



RESPONSE TO SECTION IV, REQUIREMENTS AND SUBMITTAL

The County of Boulder can be assured of a secure, accurate, and durable DRE voting system that is easy to use for both voters and Election Officials, and offers a low total cost of ownership. Hart InterCivic proposes the eSlate™ Solution, a value-rich, multi-faceted DRE architecture supported by four key components – project management, training, service/support and voter outreach.

1.0 CERTIFICATION OF SYSTEM

1.1 Requirements

- A. Colorado law requires election officials to procure only voting equipment that has been certified by the Colorado Secretary of State. Boulder County will consider proposals from vendors with systems approved for use in this state by the Colorado Secretary of State and from vendors with systems that expect to receive Colorado certification by contract award. Vendors shall be familiar with the State certification process, including the Independent Testing Authority requirements and shall receive certification of all components of their system prior to demonstration to Citizens Review Committee.**

Hart InterCivic Response

The eSlate System has been certified by the National Association of State Election Directors (NASED) and the Colorado Secretary of State, including all ballot formatting, vote recording, tabulation, and reporting components. For this response, we are proposing the eSlate System 2.1, certified in Colorado on September 9, 2002. We are currently in the process of submitting the eSlate System Version 3.0 for ITA testing and NASED certification. It is our intent to offer Boulder County eSlate Version 3.0 upon certification by the Colorado Secretary of State.

All answers in this response reflect capabilities of the eSlate Version 2.1, unless Version 3.0 is specifically referenced.

Hart is familiar with Federal and Colorado certification requirements, and dedicates a full-time professional staff member to managing the certification process for the eSlate System. Hart's familiarity with these requirements is demonstrated by our successful history of NASED and Colorado certification. Hart InterCivic's eSlate System is certified in 19 states in addition to Colorado.

- B. In addition, the Boulder County Clerk & Recorder supports the Voting Systems Standards of the Federal Election Commission including HAVA requirements and the testing required by the Colorado Secretary of State**



and subsequent testing programs of the National Association of State Election Directors (NASED). Vendors are responsible for being informed of these standards and in compliance with them.

Hart InterCivic Response

Hart InterCivic maintains constant awareness of the Voting System Standards of the Federal Election Commission, the testing required by the Colorado Secretary of State, and the subsequent testing programs of NASED. As noted previously, Hart maintains a full-time professional resource responsible for managing our certification process and maintaining a constant awareness of certification processes.

Hart’s successful history of ITA certification demonstrates that Hart has the understanding, knowledge, and capability necessary to certify future versions of the products, even if the certification requirements are updated. Hart personnel have participated in the release of the new Federal Elections Commission (FEC) standards. Hart is also playing an active role in the development of the IEEE voting system standards. These and other activities provide assurance that the Hart certification support staff remains ahead of the implementation of any national certification requirements.

Hart InterCivic is also aware of Help America Vote Act requirements, and is actively monitoring the implementation of the Act. *Exhibit IV-1: How eSlate Meets Help America Vote Act Requirements*, describes the eSlate Systems compliance with the primary requirements of Section 301.

Sec. 301. Voting Systems Standards	Responsiveness of the eSlate System
Permit the voter to verify selections before the ballot is cast.	Voters are required to view the eSlate's Ballot Summary Screen, which lists all of the voter's selections and enables voter verification, before the ballot is cast.
Provide the voter with the opportunity to change/correct the ballot before the ballot is cast and counted.	Changes can be made at any time before the ballot is cast.
Notify the voter of overvotes and provide the voter with the opportunity to correct the ballot before the ballot is cast and counted.	The eSlate System does not permit overvotes.
The voting system shall produce a record with an audit capacity for such system.	All components of the eSlate System create independent audit logs that can be stored electronically or printed on paper.
The voting system shall produce a	Each time a voter casts a ballot, a Cast Vote



Sec. 301. Voting Systems Standards	Responsiveness of the eSlate System
permanent paper record with a manual audit capacity for such system.	Record is created and stored in non-volatile FLASH memory in three physically separate locations. Paper copies of Cast Vote Records can be printed to provide a manual audit trail for each election.
The voting system shall provide the voter with an opportunity to change the ballot or correct any error before the permanent paper record is produced.	Changes can be made at any time before the ballot is cast.
The paper record produced shall be available as an official record for any recount conducted with respect to any election in which the system is used.	Paper copies of Cast Vote Records can be maintained as an official record for any recount.
The voting system shall be accessible for individuals with disabilities, including non-visual accessibility for the blind and visually impaired, in a manner that provides the same opportunity for access and participation (including privacy and independence) as for other voters.	The eSlate System is fully accessible for both visually and mobility impaired voters.
The voting system shall provide alternative language accessibility pursuant to the requirements of section 203 of the Voting Rights Act of 1965 (42 U.S.C. 1973aa-1a).	The eSlate System provides English and Spanish, as required in the Boulder County RFP, as well as additional languages (including character-based languages).
The error rate of the voting system in counting ballots shall comply with the error rate standards established under Section 3.2.1 of the voting systems standards issued by the FEC.	The eSlate System is fully tested and certified by NASED.

Exhibit IV-1: How eSlate Meets Help America Vote Act Requirements. Boulder County can be assured that the eSlate System complies with all provisions of the Help America Vote Act (HAVA). HAVA's Section 301 requirements are shown above.

1.2 Proposer's Response

a. Will you meet these requirements?	Yes <input type="checkbox"/> X	No <input type="checkbox"/>
---	--------------------------------	-----------------------------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:



(1) If the system you are proposing has been certified by the Secretary of State, please submit a copy of that certification. For each test agency:

- Provide a detailed description of all testing to date.
- List dates for each certification phase completed.
- List all problems during certification with a detailed explanation of failures and resolutions resulting in the successful acceptance by the certification process.

Hart InterCivic Response

Our initial certification in Colorado was completed December 27, 2000. *Exhibit IV-2, eSlate Colorado Certification History*, presents the dates for each certification phase. Copies of the certification documents are included in *Attachment 1, Documentation of System Certification*.

Date of Colorado Certification	System	BOSS	Tally	eSlate	JBC	Ballot Now	Servo
27-Dec-00		2.2	2.3	1.10	1.10		
12-Jan-01		2.7	2.7	1.13	1.14	1.3	
31-May-02	2.0	2.8	2.8	1.15	1.15	1.4	1.01
9-Sep-02	2.1	2.9	2.9	1.16	1.16	1.5	1.02
18-Oct-02	2.1		2.9				

Exhibit IV-2: eSlate Colorado Certification History. Since the eSlate was initially certified in Colorado, several versions have been successfully tested and certified.

The system currently certified in Colorado has been through the complete ITA testing process. *Exhibit IV-3* presents the history of testing to date for eSlate System 2.1.



eSlate System Component	NASED Qualification Number	Responsible ITA
BOSS 2.9.0.4	03040000021 - 1990	Ciber
Tally 2.9.0.8	03040000021B - 1990	Ciber
Ballot Now 1.5	03040000021A - 1990	Ciber
SERVO 1.02	03040000021A - 1990	Ciber
Precinct Voting System (firmware) 1.16	03040000021 - 1990	Wyle

Exhibit IV-3: eSlate Version 2.1 Testing History. The eSlate Version 2.1, currently certified in Colorado, has been fully tested through the NASED certification process.

No issues were encountered during certification.

(2) If the system you are proposing has not been certified by the Secretary of State, please:

- Describe where you are in the process of receiving certification and when you expect to receive the certification.
- Provide a summary of your testing progress with scheduled and/or completed certification dates.

Hart InterCivic Response

The eSlate System 2.1, proposed in this response, is fully certified.

Initial components of eSlate System 3.0 were submitted to ITA on May 19, 2003. Additional components will be submitted as is practical for ITA’s process. Submission of all components expected to be complete by mid June.

2.0 COMPLIANCE WITH ELECTION LAWS

2.1 Requirement

The voting system shall comply with all provisions of Federal, State and local election laws and regulations, and any future modifications to those laws and regulations, which include HAVA.

2.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------



b. How do you propose to meet this requirement?

Hart InterCivic Response

The eSlate System complies with all Federal, Colorado, and local election laws and regulations, including HAVA requirements as indicated in *Exhibit IV-1*, and will adapt to these laws and regulations as they change.

Hart InterCivic’s Development Center in Boulder County maintains an active involvement in national standards initiatives in order to ensure a thorough understanding of changing requirements and emerging trends. Hart also monitors election law changes at the state and local levels where the eSlate Electronic Voting System is certified, as well as continuing communication with Elections Officials at eSlate installations. For example, Hart InterCivic’s Vice President of Engineering and Development serves as Project Manager of the IEEE Voting Systems Standards Project.

Changes to the eSlate System required as a result of changing Federal, state, and local election laws and regulations are added to the eSlate Solution Roadmap, assigned to the Hart InterCivic Development Center, and incorporated into the appropriate component of the eSlate System. This revised functionality is delivered to the installation through a regular scheduled release of hardware, firmware, and software upgrades under the terms of the annual licensing and maintenance agreement.

3.0 OPERATING SYSTEM COMPATIBILITY

3.1 Requirement

The Boulder County Clerk & Recorder operates in a Microsoft Windows XP on the PC, Windows 2000 Server for all server software. The vendor’s proposed system shall operate seamlessly within this environment.

3.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement?

Hart InterCivic Response

Hart InterCivic is in the process of adding Windows XP as a supported platform for the eSlate System. The Ballot Origination Software System (BOSS), Ballot Now, Tally, and SERVO applications are presently designed to run in the Windows NT/2000 environment and are delivered on computer systems (PCs) with compatible operating systems.



