- **Ease on Election Night.** Unofficial results were reported faster as less memory sticks were needed for uploads (one per precinct). Absentee and provisional ballot processing was also streamlined.

- **Platform for the future.** Phillip Warren, Administrator of Elections, remarked "We try to improve on the processes already in place. We try to be proactive and think ahead — everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote."

- **Setting the standard.** With their successful implementation during the August Primary, Wilson County hopes other jurisdictions take the step forward to enhance their elections with new technology.

Selecting a new system

During evaluation, Wilson County conducted 17 large school elections comparing the performance of the ExpressVote and DS200 configuration with the iVotronics. At one of the school elections in particular, 1700 votes were cast in less than 2 hours! Due diligence was important as the Elections Commission wanted to ensure they were wisely spending taxpayer funds on the best system available for Wilson County voter needs.

Ultimately, Wilson selected the ExpressVote and DS200. Finding the overall system attractive, Phillip and Tammy noted benefits such as:

• User friendliness
• Paper records adding clear voter intent
• Ease of mind having a paper back-up
• Attractive system from an administrative standpoint
• Flexibility for future needs

The County wanted to ensure voters and poll workers would quickly be able to utilize the new system during their August Primary. The familiar interface made this possible as voters were used to the look and feel of going up to a touch screen and inserting a card (think a trip to the ATM). Wilson simply swapped a debit card with an Activation Card.

Wilson County also appreciated the human component of ES&S. During the development of the ExpressVote, ES&S conducted focus groups that Wilson participated in where actual suggestions and needs that counties brought up were incorporated.

"What I liked about ES&S is that they listened. They took a lot of our ideas that we had in the small group and they implemented them and came back with a new product" Tammy Smith, Assistant Administrator, commented. "During a visit after that, we told them we were looking for products and couldn't find them. The next time we saw them, they brought us a catalog!"

"Everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote."

- Phillip Warren, Administrator of Elections

Changes for poll workers

Technology has been integrated with all systems, causing a shift in the demographics for poll workers. Outside of their partnerships with local high schools who provide student poll workers, many of the older poll workers are technologically savvy ones. Wilson County requires potential poll workers to go online and fill out their application, the first step towards showing tech literacy. With new skill sets required, it has opened the field to a wider and more capable pool of poll workers and decreased many of the minor tech support issues counties can face when workers aren't familiar with updated systems. The county believes more people will now want to serve as poll workers thanks to the lighter equipment and easy opening and closing procedures.

In light of this, Wilson County makes sure that updated technology isn't a barrier for those looking to serve yet not matching the required skill set level. "We try to configure our poll place system in a way that if they aren't good with computers we can find a place for them if possible on Election Day" Tammy added.

For poll workers, the change was a welcome one that did not require major adjustment. As the system is intuitive, most found it easy to learn and had no worries on Election Day. Of the poll workers interviewed during the Primary, many echoed the county's comparison of the system to a grocery store self check-out. "Tammy & Phillip do a good job. Every year our elections get tighter, from training to Election Day. It's so organized people can almost go through the process on autopilot."

One, who indicated she had a computer background, complimented the start to finish technology integrations. "Going from a more manual process of selecting ballot styles for people, this is much preferred. There's no real error, you just print their barcode and they follow the instructions on screen from there."

EXPRESSVOTE GETS PUT TO THE TEST

Blindbargains.com Tested Three Modern Voting Machines for Accessibility

Recently the Michigan Bureau of Elections held a Mock Election, allowing testers and poll workers to use voting systems from three different vendors, including our ExpressVote, designed for both voters with disabilities and voters without. One of the testers, J.J. Meddaugh with Blindbargains.com tested all the offerings, concluding that the ExpressVote was the best choice of the group being the only one he would recommend in its current form. For more details about each voting system Mr. Meddaugh experienced read a summary of his article below.

Dominion ImageCast Democracy Suite

The voting system from Dominion included an accessible keypad, touchscreen and a printer for paper ballots. Initial set-up of the machine required the use of a digital programming card which included information to load and verify the ballot. While I was able to insert the card, several set-up steps needed to be performed by a poll worker. Among these were choice of language, and the screen privacy guard option, which allows a voter to turn off the visual screen output. It's worth noting that this is the only machine which does not allow the voter to change this setting after initial set-up.

Once speech was finally available, I was presented with initial instructions read by Google's Android text-to-speech voice and an options menu which allowed me to change volume, speech rate and visual display options. Unfortunately, the maximum volume was not loud enough for a noisy room, and the fastest speech rate was less than what is available on Android and too slow for an advanced speech user.

The keypad features buttons in various shapes which can be readily identified. Left and right arrows are on the left side while up and down arrows are on the right. There is a large X in the center which is used for selection. Dedicated buttons to adjust the volume and speech rate are found near the top. All buttons have braille labels near them, though the layout of the keys often made the placement of the braille labels confusing. The design choice to place the two sets of arrows far away from each other is perplexing at best.

The machine was plagued by user interface issues, often requiring the voter to press several key presses to accomplish a simple task. For example, when reviewing a ballot, if the user wanted to change a vote from NO to Yes, no less than 9 key presses were required to accomplish this task. In addition, the function of the right and down arrows are duplicated, as well as the up and left arrows. I was told this was done because of the needs of low vision users, but it made the navigation of the ballot needlessly time-consuming and complicated. Often, help and tutorial messages were spoken before important content, such as when speaking the name of an entered write-in candidate.

Another issue arose when speaking the names of the candidates and ballot proposal language. This information was spoken using the Cepstral text-to-speech engine, with the recordings in a much lower quality and volume than the rest of the speech feedback. Using the same text-to-speech voice throughout the system would be ideal. Care also needs to be taken when speaking the titles of ballot proposals and other items. The word millage, a common election term, was mispronounced.

Help information was given throughout the process, and presented in the manner of screen reader hints. Speech could be easily interrupted if the user chose to not listen to the help information.

While I was able to complete and print my ballot, I'm hard-pressed to recommend this system in its current form. That being said, many of the issues identified are software-based and could be fixed using a firmware update.