4.0 ELECTION MANAGEMENT SYSTEM

The Boulder County Clerk & Recorder currently uses Sequoia Voting Systems Integrity Software to maintain voters, parties, streets, districts, voting locations (polls), candidates/measures, voter counts and precinct information. The system is also used to generate ballot types for each election. Precincts within each ballot type are consolidated into election precincts, and a voting location is assigned to each. The Integrity Software has the capability of managing multiple ballot types in an election precinct. All election data is stored using Microsoft's SQL Server 2000 database software. The process of creating the election structure will remain a function of the Integrity software.

Hart InterCivic Response

Ballots are generated using the eSlate System's Ballot Origination Software System (BOSS), a Windows-based application that allows election officials to manage election data and format and generate ballots. Data will be imported from Integrity into BOSS, including jurisdiction data, election data, and relationships (for example, assignment of precincts to voting locations). The import will be accomplished using a highly automated import wizard.

Hart InterCivic maintains an engineering and integration team staffed with specialists in database and software management. The engineering and integration team has created several import wizards that provide highly automated, "one-touch," import capability. These import wizards support data exchange with a variety of election management systems.

Our expertise in automated integration capabilities has been recognized as a key element in Hart's contribution to the proposal that won the Federal Voting Assistance Project's (FVAP) Secure Electronic Registration and Voting Experiment (SERVE) contract.

4.1 Requirements

- a. The system shall utilize delimited text files generated by the Integrity software to interface to the election management portion of the vendor's software.**

Hart InterCivic Response

The eSlate System will import delimited text files from Integrity using a highly automated import wizard. To develop the wizard, fields will be mapped between Integrity and the BOSS database structure. The import process transfers all data necessary to format and generate ballots, including relationships between fields. The import wizard is launched, and data automatically populates the relevant fields in the BOSS database. The import function provides complete error



checking upon import so that the data is “proofed” for correctness as part of the import process. BOSS also provides the capability for managing multiple ballot types in an election precinct.

- b. All election specific structure, contest and candidate data will be refreshed for each election.**

Hart InterCivic Response

For each election, election specific structure, contest, and candidate data will be imported from Integrity using BOSS’s flexible data import capability or may be manually entered into the application through intuitive data entry fields and drop-down menus. Jurisdiction and election information prepared for one election is saved as an administrative database to be used as a starting point for the next, thereby eliminating repetitive data entry.

- c. The data shall be supplied through an automated interface so no manual keying of data is required.**

Hart InterCivic Response

As noted, Hart will provide an automated interface so that no manual keying of data is required. The eSlate System supports direct import and export of delimited text files in a defined file format. Other file formats are supported, including XML, which is the subject of national and international standards setting efforts. Relationships such as precinct assignments to polling place can be imported as well. The import function provides complete error checking upon import so that the data is “proofed” for correctness as part of the import process.

- d. All election management reports generated by the proposed system shall match the information generated by the Integrity software.**

Hart InterCivic Response

Since all election data will be imported from Integrity, election management reports generated by BOSS shall match the information generated by the Integrity software.

- e. The system may generate its own internal ballot types but shall carry the Integrity ballot type through to reports, so the proposed system can be proofed against the Election Management System (EMS) reports.**

Hart InterCivic Response

BOSS includes a field that will be used to maintain an identifier for the Integrity ballot types, enabling the eSlate System ballots to be proofed against the Election Management System (EMS) reports. The initial activity in the installation effort is a comprehensive requirements and process analysis. We will work with the



County to delineate report data and format specifications. Hart InterCivic will then develop custom reports matching the specification.

- f. The proposed system shall provide all necessary reports and/or delimited text files to allow manual and automated proofing of the ballot types generated to ensure that the data is interpreted correctly.**

Hart InterCivic Response

BOSS produces reports that permit proofing of the ballot types generated to ensure that the data is presented correctly. These reports are described in response to question 4.2 below.

- g. All functions of the software shall support 250,000 voter records, 250 precinct records, 250 voting districts, and in excess of 1,000 ballot types.**

Hart InterCivic Response

The eSlate System can readily support the requirements in the RFP for 250,000 voter records, 250 precinct records, and in excess of 1,000 ballot types. For example, the Mobile Ballot Box (MBB) can store in excess of 50,000 ballot types. The system is currently installed and operating successfully in jurisdictions whose requirements exceed this specification.

4.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

(1) Provide a detailed description of the import capabilities of the system. Limit the response to ballot management interface only. Identify each interface file currently supported, its purpose and limitations.

Hart InterCivic Response

The eSlate System supports direct import and export of delimited text files in a defined file format. Other file formats are supported, including XML, which is the subject of national and international standard setting efforts. Relationships such as precinct assignments to polling place can be imported as well. The import function provides complete error checking upon import so that the data is “proofed” for correctness as part of the import process. The Hart staff includes expert engineering support to develop custom solutions in the event the source file formats are not 100 percent compatible.

The eSlate’s ballot management interface, BOSS, will use the delimited text files generated by the County’s Integrity Election Management System.



BOSS includes an Import/Export utility to externally manage the database data through specifically formatted text files. Each text file represents a data element in the BOSS database, including:

- election
- equipment
- party
- polling places
- precinct
- contest
- candidate
- polling place and precinct associations
- contest and precinct associations

The Import/Export utility does not allow users to manipulate cast ballot data.

Upon executing the utility, the user is prompted to select a target BOSS database. The user selects the data elements to be imported through a “Select Element to Import” dropdown list box and specifies the import file name in the “Import File/Path Name” by either manually entering the path and filename or by selecting it using the “Browse” command button. Users may preview the import file by pushing the “View Import Text File” command button. This brings up the import file for view and/or edit. The import process is then completed by pressing the “Import Records” command button to import the records from the selected file.

The utility validates all records to be imported. Users have the ability to repair invalid records by pushing the “Repair Invalid Records” command button. The repair interface will inform the user of the validation issue, and which element of the data record is faulty.

(2) Provide a detailed description of the process for creating the election structure. This should include setup of election information, if any; import of data; processing; audit checks; reports; etc.

Hart InterCivic Response

BOSS uses an intuitive menu-driven interface in the data entry and ballot formatting process that virtually “walks” the user through the steps necessary to define the election and create ballot styles. To start a new election the user enters the name of the election and selects the “import file” function to import all race, candidates, measures, precincts, districts, rotation, and the relationships between each from Boulder County’s Integrity system. Data may be entered manually, as



well. BOSS provides reports on the import process so that the user may verify the process is complete.

From there, the user may select from a series of options that complete ballot formatting. At this point, the ballots for the election are generated and the MBBs are written. Ballot formats for both the DRE and absentee/mail ballots are generated at the same time. All activities in BOSS are recorded to the audit log, which may be reviewed as required. BOSS also produces a variety of reports that can be used to proof the election structure and set up.

(3) Provide a detailed description of the reports and processes that will allow the Boulder County Clerk & Recorder to proof the ballot types to ensure the data is interpreted correctly.

Hart InterCivic Response

BOSS produces reports that permit proofing of ballots before the database is locked: (1) the Ballot Content Proof Report and (2) the Entire Ballot Slate report.

The Ballot Content Proof report lists the information contained in each ballot style generated by BOSS. The report includes:

- ballot formats
- ballot styles created for a ballot format
- ballot header text
- precincts that will use a particular ballot style in the election
- precinct/precinct split name
- number of registered voters in the precinct/precinct split
- number of precincts that use the ballot style
- number of registered voters that use the ballot style
- for each active contest in each ballot style, lists in order of appearance on the ballot:
 - contest type
 - contest name
 - number of write-ins allowed in the contest
 - straight party, where applicable

The Entire Ballot Slate report shows:

- ballot text for the contest
- contest name
- number of write-ins allowed in the contest
- contest type
- number of options in the contest
- straight party, if applicable
- if the contest is cumulative, displays Cumulative



- if the contest is dependent, displays Dependent on XXX, where XXX is the choice in the related contest that this item is dependent upon number of votes allowed in the contest
- options for an Office type contest, including
 - party affiliation, name, and incumbent status (shown as (I) for incumbent) for each candidate
 - write-ins, and
 - delegate names for each candidate
- options for a Proposition type contest, including text for the proposition
 - for (Yes), and
 - against (No)

5.0 ABSENTEE/MAIL BALLOT VOTING PROVISIONAL BALLOT

5.1 Requirement

The system shall provide an absentee/mail/provisional ballot/provision ballot component from which paper ballots can be generated through a ballot layout system and a means by which such ballots can be tabulated. This system shall meet, at a minimum, the following:

- a. **It shall be integrated with the entire voting system provided.**

Hart InterCivic Response

Ballot Now, the eSlate System's paper Ballot (Absentee/Mail/Provisional) application is a unique software solution for *on-demand, in-house or commercial printing* of paper ballots for absentee/mail voting, provisional voters, or other special situations requiring paper ballots.

Ballot Now scans and digitally images the voted ballots, resolving unclear ballots through an innovative on-screen resolution process; capturing Cast Vote Records, and creating a comprehensive audit trail.

Ballot Now is fully integrated within the eSlate System.

- Data imported into eSlate's Ballot Origination Software System is used to generate both DRE and absentee/mail ballots.
- Ballot styles for both are written on Mobile Ballot Box PC cards.
- As votes are cast, Cast Vote Records are created that have identical formats for both DRE and absentee/mail.
- All Cast Vote Records are tabulated by Tally, eSlate's tabulation and reporting application.



- Standard reports routinely present consolidated totals for absentee/mail and DRE.

b. The component that generates and tallies the absentee ballots shall be programmed from the same database and election definition that is used to program the precinct voting devices.

Hart InterCivic Response

Ballot Now ballots are formatted and generated through the eSlate System’s Ballot Origination Software System (BOSS), at the same time, and from the same data, as the ballots to be presented on the DRE screen.