Hart InterCivic Verity Touch Writer

Hart InterCivic calls their Verity system "The Future of Elections". To be completely blunt, if this is the case, I'm worried for the state of accessible voting equipment.

Set-up involved the poll worker entering in a code to load the appropriate ballot using the touch-screen. This process did not include speech feedback and was not accessible. Once the ballot was loaded, pre recorded instructions in a male voice were spoken through the headset.

The accessible keypad includes two buttons (Select and Help), and a dial called the Move Wheel which can be turned using the thumb. The dial emulates arrow keys and allows the user to go through menus while the Select button locks in the current choice. The use of only three controls was an intentional design choice, but it quickly became limiting when attempting to efficiently navigate the screen.

The initial screen included a menu to adjust audio settings including volume and speech rate. To adjust the volume, one must select the raise or lower options and then press select for the new volume level to take effect. This is the only machine of the three tested which did not include dedicated volume and speed controls, which presents a hassle if one wants to make adjustments during the voting process. Only three speech rates were available, with the fastest option still quite slow for advanced users. In addition, since human speech is used throughout the process, the faster speech level resulted in choppiness and audio artifacts which made it more difficult to understand the recorded prompts.

I did not complete my ballot with this machine because of one major reason...HORRENDOUS LAG. Users of electronic devices may often become frustrated when it takes a quarter second or more to hear audio feedback after pressing a button. When using the Move dial on the Verity, it often took 3 or 4 seconds for any feedback to be given after the dial was turned. In addition, after pressing the Help button, it was often difficult or impossible to interrupt the instructional message and return to the previous screen.

After spending about 10 minutes with the machine and still working on my first ballot selection of 23 contests, my frustration level reached a point where I had completely lost interest in completing my ballot.

ES&S ExpressVote

With my faith in modern voting technology quickly running out, I moved to the last of the machines, The ExpressVote from Election Systems & Software. ES&S purchased the assets of the former AutoMARK system, and the design of this model takes many cues from the previous version, which is a good thing.

I walked up to the machine and inserted my paper ballot into the reader, which immediately caused speech feedback to begin. No intervention was necessary from the election workers.

The keypad includes a rocker button for Volume labeled VOL in braille and another for voice speed labeled TPO for tempo. To the left of this is a five-way navigation pad with a select button in the center. A button to turn on and off screen input can be found near the top. Beeps are heard when buttons are pressed, and speech feedback is given within a quarter second. A more modern male voice is used on this model, as opposed to Eloquence speech on the AutoMARK, but it was clear and easily understood.

For those familiar with the AutoMARK, the voting process was nearly identical. Up and down arrows are used to move through ballot choices, and right and left arrows move between contests. For new users, contextual help information is given as hints. Warnings are given if a ballot question is skipped without the appropriate number of votes or if a user attempts to vote for too many candidates in a contest. Overall, I completed my 23-question ballot in about 5 minutes.

CONCLUSION

Of the three systems tested , the ExpressVote is the only one I am comfortable recommending in its current form. Set-up was achieved independently by the voter, prompts were spoken efficiently, and a ballot could be completed using the fewest number of key presses.

Signs directing voters through the voting process resemble stations you'd see at a back to school night. From the cheerful face who hands you your Activation Card with barcode, indicating your correct ballot style, to the gentlemen handing the mom and daughter an "I Voted" sticker after depositing their vote record into the DS200, Election Day in Wilson County is a stress-free affair.

"Nothing in the constitution says this has to be complicated" added Warren. "This system proves that because it's simple and it works."

Leading the charge

When asked one of the biggest take-aways from the implementation of their new system, Smith remarked "One thing I wish election offices were more open to is technology and change. We believe if you expect a lot out of your poll workers they can do it. Sometimes we don't challenge them enough."

Upgraded technology means less time training poll workers and troubleshooting during an election. Many counties are tasked with doing innovative things with less money than they had 10 years ago, while also improving the experience for all who participate. Embracing technology, preparing for the future and planning for today can pay off in spades once implemented.

> *"We believe if you expect a lot of your poll workers they can do it. Sometimes we don't challenge them enough."*
>
> - Tammy Smith, Assistant Administrator

"We've been able to save weeks on the backend in closing out the election and auditing, while realizing thousands of dollars in cost savings from salaries."

Additionally, the technology benefits of the system extend for many past Election Day. "In the beginning, some poll workers didn't even know the computer basics or use it in their everyday life (no cell phones). Now a lot of them have their own tablet devices, all because they were introduced to more technology while serving as a poll worker" said Smith.

To learn more about our visionary voting suite which includes the ExpressVote and DS200 contact your ES&S representative or visit our website.

ExpressVote®

Universal Voting System as a Marker

CERTIFIED EAC CERTIFIED

Multilingual

Touch Screen and Display
Allows voters to easily make vote selections and review their selection.

Favorite Things Demo (EVS 5.4.0.0)
Electionware County
11/30/2019
Languages   Help
11:00 AM

FAVORITE U.S. BEACH
Vote for ONE

✓ Myrtle Beach, South Carolina

Nantucket Beach, Massachusetts

Daytona Beach, Florida

Cape May, New Jersey

Laguna Beach, California

Galveston Island Beach, Texas

Write-in:

Previous   Zoom   Exit   Contrast   Next

Instruction Panel
A visual guide that shows voters how to use the ExpressVote.

1 Insert Card
2 Touch Selections
3 Verify Selections

Card Slot
Where the voter inserts their card to activate selections.

Visual Aids
High contrast and zoom functionality.

Front Access Panel
Headphone jack, a port for a Sip-and-Puff device or two-position rocker switch, and Audio-Tactile Keypad make the unit ADA friendly.

Audio-Tactile Keypad
Enables ADA voters to control audio and navigate the ballot.

ACTIVATING THE VOTE SESSION:

Election officials can configure the ExpressVote to best fit their needs. The voter receives an activation card to begin the process.

· If only one ballot style is programmed for the election, a blank card activates the vote session.

· Multiple ballot styles with a blank card prompt poll workers to select the correct ballot style for the voter.

· A card with an activation barcode displays the correct options for the voter if the election has multiple ballot styles.

ExpressVote Key Features

As a marker, the ExpressVote handles the entire marking process, eliminating marginal marks and the need for voter mark interpretation. Voters utilize the touch screen to mark their vote selections, receiving a verifiable paper vote record upon completion. The ExpressVote is used during early voting or in precincts and vote centers on Election Day to serve every eligible voter, including those with special needs.

EASY TO SET UP AND USE

The one-step startup and poll-closing procedure make the ExpressVote an ideal device for poll workers. The intuitive design offers streamlined simplicity for poll workers and election staff. The ExpressVote is also small, lightweight and easy to move.

CONTROLLED AND REDUCED COSTS

Traditional ballot printing costs can be significantly reduced by eliminating the need for pre-printed paper ballots. Voters activate their vote session, make their selections and receive a paper record to cast. This process consumes 70 percent less paper than traditional ballots.

INNOVATIVE DESIGN

Voters review a summary page and can make changes before receiving their verifiable paper vote record. The ExpressVote prevents overvotes and undervoting with prompts and on-screen feedback. ExpressVote in marking mode neither stores nor tabulates vote counts. The system produces a verifiable paper record for each voter.

VERIFIABLE PAPER RECORD

After all selections are made, a human- and machine-readable paper record is produced that includes text and an optical scan barcode. Votes are digitally scanned for tabulation on an ES&S DS200®, DS450® or DS850® device.

SECURE

The ExpressVote Universal Voting System utilizes a variety of functions to ensure election data and cast vote records are secure. In its current certification as a marking device, no vote data is stored in the device. Its system functions are only executable during election events, in the manner and order intended by election officials performing their duties.

For more information visit **www.essvote.com**

DS200®

Precinct Scanner & Tabulator

CERTIFIED EAC CERTIFIED

Protective Cover

Cover has heavy-duty rubber seal to shelter DS200 from elements during transport.

Easy to Set Up

Lid-up, power-on approach allows poll workers to easily open polls.

Touch Screen and Display

Provides voters with instructions and immediate feedback. Tension bearings hold screen in place for custom positioning.

Ballot/Card Slot

Voters cast both ballots and vote summary cards here; accommodates up to 19-inch ballots.

Auxiliary Ballot Compartment

Main Ballot Compartment

Easy, hassle-free storage of up to 2,500 ballots.

11

The number of 14-inch flat ballots processed per minute

DS200 Key Features

The DS200 is a precinct-based scanner and vote tabulator equipped with the latest in ES&S' patented technology. Fully certified and compliant with EAC guidelines, the DS200 enhances the voting experience for voters and election officials alike. Our patented IMR™ and PTRAC® technology ensures even the most poorly marked ballots are read accurately and consistently — protecting voter intent. All of this is designed to make everyone's job easier.

ACCURATE

The DS200 combines the ES&S-patented Intelligent Mark Recognition (IMR™) and patented Positive Target Recognition & Alignment Compensation (PTRAC®) systems to accurately track and pinpoint target locations. This technology accommodates ballots inserted at angles or with erroneous marks to uphold voter intent. This precision improves the reliability of elections.

SECURE

Like all ES&S tabulation equipment, the DS200 includes physical security features such as locking panels and security seals to secure sensitive components and election files, and a key-locked case for transport and shipping. The DS200 operating system controls, limits and detects unauthorized access to all critical data. The system also includes safeguards, such as data encryption and digital signatures, that help protect sensitive data and verify authenticity, including certification of all firmware.

RELIABLE

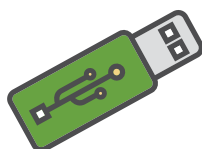Having both battery backup and thermal paper means you never have to worry about power outages or printer ink.

COMPATIBLE

Works in conjunction with:
- ExpressVote® Universal Voting System
- DS450® High-Throughput Scanner & Tabulator
- DS850® High-Speed Scanner & Tabulator
- Electionware® Election Management Software
- AutoMARK® Ballot Marking Device
- Election Reporting Manager®

COMPREHENSIVE

- Optional wireless modem results transfer with encryption
- Primary data storage device
- Backup data storage
- Data sent via Secure File Transfer Protocol (SFTP) server

*For more information visit **www.essvote.com***

DS850®

High-Speed Scanner & Tabulator

Patented IMR™ and PTRAC®

IMR™ and PTRAC® technology provides unparalleled accuracy that reduces time-consuming manual ballot adjudication.

TruGrip™ Rollers

Provides constant contact, ensuring each ballot - even those folded or damaged - are individually processed.

Touch Screen Display

Walks the operator through every step of the tabulation process.
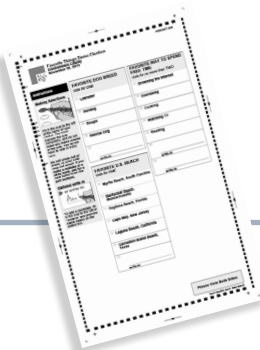
S-Curve

Patented design enables lighting-quick scanning and smooth ballot flow.

Output Bins

Sorts ballots into:

· Counted
· Requires Further Review
· Write-Ins

CERTIFIED EAC CERTIFIED

300

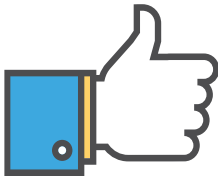The number of 14-inch flat ballots processed per minute

DS850 Key Features

Your elections require a centralized vote scanner and tabulator that is quick and accurate. With its high-speed digital image processing, the DS850 continuously scans ballots to save you valuable time when tabulating election results.

SECURE

System integrity and electronic audits make the DS850 part of the most dependable family of central vote scanners and tabulators on the market. Safeguards, such as data encryption and digital signatures, help protect sensitive data and verify authenticity, including certification of all firmware.
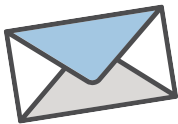
USER-FRIENDLY

Designed specifically for the election process, the DS850 features a user-friendly software interface on a 15-inch LCD color touch screen. The S-shaped transporter allows for a natural flow, creating separation between individual ballots.