Using the BOSS import wizard, data is imported from Integrity into BOSS. Formatting choices for the paper/absentee/mail ballots are made in BOSS (columns, paper size, etc.), and a Mobile Ballot Box is written that carries Ballot Now ballot data.

As paper ballot votes are recorded, Cast Vote Records are created that are structured the same as Cast Vote Records from DRE ballots. All Cast Vote Records, whether originating from paper ballots or the DRE, are stored on a Mobile Ballot Box (MBB) and tabulated through Tally, eSlate’s tabulation and reporting application.

c. The output of the absentee/mail/provisional ballot/provisional ballot layout system shall be subject to edits, if necessary, by an editing component within the system. That is, contests shall be able to be moved if necessary by column breaks, page breaks, cut and paste processes, etc.

Hart InterCivic Response

As noted, Ballot Now ballots are generated through BOSS. Using BOSS, users can specify column breaks, page breaks, or make other formatting choices in order to edit the absentee/mail layout.

d. The output of the absentee/mail/provisional ballot/provisional ballot layout component shall be readily exportable so that a commercial printer can generate the ballots necessary for any election held within the County.

Hart InterCivic Response

Ballot Now produces formatted ballots in electronic images (print files) that may be exported and printed by commercial printers. Ballot Now can also print ballots “on-demand” using commercial, off-the-shelf printers.

Ballot Now printing options include printing ballots with or without ballot stubs, and with or without serial numbers. In addition, Ballot Now provides paper



ballots in a variety of templates that use paper sizes of 8 ½” x 11”, 8 ½” x 14”, and 11” x 17”; simplex and duplex ballots are supported, as well as multi-page ballots. All of these different sizes of ballots, however, may be folded into the same size standard ballot envelope.

e. It shall be reliable, accurate, and operate at a speed that accommodates a timely tally of the votes generated by it.

Hart InterCivic Response

Ballot Now performs with 100% accuracy and offers several features designed to ensure accuracy and reliability.

Unlike optical scanning systems, there is no requirement for precise registration marks in printed ballots, thus reducing the margin for error in ballot production. The system automatically adjusts for skewed or damaged ballots, and identifies all marks within the target zone.

Ballot Now uses commercial off-the-shelf scanners and printers, and operates at the full rated speed of each. Ballot Now does not stop scanning due to ballot mismarks or write-ins, instead creating a digital image of the ballot for later resolution by election officials. Ballot Now also includes efficiency features that increase productivity throughout the process. For example, each Ballot Now ballot includes a bar code that identifies the precinct or ballot style. This eliminates the need to sort ballots before scanning, which eases the workload for the Elections Staff and speeds ballot processing.

For the Boulder County installation, Hart is pleased to propose Kodak’s High Speed Series i830 Document Scanners. The i830 handles an unsurpassed range of document sizes, thickness, and surface quality to minimize stoppages and the need for rescans. The feeder, exit hopper, and controls are positioned conveniently to help operators work efficiently. Features like easy operator calibration and multi-feed detection based on length and thickness help any imaging application meet its quality control needs.

We are proposing three Ballot Now systems for Boulder County. The proposed configuration will support imaging of 200,000 ballots in 12 hours.

f. Absentee results shall be easily integrated with Election Day and early voting results.

Hart InterCivic Response

Since Ballot Now is a fully integrated component of the eSlate System, absentee results and Election Day results are seamlessly integrated. Both components capture votes as Cast Vote Records (CVRs), CVRs are saved on the MBB (among other redundant storage), and the MBBs supply data to Tally for tabulation and reporting.



A significant technical advantage that Ballot Now offers is the fact that the Cast Vote Records are not tabulated when the ballots are processed. This technical advantage translates into a tremendous operational advantage since processing of Ballot Now ballots can begin up to 10 days before Election Day as defined in the Colorado Election Code.

Section 1-8-302 of the Colorado Election Code specifically allows ballots to be processed beginning 10 days prior to Election Day, although under no circumstances are results to be released. *Ballot Now can process all by-mail ballots in accordance with state law so that the electronic Cast Vote Records can be read in a matter of seconds on Election Day. There is no risk of exposing returns prematurely.*

g. It shall be subject to a full audit and generate reports and logs that would facilitate such an audit.

Hart InterCivic Response

Like all eSlate components, Ballot Now maintains a complete audit log. Audit Log reports are available from the system. Ballot Now also creates an electronic image of each ballot that is securely and safely stored to create a permanent record of the election. The paper ballot is maintained in its original format, unlike older generation optical scan systems that require election officials to physically alter the paper ballot so it may be re-scanned.

h. It shall allow for the tabulation of provisional ballots that are verified after Election Day.

Hart InterCivic Response

Cast Vote Records for provisional ballots may be accepted or rejected, as appropriate, until the tabulation database for the specific election is closed.

i. It shall support the generation and tally of optical scan type ballots if required.

Hart InterCivic Response

Ballot Now does produce optical scan-type ballots, but with several advantages over older generation optical scan systems. *Exhibit IV-4* provides a description of some of the differences.



Comparison of Ballot Now and Traditional Optical Scanning		
Optical Scanning System	Ballot Now	Ballot Now Benefit
Requires voting response areas to be located on a specific grid limiting flexibility of the ballot design.	No grid required so that as ballot design evolves, there is no limitation on the placement of information.	Flexibility in Ballot Design
The reading or scanning mechanisms (read head) for optical scan systems are known as “contact image sensors” and are made up of a series of individual, discrete emitter-detector pairs. The response of the individual emitter-detector pairs is different so that one pair may recognize a mark while another pair may ignore the same mark. Calibration methods do not allow for the individual pairs to be adjusted; only the entire set of emitter-detector pairs to be averaged.	The imaging component used by Ballot Now is a Charge-Coupled Device (CCD), a highly integrated semi-conductor “array” that maintains a flat response across the component for consistent performance.	Accuracy and consistency
Relies on dimensional stability of the ballot stock and the accuracy of the printing process. A 10% increase in relative humidity can cause a piece of paper to expand as much as 1%. The dimensional relationships between the voter response areas and position of the emitter-detector pairs are on the order of 0.25 inches. A 1% change for an 11-inch piece of paper is 0.11 inches, almost half the distance of the voter response and sensor relationship.	Ballot Now eliminates the need for dimensional stability and printing accuracy by imaging the complete document. By intelligently analyzing the image in computer memory, these artifacts have no impact on accuracy.	Ensures scanning accuracy
When ballots are read by the optical scan system, the ballot must be perfectly aligned with the read mechanism or the ballot will not be properly read. If the ballot is fed into the system off axis the voter response areas will not align with the emitter-detector pairs in the read head.	Ballot Now eliminates the need for the ballot to be perfectly aligned when fed into the system. By intelligently analyzing the image in computer memory, this condition has no impact on accuracy. If there are gross alignment issues, Ballot Now will alert the user.	Accuracy
Requires a sensing track along the edge of the ballot that is made up of individual sense marks. The sense marks line up with the voter response areas across the ballot and “trigger” the read head to scan a line on the ballot. The optical scan system never identifies the voter response area; the system assumes the response area is in the proper location and blindly takes a reading. The assumption that the voter response area is in exactly the correct position is based on the element identified	Ballot Now actually locates the voter response area for each contest and then analyzes the interior area for voter marks. No assumptions are made about the location of the voter response area, every option of every contest is positively located and the interior analyzed.	Accuracy and reliability



Comparison of Ballot Now and Traditional Optical Scanning		
Optical Scanning System	Ballot Now	Ballot Now Benefit
above.		
Uses proprietary hardware that has not significantly improved the performance and accuracy of optical scan systems since the release of the system in the 1960s and early 70's.	Ballot Now relies on commercial off-the-shelf digital imaging scanners that are developed and manufactured by some of the largest information technology providers.	Scalability and continual improvement

Exhibit IV-4: Comparison of Ballot with Traditional Optical Scanning Solutions. Ballot Now's unique digital imaging process and ballot-on-demand capability provides important advantages to Boulder County in terms of accuracy, reliability, convenience, and flexibility.

5.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Make sure to include item(s) listed below:

(1) Give a comprehensive description of the absentee/mail/provisional ballot component of your system.

Hart InterCivic Response

Ballot Now, eSlate's digital absentee balloting application, is a paper balloting system that is fully integrated with the eSlate Electronic Voting System. Ballot Now manages the printing, scanning, and resolution of paper ballots for absentee or provisional voting. Ballot Now also records voted ballots as electronic Cast Vote Records (CVRs) for tabulation through the eSlate Tally tabulation and reporting system.

Ballot Now retrieves ballot information from the Mobile Ballot Box (MBB) written by the eSlate's Ballot Origination Software System (BOSS), using the same process as that used to define ballots for the eSlate Precinct Voting System. As a result, Ballot Now provides Boulder County Elections Officials with a highly scalable absentee/mail/provisional solution, fully integrated with the eSlate System.

Ballot Now ballots can be produced in an electronic file and provided to commercial printers for volume ballot production, or printed on demand by commercial, off-the-shelf printers.

Competitors' "on-demand" systems require ballots to be preprinted for specific precincts or ballot styles. This means that Boulder County election officials must forecast and manage the inventory of ballots for requirements that are difficult to



anticipate. Other ballot on demand systems require special stock with preprinted “ovals” or other target marks that may or may not conform to particular ballot requirements. Ballot Now ballots require no preformatting.

Ballot Now ballots include a bar code that identifies the precinct or ballot style. This eliminates the need to sort ballots before scanning, which eases the workload for the Elections staff and speeds ballot processing. Bar codes prevent duplicate scanning, which is the most frequent error in centrally processing optical scan ballots, and fraudulent ballots.