ACCURATE

ES&S' patented IMR™ and PTRAC® technology ensures that ballots are read accurately and consistently, protecting voter intent and eliminating manual adjudication time.

FOLDED BALLOT PROCESSING

The DS850 is designed with a series of TruGrip™ rollers, which maintain constant contact with the ballot surface, ensuring quality control throughout the entire tabulation process.

HIGH-SPEED SORTING

The DS850 is the only high-speed scanner in the marketplace that can sort various ballot sizes at full speed. It scans and sorts 14-inch double-sided ballots at 300 per minute into three output bins, separating ballots into three categories: counted, requires further review, and write-ins.

*For more information visit **www.essvote.com***

Electionware®

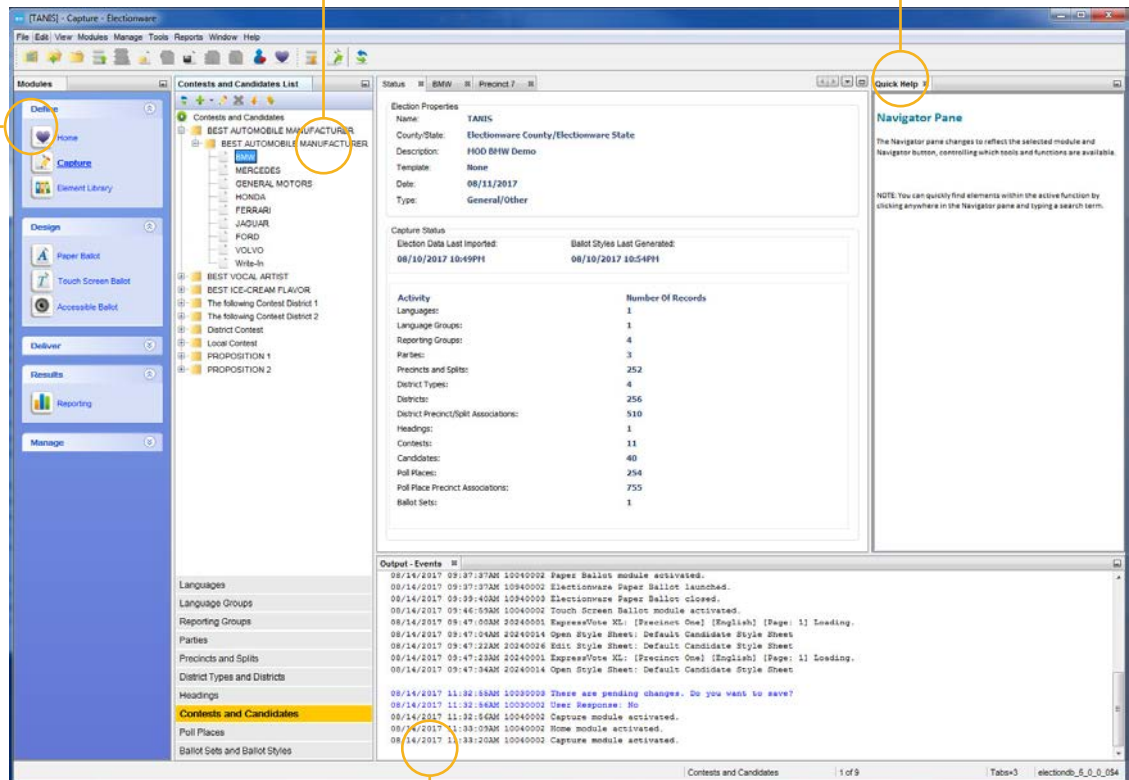## *Election Management System*

User Friendly

Navigator helps users access exactly what is needed in the current module.

Quick Help

Context-sensitive Quick Help is available in all areas of Electionware.

Easy End-to-End Workflow

Enables end-to-end election management, from data capture, ballot layout, and configuring equipment to loading and reporting results.

Feedback

Flexible, yet powerful election management software guides user through the creation of the election, ensuring that all election data, security codes, and machine settings are added correctly to the election definition.

ELECTION INTELLIGENCE

· Timely election data inquiries and reports

· Workflow management and error alerts

· Enforced data accuracy

· User customization

· Tracking of election media

· Live status indicators for incoming results

PRODUCTIVITY

· Fast data import

· Reusable election and ballot layout templates

· Simple translation and audio file management

· Multiple simultaneous users

· Ballot image filtering, viewing and printing

Electionware Key Features

Electionware is designed to accommodate the latest election trends, including early and overseas voting, ADA compliance, ballot adjudication, and Election Night reporting. Use Electionware to create an election information database, format ballots, program voting and ballot scanning equipment, count ballots, review ballot images, and report results. This agile election management system is the result of our nearly 40 years of election product research and development.

SIMULTANEOUS MULTIUSER ACCESS

Multi-user Electionware functionality enables large jurisdictions to use authorized election personnel on a closed-network system simultaneously creating precinct media flash drives and entering information for the ES&S equipment and Electionware. Additionally, the multi-user functionality in Electionware allows multiple teams of election officials to work simultaneously on different elections.

DATA SECURITY

Electionware incorporates the latest in election security, including built-in audit controls, encrypted election data, and access level user credentials designed to keep election data safe and secure. Electionware is fully compliant with EAC guidelines for usability, accessibility and security requirements. The Equipment Security feature creates security codes that control access to voting equipment. All election media USB flash drives contain encryption specific to the current election and equipment type.

ROBUST

Electionware manages nearly 10,000 ballot styles and precincts; supports myriad languages; manages and deploys multiple levels of security. One database for multiple equipment types provides election-wide uniformity and compliance, as well as less room for human error.

*For more information visit **www.essvote.com***

Field Services

Maintenance Service Protection Program

IS AN EQUIPMENT CHECKUP ON YOUR LIST OF TO-DO'S?
IT DOESN'T HAVE TO BE!

Keep your voting systems working at peak performance with preventative maintenance — along with certified software and firmware upgrades and enhancements offered-through ES&S' Maintenance Service Protection Program.

Be confident this election knowing that your voting solutions are in the care of trained ES&S professionals who have intimate product knowledge and, on average, 10-12 years of election experience each.

UPGRADES & ENHANCEMENTS

REPAIR SERVICES

TECHNICAL SUPPORT

Field Services

- ES&S performs sustainment engineering for end-of-life parts, ensuring continued product operation

- All ES&S technicians experience extensive training, and are certified by a Senior Field Services Technician

- All ES&S employees undergo a background check prior to hire

- To assist with record keeping, ES&S provides electronic documentation with a serial number after a work order has been completed

- ES&S ensures equipment adheres to federal and state certification requirements

- 24/7 access to customer-specific documentation
    - Product Advisories
    - Product documentation
    - Training materials

- Easy budgeting with one annual invoice ensures customers are not affected by price fluctuations and rising expenses

ES&S MAINTENANCE PROTECTION PACKAGES INCLUDE:

	Gold Package	Silver Package
Scheduled preventative maintenance services including inspection, cleaning, calibration, and testing of covered equipment	Every Year	Odd-Numbered Years*
Free certified replacement parts	✓	✓
Technical help desk support	✓	✓
Repair services	✓	✓
Certified software and firmware upgrades and enhancements	✓	✓
Service by trained and certified ES&S technicians	✓	✓
Exclusive ES&S-certified system parts	✓	✓
Service history tracking	✓	✓
Service satisfaction survey	✓	✓
One simple annual invoice	✓	✓

* During odd-numbered years, customers may ship equipment back to our Omaha headquarters for repairs at their shipping expense

ELECTION SYSTEMS & SOFTWARE

www.essvote.com

Our Security *Philosophy*

The overriding design philosophy with all ES&S products is to ensure accuracy, security and reliability — a philosophy that has prevailed throughout our company's history.

ES&S submits our systems to rigorous and lengthy test campaigns as part of the Election Assistance Commission's (EAC) Voting System Certification Program. This important program sets forth security and performance standards that were developed by Scientists, Academicians and Election Officials. In addition, all our systems are tested by independent laboratories that have received federal accreditation.

Our voting systems also adhere to secure practices that surround the creation, transfer, and storage of important election files and data. Our products employ encryption and digital signing for all data-in-transit using cryptographic modules that meet the Federal Information Processing Standard.

The entire ES&S team is devoted to ensuring that each piece of technology is in good working order prior to Election Day, helping election officials to easily adhere to the laws of their state which mandate strict physical security and tight chain of custody of all voting machines.

Our *Business*

Our vision at Election Systems & Software (ES&S) is simple and unwavering — we provide products and services of exceptional quality and value to maintain voter confidence and enhance the voting experience. We accomplish this through continuous investments in research and development, resulting in regular product updates and security enhancements for each voting system we design, build, sell and support.

The ES&S mission is to provide valuable, trusted and proven election systems and services to our nation's election administrators. Our teams of passionate, knowledgeable and talented election professionals across North America accomplish our mission by delivering the highest standards of accuracy, security and reliability.

No other voting system vendor can compare to the financial stability and customer base of ES&S. Our business has grown to serve 42 U.S. states including more than 4,500 election offices, and nearly 100 million registered voters tabulate on an ES&S system.

Our *Products and Services*

ES&S draws from decades of election experience to develop our industry-leading election hardware and software. We hold customer-focus groups to review current voting trends and the needs of jurisdictions. Pre-election, Election Day or post-election, we're the experts election officials can trust for all of their voting solutions. We share a dedication to democracy.

Our *Solutions*

- Universal touch screen voting systems that produce a voter-verifiable paper record for tabulation

- Precinct-based Digital Scanners and Vote Tabulators

- High-throughput and High-speed Digital Scanners and Vote Tabulators

- Dedicated Hardware and Software Technical Support

- Rental Programs

- Election Site Support

- Election Services including:
  - Ballot layout and design
  - Tabulator coding
  - Audio file creation

- Ballot Management Services
  - Ballot printing
  - Ballot on Demand
  - Vote by Mail

- Maintenance Services

- Election Management Software

- Voter Registration Software

- Electronic Pollbooks

Running
Successful Elections

Having the right election system is the first step toward running a successful election. ES&S ensures our voting systems are:

Secure

Easy for every age and ability of voter to understand and use

Accurate and Auditable

Economical

But what about our numbers?

50

State Certification Events in 2017

17

Voting Systems Certified by the EAC

42

Patents issued in North America

100%

Percentage of employees who completed Security Awareness Training

Our Pride

We take great pride in playing a role to ensure democracy for our citizens. We love what we do.

Our Purpose

We demonstrate drive and determination for secure solutions and satisfied customers. We are always working hard on innovative designs for today and tomorrow.

Our Passion

Our enthusiasm for the work we do and for our customers is unrivaled. Customer success is our success; customer struggle is our struggle. We are passionate about helping our customers conduct elections of excellence.

VENDOR CUSTOMER LIST TEMPLATE – ESS

2. Provide a current list of customers who are using or have previously used your Tabulation system.

• Contact name, email and phone number

• Jurisdiction size

• Date of implementation

• Product(s) and quantities purchased

• What software and firmware versions are currently being used

Please use attached excel spreadsheet "Vendor Customer List Template".

ES&S RESPONSE

ES&S supports 95,955 precincts among 3,300 clients in 42 states. Please see the following **Vendor Customer List** for an overview of ES&S customers with more than 200,000 registered voters using the same voting system solution that we are proposing to the County, which includes Electionware, DS200, DS850 and ExpressVote units.