Ballot Now also includes a unique on-screen feature that increases the efficiency and accuracy of ballot resolution and avoids the need to alter the original paper ballot in any way. Ballot Now identifies ballots requiring resolution, based on local procedures and State law. The ballot resolution process allows Election Officials to review the digital image of the ballot on the computer screen to record write-in votes or resolve questions of voter intent. As issues are resolved, Elections Officials use a simple menu-driven interface to make and record decisions; Ballot Now also includes an auto-resolve feature that can be used if determination of voter intent is not required.

Processing write-in votes is particularly streamlined. Prior to scanning the ballots, the Elections Staff enters into Ballot Now the names and acceptable aliases for certified write-in candidates. Part of the ballot resolution process is then to accept or reject the voter’s write-in choice according the list of certified candidates. With this method, all selections, including write-ins, are recorded electronically in Ballot Now.

Since all resolution issues are accomplished on-screen, there is no need to alter or handle the paper ballots. All ballots are preserved in their original forms requiring no alterations, in the event re-evaluation of the voter’s intent is required. All actions taken related to the ballot resolution are recorded with descriptive detail in the Ballot Now audit log to provide a traceable record of events all the way back to the individual ballot (but not the voter).

(2) Describe the speed and accuracy of your absentee/mail/provisional ballot generation and tally features.

Hart InterCivic Response

Ballot processing is fast and 100% accurate.

Unlike optical scanning systems, there is no requirement for precise registration marks in printed ballots, reducing the complexity and margin for error in ballot production. The system automatically adjusts for skewed or damaged ballots, and identifies all marks within the target zone.



The innovative design of the Ballot Now system allows scanning equipment to work continuously at rated scanner speed, since image processing is accomplished separately but parallel with scanning operations. The scanner feeds continuously and does not stop for ballot resolution issues (namely undervotes, mismarks, overvotes). Digital images of questionable ballots are stored electronically, and retrieved for resolution at an appropriate time determined by local practice.

Also, multiple Ballot Now stations (scanners) may be operated simultaneously to achieve complete processing in any given period of time. The means the system is highly scalable.

To support the process of scanning voted Ballots, Hart InterCivic is recommending the Kodak i830 Scanner with High-Volume Capture Software, which has a rated speed of 160 pages per minute (8½ x 11, landscape).

(3) Describe the reliability of your absentee/mail/provisional/provisional ballot features.

Hart InterCivic Response

Through testing by the Independent Testing Authority and independent tests performed as part of Hart InterCivic's ISO 9001 registered quality management system, Ballot Now has consistently demonstrated its reliability and performance. In addition, since the configuration proposed for Boulder County include three Ballot Now stations that can operate concurrently, the County will have a redundant system in unlikely event one of the stations is out of service.

(4) Describe the process to audit your absentee/mail/provisional ballot processes.

Hart InterCivic Response

Like all components of the eSlate System, Ballot Now creates a complete audit trail of all actions affecting the operation of the absentee/mail system. The audit trail is documented in the Ballot Now Audit Trail Report. The Audit Trail report lists the transactions users performed in Ballot Now.

Transactions that result in changes to the data stored in the database, and that are listed in the Audit Trail report include:

- transaction record number
- username of the user logged in to Ballot Now when transaction occurred
- date transaction occurred
- time of day transaction occurred
- code for the transaction



- description of the transaction, and
- details of the transaction

(5) Describe the error detection capabilities for your absentee/mail/provisional ballot features.

Hart InterCivic Response

Ballot Now includes several safeguards designed to detect errors in ballot processing or in marked ballots after voters return them. For example, when voted ballots are scanned, Ballot Now produces a Scanned Ballots Report. The Scanned Ballots Report lists the number of ballots processed by the system for an Election, sorted by Batch ID, and identifies ballots with marked areas that are unable to be processed or violate any voting logic (for example overvotes, write-ins, etc.).

This report is updated every time a batch of returned ballots is scanned. After first scanning ballots, there may be a number of unresolved ballots, and the report reflects these. However, after all ballots are resolved, the report does not show any unresolved ballots.

For each scan batch, the Scanned Ballots By Batch report shows:

- batch ID
- username of the user logged in to Ballot Now when ballots were scanned
- date ballots were scanned
- time of day ballots were scanned
- precinct name
- number of ballots scanned in each precinct
- number of unresolved ballots in each precinct
- number of resolved ballots in each precinct
- number of resolved ballots in each precinct that have been written to the MBB, and
- number of ballots in each precinct that are not yet processed

For ballots with unreadable marks, Ballot Now offers an innovative option to Elections Officials faced with the challenge of interpreting voter intent. When Elections Officials are ready to resolve questionable ballots, resolution problems are completed using Ballot Now's unique *on-screen* resolution feature. Ballot Now identifies ballots requiring resolution, according to parameters set by the Elections Official. The ballot resolution process is accomplished by reviewing the digital image of the ballot on the computer screen to record write-in votes or



resolve questions of voter intent. As issues are resolved, Elections Officials use a simple menu-driven interface to make and record decisions.

Since all resolution is accomplished on-screen there is no need to alter or handle the paper ballots. Therefore all ballots are preserved in original form, without alteration, in the event re-evaluation of the voter's intent is required. All actions taken during the ballot resolution activity are descriptively added to the audit log.

A tremendous advantage provided by Ballot Now is that it uses off-the-shelf digital high speed scanners. This means that advances to scanning technology are brought to the election industry by Ballot Now. The digital imaging industry is growing with millions of dollars a year spent on research and development to advance the technology. Hart has teamed with Kodak, an industry-leading manufacturer of digital scanners and is committed to continuous improvement of the technology.

The proposed i830 Document Scanner scans up to 160 pages per minute (A4 letter, landscape mode, 200 dpi). It handles an unsurpassed range of document sizes, thickness, and surface quality to minimize stoppages and the need for rescans.

(6) Describe the report generation faculty of your absentee/mail/provisional ballot component.

Hart InterCivic Response

Ballot Now produces a series of standard reports designed to provide complete management control of the application and ballot production and processing. The reports include:

- Election Report
- Scan Batch Report
- Scanned Ballots By Precinct Report
- Scanned Ballots By Batch Report
- Unresolved Ballots Report
- Printed Ballots By Precinct Report
- Certified Write-ins Report
- Audit Trail Report

In addition to the standard reports, ad-hoc reports designed per customer specification may be delivered using Crystal Reports, the leading database reporting tool, which is included in Hart InterCivic's proposal.



We provide a complete list of the reports printed from the eSlate Voting System in *Attachment 2: eSlate System Reports*.

(7) Provide a description of your experience in generating absentee/mail/provisional ballot processes in live elections.

Hart InterCivic Response

Ballot Now has been used to process nearly a quarter of a million ballots for live elections.

Harris County (Houston), Texas, uses Ballot Now to provide absentee by-mail capabilities as part of the overall eSlate Electronic Voting System implementation. Ballot Now was successfully used for absentee/mail voting in the March 2002 primary and runoff. Both Travis County (Austin), Texas, and the City of Philadelphia used Ballot Now for absentee/mail voting for the first time in their November 2002 Election.

Using Ballot Now, Hart InterCivic also successfully completed the recent election for the State Bar of Texas and Texas Young Lawyers Association, including:

- formatting and printing of ballots,
- overseeing the mail house operation for ballot packet assembly and mailing,
- daily reporting of return rates,
- ballot scanning and resolution, and
- tabulating and reporting of results.

During the 2003 election cycle, members were provided ballots using 64 different ballot styles. Of the 71,190 ballots distributed, 20,865 ballots were returned to Hart for processing and tabulation. This was the third year Ballot Now was used by the State Bar of Texas for this Election.

Arapahoe County, Colorado, recently concluded a successful election, including the use of Ballot Now to process approximately 28,000 ballots. Arapahoe County also employed a technique of projecting Ballot Now's resolution screen for discussion by the Resolution Board.

In December 2002, Hart InterCivic provided services for the City of Longmont Special Municipal election, which was a mail election. This was a complete election services contract, with Hart InterCivic performing all ballot related activities including coordinating mail house vendor participation. A total of 48,769 ballots were mailed out, with 7,673 returned. Results were available just over one hour after the polls closed.



- (8) Include actual samples of absentee/mail/provisional ballots generated from your system. These samples should include ballots of various sizes and colors.**

Hart InterCivic Response

We present samples of ballots printed by Ballot Now as *Attachment 3: Ballot Now Ballot Samples*.

- (9) Describe all options for printing ballots generated by your system. Can they be generated by third party vendors, printed “on-demand”, printed on-site, etc.?**

Hart InterCivic Response

Ballots are printed on demand or sent in electronic format to commercial printers and mailed to voters in standard sized envelopes according to the requirements of the voting jurisdiction. Ballot Now can print on-demand, on-site, using commercial, off-the-shelf printers. A key advantage of the Ballot Now application, however, is that ballots do not have to have the precise registration typical of older generation optical scanning systems. Therefore, there is no need to employ costly pre-printed ballot templates.

The competitors’ “on-demand” systems require ballots to be preprinted for specific precincts or ballot styles. This means that County election officials must forecast and manage the inventory of ballots for requirements that are difficult to anticipate. Other ballot on-demand systems require special stock with preprinted “ovals” or other target marks which may or may not conform to particular ballot requirements; this is typical of traditional optical scan systems. Ballot Now ballots require no pre-formatting, and can be printed directly on blank Colorado certified ballot stock.

Ballot Now can also export .PDF files for delivery to commercial printers for volume printing. Returned mailed ballots are processed using commercially available scanners. For Boulder County, we are recommending Kodaks i380 high-speed document scanner. Processing includes scanning of the ballots, extraction of cast vote data, and delivery of Cast Vote Records (CVRs) on the same elections MBBs to the Tally application for tallying.

- (10) Describe how the optical scan type ballot system would be integrated if its use were to become necessary.**

Hart InterCivic Response

Ballot Now ballots can be distributed by mail or at a polling place. When a voter finishes casting his/her vote, the ballots are returned and processed. As described



previously, the cast votes are then tabulated in a process that is fully integrated with votes cast on the eSlate DRE System.

If the question is asking how an optical scan system from another vendor will be integrated in the event that becomes necessary, the eSlate System can also accommodate this possibility. Integration with a third party optical scan system, if necessary, would occur at the point cast votes are tabulated and reported. Hart would work with the vendor to establish a standard output file format from their system and then use it to import the data into a consolidated, comprehensive report. The eSlate System's Fusion utility was designed to facilitate this kind of integration.

Hart InterCivic has substantial experience in such integration. This expertise has been demonstrated in several recent applications:

- In Harris County (Houston), Texas, the Hart InterCivic team installed a completely new PC based network election management system using Citrix metaframe driving thin-clients, fully integrated with the eSlate Electronic Voting System, to provide county election officials with a seamless process for early voting in-person. The team also integrated cast vote data from the County's existing ES&S punch card system with the electronic totals from eSlate, and provided tabulation and reporting through eSlate's Tally software.
- In Tarrant County (Fort Worth), Texas, the Hart InterCivic team integrated the eSlate System with a county-developed, mainframe voter registration system, and provided consolidated cumulative and final reports integrating results from the County's (ES&S) Optech Eagle Optical Scan system used on Election Day with Early Voting results cast on eSlate.
- In Travis County (Austin), Texas, election results from two different election vendors (Global's AccuVote touch screen system and ES&S' optical scan system) were merged by Hart InterCivic's technical team into eSlate's Tally tabulation and reporting software to provide consolidated totals.

6.0 EARLY VOTING

One or more DRE voting units will be used at each early voting site.

Hart InterCivic Response

The eSlate Electronic Voting System is ideal for In-Person Early Voting locations. Each MBB holds all ballot styles required by the County, and when inserted into a Judge's Booth Controller (JBC), can present ballot styles for *any* precinct at *every* early voting location.



6.1 Requirements

- a. DRE units used for early voting shall have the capabilities of the DRE units used for precinct/polling place voting.**

Hart InterCivic Response

The same eSlate devices are used during Early Voting and on Election Day. When used for Early Voting, the eSlate operates identically to those used on Election Day, although eSlate includes specific functionality supporting efficient operation of Early Voting.

For example, an important feature of the eSlate System is the suspended polls tape for Early Voting. Printed at the close of polls after each day of voting, these reports contain daily and cumulative summaries of Access Code activity, summary vote totals from each voting unit, and detailed precinct-by-precinct listings of how many voters from each precinct voted at that location. This information provides a wide degree of flexibility in monitoring the number of votes cast and comparing these totals daily to the poll list.

- b. The proposed system shall be capable of presenting the correct ballot style to the voter.**

Hart InterCivic Response

The eSlate consistently delivers the correct ballot to the voter. Through the BOSS application, ballot styles are linked to precincts. This information, along with all formatted ballot styles, is stored on the MBB.

When the MBB is inserted in a Judge's Booth Controller placed at an Early Voting site, all ballot styles are immediately available at the site. The voter is issued a four digit Access Code that is linked to the voter's precinct (but not the voter's identity). The voter then goes to any available machine and enters the Access Code. The Access Code instructs the JBC which ballot to present to the voter.

- c. The proposed system shall be able to accommodate multiple ballot combinations on a single DRE voting unit.**

Hart InterCivic Response

Any eSlate unit at an Early Voting polling place can accommodate any ballot combination required for an election. The MBB can hold well in excess of 50,000 ballot styles.

- d. The proposed system shall allow for units used during early voting to be de-programmed and re-programmed for use at polling places, if necessary.**



Hart InterCivic Response

eSlate units used during early voting are easily reset for use at Election Day polling places, if necessary. When Early Voting is complete, the Early Voting MBBs are removed from the JBCs and secured for later use with Tally to tabulate election results. The Cast Vote Records and other data stored redundantly on early voting equipment (internal memory of the JBC and eSlate/DAU units to be used on Election Day) is backed up and reset using SERVO. The eSlates are then ready for Election Day deployment.

- e. Results from the early voting period shall be easily moved to the final vote tally. The proposed system shall provide the Boulder County Clerk & Recorder with the option to move the results daily or at the end of the early voting period.**

Hart InterCivic Response

Cast Vote Records are moved through the Early Voting MBB. One MBB is used for each Judge's Booth Controller at an Early Voting location. The MBB holds all votes cast at the location during the Early Voting period. Therefore, the MBB is moved to tabulation at the close of Early Voting. The MBB is secured for later use with Tally.

- f. The vendor shall build an automated interface between the Election Management Absentee System and the early voting components to allow the issuance of correct ballot styles to the voters electronically.**

Hart InterCivic Response

The Hart staff is experienced in the integration of the eSlate System with other Election Management Information Systems. For example, in Harris County, issuance of Access Codes and presentation of the correct ballot style to early voters is fully integrated and automated at the Early Voting polling place.

As part of this response, Hart has included the implementation of this automated interface. During the initial Work Process Analysis, Hart will assess the system requirements for automating the interface between that Election Management Absentee System and the eSlate System, and ensure that operational requirements to support Early Voting are achieved.

The votes cast through the early voting process shall be identifiable in the vote tabulation system for balancing purposes. Ballots cast in early voting will be recorded in a declared absentee precinct, requested absentee precinct or polls precinct when reporting results.

- g. The votes cast through the early voting process shall be identifiable in the vote tabulation system for balancing purposes. Ballots cast in early voting**



will be recorded in a declared absentee precinct, requested absentee precinct or polls precinct when reporting results.

Hart InterCivic Response

Tabulation and reporting for early voting is accomplished through the same process used to tabulate and report Election Day Cast Vote Records and absentee/mail/provisional appear ballots. Votes cast during the Early Voting period are tracked separately by the eSlate System. Consolidated results are reported through the Tally tabulation application and these reports identify votes cast by type.

h. Reports and/or data export that detail where the ballots were cast will be generated and used to balance the ballots cast against the absentee request system by precinct as part of the canvass process.

Hart InterCivic Response

The eSlate System tracks cast ballots by polling location (or early voting site) and by precinct both on the MBB and on the JBC. The MBB is read by Tally and the information is reported by precinct. SERVO can produce a report that details the number of ballot cast by precinct, and the information can be used to reconcile against the County's absentee request system.

6.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Provide a detailed description of your abilities to meet the conditions for a successful early voting project.

Hart InterCivic Response

With the eSlate System, voters from any precinct in the County may cast their ballots at any voting site. The eSlates utilized in Early Voting are the same as those used for Election Day voting, and feature all of the capabilities of the eSlate, DAUs, and JBCs. All eSlate components are part of a comprehensive architecture that was designed as an integrated voting system. This produces uniform and consistent ballot definition, vote tabulation, and integrated results reporting whether using the eSlate voting device, the DAU, or the Ballot Now digital scanning component.



(2) Provide a description of your experience in successfully conducting early voting projects.

Hart InterCivic Response

The eSlate System has been used extensively to support Early Voting in each of the counties that have acquired it. Examples of early voting use of the system include:

- In Harris County Texas, eSlate has been used in Early Voting in the last six elections, including statewide primary and municipal elections. Harris County operates 30 Early Voting locations.

In May 2003, 25 entities in Harris County used the eSlate for early voting. These entities ran their elections independently, with support from Harris County based on previous training and support from Hart.
- Tarrant County, Texas, operates 28 Early Voting locations, and has also used eSlate for six election cycles.
- Arapahoe County, Colorado, uses the eSlate System for Early Voting in seven locations. The County also operates a mobile voting unit during the early voting period, which is also equipped with eSlate units. The County acquired the eSlate System despite having purchased a competing DRE system prior to the commercial release of eSlate in 2000. The County's decision to replace the competing DRE with eSlate was based upon eSlate's greater ease of administration in supporting countywide Early Voting and a much lower cost of ownership.
- Travis County, Texas, recently implemented the system and has used eSlate for Early Voting in three elections. The County operates 26 locations for Early Voting. Travis County has emphasized the availability of Early Voting, and as a consequence it is not unusual to see as much as 40% of the turnout in Early Voting. The eSlate has accommodated this volume with no issues.
- Brazos County, Texas, successfully used the eSlate in its first election cycle in May 2003. This included early voting sites.

For each of these counties, Hart InterCivic has provided pre-election support, training, voter education, Early Voting and Election Day support, and Post Election support, serving in all cases as an extension of the local election authority.

7.0 BALLOT MANAGEMENT (AUTOMATED BALLOT LAYOUT)

The Boulder County Clerk & Recorder currently uses Integrity Software to manage contests and candidates for countywide elections. Information is



extracted and sent to for input into the ballot layout process, including: election precincts, district information, ballot typing, contests (including party, vote for, order of candidates), and measures.

The printing vendor currently performs all tasks necessary to produce the ballot layout for each ballot type used to generate ballot cards for our existing DataVote devices. They also merge this data to generate the required TABOR notice packets.

7.1 Requirements

- a. **The proposed software will contain automated routines capable of performing all ballot layout functions now performed by the County's printing vendor.**

Hart InterCivic Response

Ballot layout is managed by the eSlate's Ballot Origination Software System (BOSS) application. BOSS supports automated routines capable of performing ballot layout functions now performed by the County's ballot printing vendor. BOSS provides Automated Ballot Layout and Ballot Management through a Windows-based software application that manages all the election-specific data, creates the ballot formats, and writes the multiple flash memory cards (MBBs).