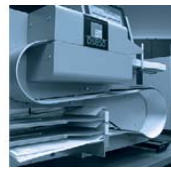|	Contact Name	Jurisdiction Name	Contact Email	Contact Phone Number	# of Registered Voters	# of Precincts	Date of Implementation	Precinct Scanner Model	Firmware Version	# Purchased	High Speed Scanner Model	Firmware Version.	# Purchased	ADA Model	Firmware Version	# Purchased	Software Version	Other
1	Alan Hays	Lake County, Florida	alan@lakevotes.com	352-343-9734	203033	103	1/25/2008	DS200	2.11.1.0	177	DS850	2.8.2.2	3	ExpressVote	1.4.3.0	125	Electionware	
2	Brenda Snipes	Broward County, Florida	brenda.snipes@browardsoe.org	954-712-1950	1144779	791	6/23/2008	DS200	2.11.1.0	1918	DS850	2.8.2.2	8	ExpressVote	1.4.2.0	650	Electionware	
3	Brian Corley	Pasco County, Florida	bcorley@pascovotes.com	352-521-4302	311334	154	6/22/2015	DS200	2.11.1.0	225	DS850	2.8.2.2	3	ExpressVote	1.4.3.0	135	Electionware	
4	Carla Wyckoff	Lake County, Illinois	CWyckoff@lakecountyil.gov	847-377-2430	404600	481	1/3/2014	DS200	2.13.0.0	274	DS850	2.10.0.0	1	ExpressVote	1.4.0.0	37	Electionware	
5	David Stafford	Escambia County, Florida	david_stafford@escambiavotes.com	850-595-3900	200597	90	5/30/2017	DS200	2.11.1.0	135	DS850	2.8.2.2	2	ExpressVote	1.4.3.0	100	Electionware	
6	Frank Celeste	Volusia County, Florida	fceleste@volusia.org	386-736-5930	330721	0	9/1/2015	DS200	2.11.1.0	163	DS850	2.8.2.2	3	ExpressVote	1.4.2.0	156	Electionware	
7	Jenny Troutman	Marion County, Indiana	jenny.troutman@indy.gov	317-327-3685	612352	590	1/11/2016	DS200	2.12.2.0	630	DS850	2.10.2.0	2	ExpressVote	1.4.1.2	473	Electionware	
8	Kathleen Novack	Waukesha County, Wisconsin	knovack@waukeshacounty.gov	262-548-7010	270732	125	9/18/2015	DS200	2.12.3.0	4	DS850		1	ExpressVote	1.4.1.2	2	Electionware	
9	Katie Brown	Baltimore County, Maryland	elections@baltimorecountymd.gov	410-887-5700	502360	290	2/28/2017	DS200	2.12.0.0	355	DS850	2.10.0.0	1	ExpressVote	1.4.0.0	432	Electionware	
10	Luis Torres	Orange County, Florida	Luis@ocfelections.com	407-254-6532	695243	276	5/7/2015	DS200	2.11.0.3	1	DS850	2.8.2.2	5	ExpressVote	1.4.2.0	310	Electionware	
11	Luis Torres	Orange County, Florida	Luis@ocfelections.com	407-254-6532	695243	276	5/7/2015	DS200	2.11.0.3	320	DS850	2.8.2.2	5	ExpressVote	1.4.2.0	310	Electionware	
12	Margaret Jurgensen	Montgomery County, Maryland	margaret.jurgensen@montgomerycountymd.gov	240-777-8500	600524	245	1/30/2018	DS200	2.12.0.0	370	DS850	2.10.0.0	1	ExpressVote	1.4.0.0	534	Electionware	
13	Pamela Gaines	Prince Georges County, Maryland	pbgaines@co.pg.md.us	301-341-7609	553385	230	1/30/2018	DS200	2.12.0.0	370	DS850	2.10.0.0	1	ExpressVote	1.4.0.0	562	Electionware	
14	Rich Jersheid	Anne Arundel County, Maryland	richard.jerscheid@maryland.gov	410-222-0402	341086	189	1/30/2018	DS200	2.12.0.0	220	DS850	2.10.0.0	1	ExpressVote	1.4.0.0	229	Electionware	
15	Sandy Gritz	Sedgwick County, Kansas	sandra.gritz@sedgwick.gov	316-660-7122	274369	241	1/26/2017	DS200	2.12.1.0	200	DS850	2.10.1.0	1	ExpressVote	1.4.1.1	900	Electionware	
16	Shawn Larson	Baltimore, City of, Maryland	shawn.larson@baltimorecity.gov	410-396-0294	379093	223	2/5/2018	DS200	2.12.0.0	387	DS850	2.10.0.0	1	ExpressVote	1.4.0.0	506	Electionware	
17	Terri Stroud	DC Board of Elections	tstroud@dcboee.org	202-727-3088	453228	143	3/15/2016	DS200	2.13.0.0	190	DS850	2.10.1.0	1	ExpressVote	1.4.0.0	400	Electionware	
18	Tommy Doyle	Lee County, Florida	tdoyle@lee.vote	239-533-6900	390670	171	6/9/2008	DS200	2.11.1.0	330	DS850	2.8.2.2	3	ExpressVote	1.4.3.0	175	Electionware	
19	Travis Potter	Fairfax County, Virginia	Travis.Potter@fairfaxcounty.gov	703-222-0776	680807	231	1/25/2016	DS200	2.12.0.2	585	DS850	2.10.0.0	1	ExpressVote	1.4.0.0	597	Electionware	
20	Wesley Wilcox	Marion County, Florida	wwilcox@votemarion.com	352-620-3290	224164	151	1/22/2010	DS200	2.11.0.3	200	DS850	2.8.2.2	3	ExpressVote	1.4.3.0	200	Electionware	

QUESTION #3

3. Based on the Cuyahoga County data attached to the email, provide a cost estimative for your paper based tabulation system.

• At least two (2) precinct ballot scanners per polling location

• One (1) ADA marking device per location

• High Speed Ballot Scanners

o Daily scan period typically six (6) hours per day over a seventeen (17) day period

• Equipment Reserves (Backup Equipment) for election day

• Training Equipment

o NOTE: Approximately 5000 workers attend an election training session during a county-wide election.

Please attach a separate document for this response.

ES&S RESPONSE

For a cost estimative for our paper-based tabulation system, please see the following **Pricing**.