- b. **The proposed software shall support both automated and manual ballot layout for DRE and optical scan ballots.**

Hart InterCivic Response

The ballot generation feature of BOSS creates electronic ballot styles based on the information specific to the jurisdiction and election supplied by the user. Manual layout options, such as page breaks and column breaks, are also supported through BOSS.

- c. **The proposed DRE system shall have the capability to print the ballot in its original format.**

Hart InterCivic Response

The eSlate System prints ballots in original formats.

- d. **It is desirable for the software to automatically lay out the DRE ballots and optical scan ballots in one operation.**

Hart InterCivic Response

BOSS automatically lays out the DRE ballots, for Election Day, Early Voting, and absentee/mail/provisional ballots in one operation. Ballot generation creates a



single data file that is written to the MBB and is used to conduct the election at any polling location, for absentee/mail voting, and Early Voting.

- e. The vendor shall be prepared to support an Optical Scan type ballot, should the need arise.**

Hart is prepared to support an optical scan type ballot, should the need arise. Ballot Now produces an optical scan type ballot and is available as required.

- f. The proposed software shall provide for manual entry of contest and candidate information for small jurisdictional elections where the DIMS Candidate Filing module is not utilized (e.g., city elections where there is only one contest, one ballot type and a few candidates).**

Hart InterCivic Response

Per RFP Addendum 1, Boulder County does not currently use or have plans to use the DIMS Candidate Filing module. For small jurisdiction elections, the eSlate System provides an easy-to-use means to enter information.

BOSS, a Windows based interface, allows Election Officials to manage election data and format and design ballots. Data entry is as easy as filling in an electronic form or template -- there is no programming -- and choosing options for ballot styles and formatting is as simple as checking a box or selecting from pull-down menus. As a result, manual data entry is fast and easy.

- g. The proposed software shall allow for additional districts to be added to the election structure without affecting the existing ballot typing in the ballot management software. These changes shall not require re-proofing of the election structure information entered prior to these changes.**

Hart InterCivic Response

Any time prior to securing the election database against further changes, additional districts can be added to the election structure through BOSS without affecting the existing ballot typing and contests. BOSS allows for multiple levels of data management, all of which can be edited and added to the election structure without affecting the existing ballot typing in the ballot management software.

- h. The proposed software shall allow adding contests, ballot measures, and/or candidates to the existing ballots without re-proofing the ballot pages that are not affected by changes**

Hart InterCivic Response

BOSS allows adding contests, ballot measures, and/or candidates to the existing data without re-proofing the previous data that is not affected by changes -- a key capability, especially when last minute changes occur. Jurisdiction and election



information that is used from one election to the next is maintained in an administrative database, which serves as the beginning point for data entry. This eliminates repetitive entering of information that is used consistently in the election process.

7.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) List all the devices or ballot designs (e.g., optical scan) including sizes and formats your system will automatically lay out with your ABL software.

BOSS is designed to provide Automated Ballot Layout for the eSlate System, including the eSlate DRE voting device and the Ballot Now absentee/mail/provisional application. BOSS supports letter, legal and tabloid formats in duplex or simplex, with up to 4 columns as well as multi-page ballots. All of these different sizes of ballots, however, may be folded into the same size standard ballot envelope.

(2) Provide a list and description of each report your ABL system generates for ballot proofing (e.g. ballot layout, candidate order, rotation, etc).

Hart InterCivic Response

BOSS provides the reports detailed in *Exhibit IV-5: Ballot Proofing Reports* to support ballot proofing. Version 3.0 of the eSlate System includes the capability to print a fully formatted ballot for proofing. Additional ad-hoc reports may be designed per the customer’s specifications using Crystal Reports.



Ballot Proofing Reports	
Name	Data Elements
Ballot Content Proof	<ul style="list-style-type: none"> ■ Ballot formats ■ Ballot styles created for a ballot format ■ Ballot header text ■ Precincts that will use a particular ballot style in the election ■ Precinct/precinct split name ■ Number of registered voters in the precinct/precinct split ■ Number of precincts that use the ballot style ■ Number of registered voters that use the ballot style ■ For each active contest in each ballot style, lists in order of appearance on the ballot <ul style="list-style-type: none"> ▪ Contest type ▪ Contest name ▪ Number of write-ins allowed in the contest ▪ Straight Party if the contest is assigned to Straight Party
Entire Ballot Slate	<ul style="list-style-type: none"> ■ Ballot text for the contest ■ Contest name ■ Number of write-ins allowed in the contest ■ Contest type ■ Number of options in the contest ■ Straight Party if the contest is assigned to Straight Party ■ If the contest is cumulative, displays Cumulative ■ If the contest is dependent, displays Dependent on XXX, where XXX is the choice in the related contest that this item is dependent upon number of votes allowed in the contest ■ Options for an Office type contest, including <ul style="list-style-type: none"> ▪ Party affiliation, name, and incumbent status (shown as (I) if is incumbent) for each candidate ▪ Write-ins ▪ Delegate names for each candidate ■ Options for a Proposition type contest, including <ul style="list-style-type: none"> ▪ Text for the proposition ▪ For (Yes) ▪ Against (No)

Exhibit IV-5: Ballot Proofing Reports. The eSlate System produces reports that permit fast and accurate ballot proofing.



(3) Provide detailed steps for setting up and preparing the ballot, both for the DRE and the optical scan paper ballot.

Hart InterCivic Response

The eSlate DRE and absentee/mail/provisional ballots are formatted at the same time, using the same processes within the BOSS application. All user actions in BOSS are guided by an intuitive interface including point and click actions and drop down menus.

Definition of an election begins with the creation of an election database. Typically, jurisdiction information that does not need to be refreshed with each election cycle is carried forward from the existing database, which serves as an administrative database. If Boulder County prefers, this information can be imported with each election.

The user first defines the Election's Type, Date, and Title, and then enters the Jurisdiction information (for example precincts, polling places, and so on). This information can be manually entered or imported from the Integrity system.

Definition continues with the entry or import of election information, including political parties, contest titles, candidates, voting options for contests, data associations, and other information. The user may then select formatting options (for example page or column breaks), and produce ballot proofing reports.

Audio strings for disability-access-enabled eSlates are then recorded. The database is saved and ballot formats generated, including paper format if Ballot Now is in use. Ballot formats are then written to the MBBs and audio strings for the accessible units are written to separate PC Cards that are inserted in the eSlate Disability Access Units.

When BOSS generates the file for the MBB, the BOSS database is locked so that no more changes can be made, thus protecting the integrity of the MBB data file. Audit Trail and Polling Places Reports are printed and examined. The BOSS database is subsequently used to initialize the Tally database, eliminating the need to manually re-enter data required for tabulation, and extending data integrity to tabulation.

(4) Describe the proposed software's flexibility to allow modifications to the ballot layout at the last minute. Indicate how the following would be affected: election precincts, districts, ballot types, voting locations (polls), contests, measures, candidates, and recalls.

Hart InterCivic Response

Last minute changes in ballot information may be incorporated quickly and smoothly. If the BOSS database has not been locked, changes are as simple as



editing data fields. If the BOSS database has been locked and the MBBs have been written, Elections Officials can copy the existing BOSS database and create a new database to make the necessary last minute changes. MBBs and audio cards are then prepared.

A key advantage of the eSlate System's architecture is the fact that **only one MBB** is required per polling place; there is no need to reprogram individual stand alone machines to accommodate last minute changes. Through the placement of the edited MBB in the JBC, all machines at the polling place reflect up-to-the-minute ballot styles and data.

8.0 BALLOT MANAGEMENT (LANGUAGE SUPPORT)

Adhering to the Federal Voting Rights Act, Boulder County provides election materials in both English and Spanish. It is possible that the County will be required to provide assistance in one or more additional languages.

Hart InterCivic Response

The eSlate System has supported both English and Spanish since its earliest version. With Version 3.0, the eSlate System supports up to 10 languages, including both character-based and non-character-based languages.

8.1 Requirements

a. The system will provide all functions listed above under Ballot Management (Automated Layout) for English, Spanish and other required languages, including character-based languages.

Hart InterCivic Response

The eSlate System Version 2.1, as certified in Colorado, currently supports English and Spanish. The eSlate System Version 3.0 provides support for up to 10 languages including character-based languages.

Ballot layout for all languages is managed through BOSS. All of the functions listed in the previous question apply to all languages supported. This includes:

- a. Supporting automated routines capable of performing all ballot layout functions now performed by the County's printing vendor.
- b. Supporting both automated and manual ballot layout for DRE and optical scan ballots.
- c. Printing the ballot in its original format.
- d. Automatically laying out the DRE ballots and optical scan ballots in one operation.
- e. Supporting an optical scan type ballot, should the need arise.



- f. Providing for manual entry of contest and candidate information for small jurisdictional elections where imported data is not utilized (e.g., city elections where there is only one contest, one ballot type and a few candidates).
 - g. Adding additional districts to the election structure without affecting the existing ballot typing in the ballot management software. These changes shall not require re-proofing of the election structure information entered prior to these changes.
 - h. Adding contests, ballot measures, and/or candidates to the existing ballots without re-proofing the ballot pages that are not affected by changes.
- b. If software is used for language translation, software will be run against the final proofed version of the ballot. If manual entry is required, only text needing translation will be entered.**

Hart InterCivic Response

All ballot text content is prepared in English and proofed for accuracy. The final proofed version of the English language ballot text is exported for translation.

- c. The proposed system shall provide all necessary reports and/or delimited text files to allow manual and automated proofing of the ballot types generated to ensure that the data is interpreted correctly.**

Hart InterCivic Response

As noted above, once the ballot(s) are finalized, the printed versions must go through a final proofread to ensure grammatical, font and formatting accuracy. These final ballots are sent to the translator as PDF files or sent out as paper ballots for review and approval.

8.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

(1) Describe in detail the process necessary to generate non character-based languages (e.g., Spanish) and character-based languages (e.g., Chinese).

The following process is used to support requirements for multiple languages, including both character-based and non-character-based languages:

- 1. All ballot text content is prepared in English and proofed for accuracy. The final proofed version of the English language ballot text is exported to



an XML document formatted for target languages. (Note: text does not have to be complete or 100% accurate. Missing text and changes to text can be made later if necessary.)

2. These export files are delivered to translators. There is one file per target language and translators are required to use translation software that supports the use of XML file protocol.
3. Translated file(s) are received from translator and imported in to BOSS via XML import functionality. If changes are necessary, only those English language strings that have been changed since the previous translation will be exported for translation.
4. Once the ballot(s) are finalized, the printed versions must go through a final proofread to ensure grammatical, font and formatting accuracy. These final ballots are sent to the translator as PDF files or sent out as paper ballots for review and approval.
5. After final proofing of ALL languages (including English), BOSS is used to export files for audio recording. BOSS audio export creates XML files for each language.
6. After completion of all audio imports, ballots are generated and tested.
7. The text and audio strings should be proofed on the eSlate.

(2) Include a description of any add-on software used in the translation process that resides outside the ABL software.

Hart InterCivic Response

If the translation is performed by software, then the translation software is external to the ABL software. This program would reside with the translation service.

(3) Include a description of how character-based languages are edited and or replaced if corrections are required.

Hart InterCivic Response

All corrections are made through the BOSS application. Character text requiring correction is entered in BOSS and ballot styles are re-generated using the corrected language file.

(4) Use the table below as a basis to describe: 1) how/if your base system supports languages other than English; 2) additional hardware requirements necessary to make the base system support multiple



languages; and 3) additional software requirements to make the base system support multiple languages.

# of Languages	Base System	Additional Hardware Requirements	Additional Software Requirements
1. English	Yes	None	None
2. Spanish	Yes	None	None
3. Tagalog	Yes	None	None
4. Cambodian	Yes	None	None
5. Chinese	Yes	None	None
6. Russian	Yes	None	None
7. Vietnamese	Yes	None	None
8. Japanese	Yes	None	None
9. Korean	Yes	None	None
10. Large Type English	Yes	None	None

Exhibit IV-6: Languages Supported. The table above details the languages supported by Version 3.0 of the eSlate System.

9.0 BALLOT MANAGEMENT (SAMPLE BALLOT PAMPHLET)

The Boulder County Clerk & Recorder mails approximately 92,000 TABOR Notice packets one to each active elector household in any General or Coordinate election held in November. These packets may or may not be generic books (all text in one book). Nevertheless, the process for generating them is complex. Only debt tax or revenue related issues are printed in the TABOR notice packets. They historically are produced in an 8-1/2" x 11" format.

Sequoia Voting Systems have been responsible for the production of the TABOR Notice packets. After receiving our election data (i.e., registration counts, TABOR related text), the printer performed the layout, ballot typing, and booklet assembly, printing, addressing and mailing.

The system Sequoia Voting Systems use is a legacy system. It was designed to accommodate punch card ballots and lays out ballot pages based on punch positions. Text pages are entered into the system on a page-by-page basis.



Pages are coded so they can be assembled into books by ballot type. This could be as simple as creating image files for the voting pages or as complex as creating a complete set of structure, contest, candidate, rotation, vote for, etc., files so the printer can recreate what was developed in the ABL portion of the system.

9.1 Requirements

The vendor will work with our current (or any future) sample ballot printer to create an automated interface to their sample ballot pamphlet production system.

This interface will also produce the necessary proofs to allow the jurisdictions ensure the TABOR Notice packet match the submitted text.

Hart InterCivic Response

Since 1912, Hart InterCivic has provided a wide range of election management products and services to county governments, including ballot formatting and production. Hart is one of the largest national election printers in the industry, producing more than 10 million ballots during a typical election cycle, including sample ballots. Hart routinely works with other national printers to complete jobs. Hart will be pleased to include Boulder County’s printer among its network of printing partners and identify the digital printing process and any other critical elements necessary for the successful completion of the County’s sample ballot pamphlets.

9.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Describe your approach.

Hart InterCivic Response

Hart InterCivic has included 80 hours of development effort dedicated to the automated interface for sample ballot pamphlet production. Since the BOSS system already generates electronic print ready ballot pages, development will be focused on incorporating the additional information required for sample ballot pamphlet production.

10.0 BALLOT MANAGEMENT (DRE MANAGEMENT)

The Boulder County Clerk & Recorder currently utilizes 227 to 250 polling places at each election. We are estimating, on the average, five devices will be needed at each poll.



10.1 Requirements

- a. **The proposed system shall provide a means of transferring the ballot images from the ABL software to appropriate system components (i.e., DREs and/or controller unit) in an expeditious manner.**

Hart InterCivic Response

The Mobile Ballot Box is the method used to transfer ballot images from the ABL software to the rest of the system components. BOSS transfers the ballot images from the ABL software to appropriate system components by creating a single data file that is written to the MBB that is used to conduct the election at any polling location, absentee/mail voting, or for Early Voting.

- b. **The proposed system shall maintain an automated log and inventory of all devices configured and placed in the inventory for use in the election. At some point after the close of polls and the final certification, an audit trail containing the status of all inventoried devices will be generated. This will include devices that were successfully used for voting, failed during Election Day or were not utilized in the election.**

Hart InterCivic Response

The eSlate System maintains an automated log and inventory of all devices configured and software placed in the inventory for use in the election. After the close of polls and the final certification, the System's SERVO application captures an audit trail and equipment log of all inventoried devices. SERVO is also used to manage the process of verifying and archiving Election data. This includes devices that were successfully used for voting or were not utilized in the election.

- c. **The proposed system will generate detailed activity logs on each of the system components used in the election process.**

Hart InterCivic Response

Activity logs are available for each component of the eSlate System.

This includes each software application (BOSS, Ballot Now, Tally, and SERVO) and the hardware components used in the polling place (the JBC and the eSlate). These logs may be viewed on-screen or printed as hard copies.

- d. **The vendor will provide an automated test routine to be run on appropriate system components used to cast ballots (i.e., hardware, firmware, and operating system software). The test routine should contain the same options identified under the Ballot Tabulation (Vote Simulation) section.**



Hart InterCivic Response

Hart has developed a vote simulation utility for the eSlate System. The vote simulation utility is used to simulate voting on the eSlate and was designed using the same philosophy to achieve a valid system test. Using an external PC to run the vote simulation utility, keystroke and wheel turn commands are fed into the polling place closed network to exercise the maximum amount of executable code and ballot data.

Voting patterns, number of votes and speed on the process are all controllable parameters from the vote simulation utility. Once a defined vote simulation cycle is complete, additional votes may be cast on the target system.

- e. **The vendor will provide an automated test routine to run a complete logic and accuracy (L&A) test of all contests loaded on appropriate system components, using simulated vote totals that can be verified by both precinct reports and/or an election summary. The test routine should contain the same options identified under the Ballot Tabulation (Vote Simulation) section.**

Hart InterCivic Response

The eSlate System supports a variety of traditional Logic and Accuracy tests to verify the system is programmed correctly. Vote patterns manually entered using a test or election MBB on the eSlate allow the vote information to be returned to Tally for verification of results. This can be performed on a precinct or ballot style basis. The vote simulation utility is available to execute this process without human intervention.

10.2 Requirements

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. **How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

- (1) **Provide a detailed description of how each system component is configured for use at the polls. Include all hardware necessary to program the components. If individual standalone DRE units are proposed, include a detailed description of how audit logs are gathered from each unit and consolidated into a single log displaying information from all DRE units.**



Hart InterCivic Response

The following section describes how the eSlate System is configured at the polls. In order to fully answer the question, the process description begins prior to deployment at the polling place.

We have arranged our discussion of the configuration of each component into three subsections, as follows:

- Election Preparation Prior to Deployment at the Polling Place,
- Components Deployed at the Polling Place, and
- Component Configuration at the Polling Places

Election Preparation Prior to Deployment at the Polling Place

Preparing for an election begins with entering information into BOSS. This can be accomplished by importing data from Integrity or by manual entry (or a combination of both). All formatting is managed through BOSS. No “programming” occurs at the polling place.

Typically, the County uses BOSS to create an administrative database. This database contains data that generally does not change between elections, such as:

- name of the jurisdiction,
- political parties,
- precinct and polling place names,
- precincts in polling places, and
- contest names, options, and instructions.

The Administrative Data Base is carried forward from election to election and serves as the starting point for election preparation.

Once an election cycle begins, election specific information is imported or entered into BOSS, including, for example:

- election name,
- date of the election,
- type of election,
- contests, precincts, or polling places and
- candidate names and proposition text in contests.

Ballot content is proofed using the reports produced by BOSS and, once verified, ballot generation produces the electronic ballot data file that contains all the ballot styles necessary for the election.



The ballot styles are transferred from the ABS to the system components via the MBB. The MBB is a reusable, portable PC card memory device that is used for storing and transporting election information to and from the polling places. The file created by the ballot generation process in BOSS (described below) is written to the MBBs and contains the following:

- all possible ballot styles for the jurisdiction,
- a list of polling places and allowable ballot styles for each,
- ballot format information for display on the eSlate, and
- passwords.

The MBB is installed in the Judge's Booth Controller for each polling place, either at Election Headquarters or at the precinct-polling place. The MBB can have data stored to it many different times and since it utilizes flash memory, the MBB does not require batteries to maintain the information written to it.