Cuyahoga County, Ohio
Purchase Proposal Quote
Submitted by Election Systems & Software

Purchase Solution Includes:

Quantity	Item Description	Unit Price	Extended Price
	State-Funded Hardware Items		
	Model DS200 Precinct Scanner:		
1,200	Model DS200 Version 1.3 (Includes Scanner, Internal Backup Battery, Plastic Ballot Box with Steel Door and e-Bin, Paper Roll, One (1) Standard 4GB Memory Device and Five (5) Year Extended Hardware Warranty)	$4,670.00	$5,604,000.00
	Model DS850 High Speed Digital Image Scanner:		
1	Model DS850 Version 1.0 (Includes Scanner, Steel Table/Cart, Start-up Kit, Dust Cover, Reports Printer, Audit Printer, Battery Backup, Two (2) USB Cables, Three (3) Standard 8GB Memory Devices, and Five (5) Year Extended Hardware Warranty with Biennial Maintenance)	$108,270.00	$108,270.00
1	DS850 Initial Annual License Fee	Included	Included
	ExpressVote Ballot Marking Device:		
450	ExpressVote BMD Terminal Version 2.1 (Includes Terminal, Soft-Sided Case, Internal Backup Battery, ADA Keypad, Headphones, One (1) Standard 4GB Memory Device, and Five (5) Year Extended Hardware Warranty)	$2,864.00	$1,288,800.00
	State-Funded Software and Third Party EMS		
1	ElectionWare Software - EVS 6.x.x.x PYO Standard (Base Package with English Language Synthesized Voice Files)	$15,395.00	$15,395.00
1	Synthesized Audio Capability - Each Additional Language	$1,465.00	$1,465.00
	Third Party Products		
1	Third Party EMS Software		$2,120.00
	State-Funded Election Services		
X	Equipment and Software Installation		$191,775.00
X	1 Year Firmware and Software Warranty (See Years 2-5 Pricing Below)		Included
	Shipping & Other		
X	Shipping and Handling		$29,700.00
	Total State-Funded Implementation Price		**$7,241,525.00**
	Years 2-5 State-Funded Software and Firmware Licensing and Support		
	Firmware License and Support Fees:		
1,200	Firmware License - DS200	$320.00	$384,000.00
1	Firmware License - DS850	$6,300.00	$6,300.00
450	Firmware License - ExpressVote BMD	$220.00	$99,000.00
	Software License and Support Fees:		
1	ElectionWare Software - EVS 6.x.x.x PYO Standard (Base Package with English Language Synthesized Voice Files)	$61,580.00	$61,580.00
1	Synthesized Audio Capability - Each Additional Language	$5,860.00	$5,860.00
	Total Years 2-5 Software and Firmware Licensing and Support Fees		**$556,740.00**
	Total State-Funded Implementation Price Plus Years 2-5 State-Funded Software and Firmware Licensing and Support Fees		**$7,798,265.00**
	Non-State-Funded Services		
3	Project Management Days	$1,700.00 Per Day	$5,100.00
8	Equipment, Software and Train-the-Trainer Days	$1,700.00 Per Day	$13,600.00
6	Election On-Site Support (One Event includes a person on-site the day before, day of, and day after election)	$4,675.00 Per Event	$28,050.00
X	Trade-In Pick Up and Disposal. Equipment Being Traded-In by Customer Includes: 1200-Model DS200 Scanner 1200-Model DS200 Ballot Box 635-AutoMARK		$65,000.00
	Total Non-State-Funded Implementation Price		**$111,750.00**
	Annual Incremental Non-State-Funded Hardware Preventative Maintenance for Years 2-5		
1,200	HMA DS200 - Extended Warranty with Annual Maintenance	$160.00	$192,000.00
1	HMA DS850 - Extended Warranty with Annual Maintenance	$1,470.00	$1,470.00
450	HMA ExpressVote BMD - Extended Warranty with Biennial Maintenance	$77.50	$34,875.00
	Annual Incremental Hardware Preventative Maintenance Fees (Starting in Year 2)		**$228,345.00**

Cuyahoga County, Ohio
Purchase Proposal Quote
Submitted by Election Systems & Software

Purchase Solution Includes:

Quantity	Item Description	Unit Price	Extended Price
	Other Optional Items		
1	ExpressVote BMD Terminal Version 2.1 with Kiosk (Includes Terminal, Internal Backup Battery, ADA Keypad, Headphones, One (1) Standard 4GB Memory Device, and Five (5) Year Extended Hardware Warranty) - **State-Funded (Does not include Shipping & Handling costs)**	$3,385.00	$3,385.00
1	ExpressVote BMD with Kiosk Installation - **State-Funded**	$135.00	$135.00
1	Years 2-5 Firmware Licensing and Support - ExpressVote BMD with Kiosk (Total for Years 2-5) - **State-Funded**	$220.00	$220.00
1	ExpressVote Barcode Scanner for Tabletop - **Non-State-Funded (Does not include Shipping & Handling costs)**	$685.00	$685.00
1	ExpressVote Barcode Scanner for Kiosk - **Non-State-Funded (Does not include Shipping & Handling costs)**	$625.00	$625.00

Footnotes:

1. This quote is an estimate and is subject to final review and approval by both ES&S and the Customer.
2. Rates valid for 60 days and thereafter may change.
3. Any applicable (City & State) sales taxes have not been included in pricing and are the responsibility of the customer.
4. The quantity of service days reflects a reasonable estimate for implementation and selected ongoing election services. Quantities may change depending on specific Customer needs.
5. ES&S will coordinate the pickup and transportation of the trade-in equipment from Customer's site on a date to be mutually agreed upon by the parties.

QUESTION #4

4. Provide a detailed description of hardware and network product(s) listed in the estimate provided. Please include:

• All relevant information, including physical descriptions, model numbers, and part numbers, concerning components such as, but not limited to, laptops, tablet computers, printers, cables, connectors, servers, internet connectivity, precinct ballot scanners, high-speed ballot scanners, ADA equipment, etc.

• Whether a component is proprietary to the Vendor or whether the component is a commercial off-the-shelf product.

• What is the capacity of all precinct ballot scanners? How are they stored/managed?

• Are the precinct based scanners programmable for multiple precincts?

• Specifically identify precinct scanner ballot box options.

Please attach a separate document for this response.

ES&S RESPONSE

PHYSICAL DESCRIPTIONS

ES&S understands that the Cuyahoga County IT network was recently upgraded. As a result, we are proposing a subsequent upgrade to the County's IT network to ensure optimal operation with our proposed voting system solution, which does not require new laptops, tablet computers, printers, cables, connectors, or servers.

DS200

The DS200 is a high-resolution, paper-based precinct tabulator that scans voter selections from both sides of the ballot simultaneously. It has a large touch screen for voter communication, an integrated thermal printer for limitless Election Day printing, an easy-to-use interface and an internal battery pack for reliable power in the event of a power outage. The DS200 can scan a variety of ballot sizes, including ExpressVote vote selection cards. The DS200 uses our patented Positive Target Recognition and Compensation™ (PTRAC) and Intelligent Mark Recognition® (IMR) technology to determine what constitutes as a mark for a candidate. Scanned voter selections are stored to a USB media device. The USB media device is removable from the system for transport to a central election location where vote totals are consolidated for reporting. There is also an optional results backup media capability.

DS200 Plastic Ballot Box

The ballot box bin is constructed with durable, scratch-resistant Acrylonitrile Butadiene Styrene (ABS) plastic materials, with steel-reinforced doors, and four swivel caster rollers (the front two of which are lockable) on the bottom of the box for easy transportability. The plastic base is designed for strength, and the plastic material complies with the UL 94V-0 specifications for flammability safety.

DS200 Collapsible Ballot Box

The collapsible ballot box features a secure, collapsible design that is easily transported.

DS850

The DS850 central scanner and tabulator provides high-speed digital processing. It can scan a variety of ballot sizes, including ExpressVote cards. The DS850 scans and automatically sorts ballots, separating them into one of three discrete bins without interrupting scanning. It can read ballots in all four orientations. The DS850 is designed with TruGrip Technology® that insures that multiple sets of rollers are controlling the ballot in the transport at all times. This provides for reliable handling of ballots, even folded ballots. The DS850 uses our patented Positive Target Recognition and Compensation™ (PTRAC) and Intelligent Mark Recognition® (IMR) technology to determine what constitutes as a mark for a candidate. Optionally, this device may be configured to transmit tabulation results to the results server through a network connection rather than using physically transported USB media.

ExpressVote

The ExpressVote Universal Voting System (ExpressVote) is a device designed for all voters, with independent voter-verifiable paper record that is digitally scanned for tabulation on a compatible ES&S scanner. This system combines paper-based voting with touch screen technology. The ExpressVote as a Marker includes a mandatory vote summary screen that requires voters to confirm or revise selections prior to printing the summary of ballot selections using the internal thermal printer. The ExpressVote as a Marker can serve all voters, including those with special needs, allowing all voters to cast ballots autonomously.

ES&S has fully integrated the ExpressVote with the existing suite of ES&S voting system products.

Product	Dimensions	Weight
DS200	14"W x 13"H x 16" D (Operation) 14"W x 5.5" H x 16" D (Storage)	23 lbs.
DS200 Ballot Bin w/ Plastic Doors and Base Plate	36.25"H x 24"W x 26"D	41 lbs.
DS850	41"W x 37"H x 18"D (Operation & Storage)	200 lbs.
DS850 Table	51"W x 30"H x 26"D (Operation & Storage)	200 lbs.
ExpressVote	20"W x 16"H x 13"D (Operation) 20"W x 17"H x 5"D (Storage)	20.5 lbs. (excl. power supply) 22.5 lbs. (w/ power supply)
ExpressVote Soft Case	25"W x 19"H x 7"D	1 lb. empty 3 lbs.

MODEL NUMBERS AND PART NUMBERS

Name	Model Number	Part Number
Precinct Ballot Scanner	DS200	N/A
High-Speed Ballot Scanner	DS850	N/A
ADA Equipment	ExpressVote	N/A

PROPRIETARY/COMMERCIAL OFF-THE-SHELF PRODUCTS

Name	Proprietary/COTS
DS200	Proprietary
DS850	Proprietary
ExpressVote	Proprietary
Electionware (EMS)	Proprietary
Symantec EndPoint Protection	COTS

CAPACITY & STORAGE

The internal memory of the DS200 is 2 GB RAM. The DS200 comes with Delkin USB Industrial Single-Level Cell (SLC) commercial grade flash drives. These drives are COTS and non-proprietary (custom VID/PID embedded by manufacturer for security purposes; manufacturer requires ES&S approval to sell). These USB's are available in the following capacities – 1, 2, 4 and 8 GB.

The DS200 stores all cast vote records, ballot images (front and back sides), election definition files, and audit data to a removable USB media device that has a standard storage capacity of 4 GB (8 GB or larger drives available, if necessary). On average, a 4GB USB media device will hold approximately 12,000 ballot images.

MULTIPLE PRECINCTS

Yes. The DS200 precinct tabulator can be configured to support multiple precincts in a single polling location. Precinct-level zero and totals tapes remain available in this configuration.

BALLOT BOX OPTIONS

The DS200 features multiple ballot box options.

PLASTIC BALLOT BOX

The DS200 plastic ballot box is configured to seamlessly fit the tabulator. A hard, plastic clamshell carrying case comes with the plastic ballot box and serves as the top of the plastic ballot box during voting. After the DS200 carrying case is attached to the top of the plastic ballot box, the DS200 unit slides onto two mounting rails and the AC power cord is connected to the back of the terminal. After the DS200 is securely attached to the ballot box, a locking door hinges into place over the front of the unit to prevent removal of the device and prohibit access to an expansion USB port on the back of the DS200.

COLLAPSIBLE BALLOT BOX

The DS200 precinct-based tabulator now supports the new, light-weight collapsible ballot box. This ballot box is ideal for jurisdictions that are limited on space or need to easily transport ballot boxes to the polling location. The collapsible ballot box is easy to assemble, and when disassembled, the components of the ballot box can be stored in the optional carrying case.

The segmented ballot box has compartments for scanned and unscanned (auxiliary compartment) ballots. The ballot box includes an auxiliary slot plate to prevent ballots from being inserted when the auxiliary compartment is not in use. The ballot chute and perimeters of the lid and base were constructed to prevent ballot stuffing. At each corner of the lid are holes for threading wire or plastic zip-tie security seals to secure the lid to the box.