Components Deployed at the Polling Place

The following components of the eSlate Electronic Voting System are deployed at the polling place.



- **eSlate 3000.** The eSlate 3000 is the device voters use to cast their ballots at the polling place. The eSlate is approximately 16" tall, 10" wide, and 2.75" deep, weighing approximately 5.2 pounds. Given its compact size and light weight, the device is highly portable.

Information is displayed to the voter through a full SVGA LCD display, illuminated by a backlight. Since the eSlate is not a touch screen, the display is protected from damage in intense usage environments by a durable polycarbonate screen. Backup power can be provided by a "D" cell battery pack.

The eSlate's PrecisionVote design includes an integrated selector, known as the SELECT Wheel. The SELECT Wheel is a Rotary Optical Encoder (ROE) through which the voters select their preferences by turning the SELECT Wheel and pressing the adjacent ENTER button when the preferred choice is highlighted.

The Rotary Optical Encoder is the most precise, durable interface on the market. The eSlate's PrecisionVote design yields advantages over other systems, particularly touch screen systems.

- Unlike touch screen systems, the eSlate requires no calibration, and there are no concerns with imprecise touch areas or errors caused by multiple touches.



- The two-step process, making a selection with the Wheel and then pressing the ENTER button to record the selection, affords a greater level of assurance that the vote has been cast accurately.
- Since the voter addresses the eSlate through the SELECT Wheel, we can protect the display screen with the polycarbonate cover that is durable, inexpensive, and field replaceable. (By comparison, after normal use, touch screens may lose up to 35 percent of clarity due to surface abrasions).
- The SELECT Wheel makes an audible click when rotated, a feature that has been welcomed by visually impaired users. The SELECT Wheel can also be used by voters with significant mobility impairments
- Other buttons, all of which are designed to be highly tactile and intuitive, allow the voter to obtain assistance in using the device, move to the previous or next screen, and cast the ballot
- **Judge's Booth Controller (JBC).** The eSlate System's JBC is located at each polling place and networked to the other eSlates located at the polling place. The JBC supports the Polling Place Officials in controlling and monitoring the election process in the polling place or precinct. Each JBC controls up to 12 eSlates and enables the Polling Place Officials to know which booths are in use at any given time.



The JBC issues an Access Code linked to the voter's precinct. When entered on the eSlate by the voter, the Access Code informs the JBC of the correct ballot to present to the voter. The Access Code is **not** linked to the voter's identity. The JBC also holds the PC card (MBB) on which election information and cast votes are stored, and (if required) manages modem transmission to election central headquarters. The JBC has the following features:

- a display for delivery of instructions and messages to the operator, including information about system power status, number of votes cast during the day, and other information to support efficient polling place management;
- an alphanumeric keypad for entering precinct names, ballot styles, and other data;
- a built-in printer for printing ballot Access Codes, test and election information, and voter receipts, if required;
- a slot to insert a flash memory card (MBB); and
- 12 status lights used to indicate the state of each of the connected eSlate voting units.



Disability Access Unit (DAU) The eSlate System is ADA accessible by design. The DAU is an optional device that can be installed in an eSlate and provides the following additional features:



- audio output for “reading” the ballot to the voter;
- a slot to insert a flash memory card (MBB) containing audio files; and
- remote switch input used for physically challenged voters, supporting a range of alternative input devices including breath control (“sip-and-puff”) devices

When an eSlate is configured with the DAU, it is identical to all other eSlate devices with the exception of the earphones and /or other accessibility devices attached to the input ports. Therefore, voters with disabilities use the same device and interface as all voters to cast their vote.

All disability features can be used interchangeably, in whole or part, with the eSlate’s standard interfaces, allowing the voter to overcome any physical challenges he/she might face in casting his or her ballot. The accessible devices may also be used by voters without disabilities.

Component Configuration at the Polling Places

The eSlates (stored in the voting booths), JBC, MBB, and booths are either delivered beforehand or are brought to the precinct by the Poll Workers. The JBC is the host for a serial-connected network consisting of one JBC and from one to 12 eSlates, depending on the size of the precinct and the anticipated turnout of registered voters. The eSlates in the booths are linked together with booth-to-booth cables and the eSlate in booth one is connected to the JBC with the JBC-to-booth cable.

The Polling Place Official begins by plugging in the system through a single power connection to the JBC. All eSlates attached to the JBC are then instantaneously and simultaneously activated in diagnostic mode. When power is applied to the JBC, a power on self-test is run by the internal software and a check is performed for the presence of the MBB.

The MBB may have been installed at headquarters or can be installed at the polling place. The JBC reads the MBB and verifies that it contains the proper data. The first step in pre-election sequence requires the Polling Place Official to enter the polling location into the Controller and assign booth numbers to the eSlates. Assigning booth numbers is accomplished simply by pressing the Enter button in each connected eSlate.

At this point, a “zero count” tape is printed from the Controller and the polls are ready to open. Only after the zero count tape is produced does the Controller display the option to open the polls. The Polling Place Official selects “Open Polls” and then is prompted for an optional password. The polls open and the



Controller's Booth Status Lights are green, indicating each connected eSlate is "Available."

The process of opening the polls, including setting up booths and connecting all devices, can be completed in a typical polling place (four to five booths) in less than 15 minutes. The time required from the point power is applied to the JBC to the point that the eSlate devices are ready accept votes is measured in seconds.

Throughout the day, as each vote is cast, a Cast Vote Record (CVR) is created and stored in three physically separate locations. One CVR is stored on the eSlate device on which it was cast, another in Flash memory on the JBC, and the third on the MBB. The creation of "triplicate original" Cast Vote Records has several advantages:

- It provides data redundancy and an audit path that can be used in the event of a recount or challenge.
- It assures a high level of data integrity since the system is able to perform constant validation checks to ensure data consistency.
- By storing CVRs on physically separate devices, the danger of losing a vote if a single unit becomes inaccessible disappears.

Once voting is complete, the polls are closed through the JBC in a few simple steps. The polling place official presses the "Close Polls" button on the JBC and each eSlate attached to the JBC is immediately deactivated. Unlike other systems, the polling place official does not need to "harvest" votes from each individual machine, since the "triplicate original" feature has already stored all Cast Vote Records on the JBC and the MBB.

It is also at this point that the polling place official can modem results, if the County has chosen to do so, and can also print a polling place/precinct tabulation.

Each component of the eSlate System creates a complete audit log of all actions that affect it. At the polling place, each individual eSlate unit maintains an audit log, and an audit log for the polling place is maintained on the Judge's Booth Controller.

All eSlate components generate comprehensive audit logs. However, the eSlate's architecture at the polling place eliminates the requirement to gather such logs from stand-alone units. Instead, the Judge's Booth Controller automatically compiles audit logs from devices it controls. The eSlate System's SERVO utility can be used to easily gather audit logs from all eSlate voting devices and JBCs as part of standard post election processes for verification and archiving and resetting equipment.

(2) Describe the post election night process to capture any information not captured during the transfer of votes to the tabulation system. The list



should include ballot images, hardware logs, device activity logs, and operator activity logs.

Hart InterCivic Response

All information is captured and transferred to the tabulation system on Election Night. All Cast Vote Records and audit data is supplied to Tally when the MBB is read. The voting system does produce additional records stored on the precinct equipment through the “triplicate original” process. This data takes a different path, thereby elevating the security and auditability of the system.

Following Election Day, data and equipment management is managed through the SERVO software component of the eSlate System.

SERVO is a software application that tracks the Precinct Voting System equipment maintained by the jurisdiction. The primary purpose of SERVO is to manage the data supplied by the precinct hardware (individual eSlates and JBC), maintain on-going equipment history, and supply election records as required. SERVO is used to back up the triplicate original cast vote records and audit logs from eSlates and JBCs used in an election. The backed-up data can then be used to verify, or recount, the MBB-generated tabulation results and to provide reports on cast vote records, audit logs, and equipment used for the election.

SERVO may also be used to recover data from equipment in the event of a lost or damaged MBB, to reset equipment as needed, and to set the clock on a JBC.

SERVO uses the triple redundancy features of the eSlate Electronic Voting System to their fullest advantage. Election results are initially generated from the direct reading of MBBs into Tally. SERVO generated recount data from the JBC and eSlate memories can be used to compare against the MBB results, creating a distributed, closed-loop process that provides redundant cross verification of election results. This makes the ability to recount election results a seamless option for every election cycle, increasing system reliability and security.

SERVO is intended for use at a jurisdiction’s warehouse, or the location at which all of the JBCs and eSlates are stored. It is typically used prior to deployment of JBCs and eSlates and at the conclusion of an election. Equipment management tasks include adding a device’s public serial number to the SERVO database and resetting a device.

SERVO creates a database of:

- the public serial numbers of PVS equipment maintained by a jurisdiction
- reconciled records of the duplicate original Cast Vote Records (ballot images) and audit logs from eSlates and JBCs used in an election.



(3) Give an estimate of the time to set up the system components (i.e., DREs and controller unit) to make them ready for delivery to the polls. This should include a list of the steps necessary to set up each component and the time required for each step. Do not include the time needed for retrieval or storage of the device. List shall include all activities necessary from the point they are removed from storage to the point they are ready to be delivered to the polls (e.g., powering on unit, clearing prior election, hardware test and setup if necessary, loading election data, tagging device, maintenance of printer, etc). Include, in detail, a description of the testing procedures for all components of the system and automated tools available.

Hart InterCivic Response

In *Exhibit IV-7: Component Set Up Time*, we present estimates adapted from Hart InterCivic’s guide for warehouse use when preparing for an election.

Tasks	Average Time to Complete
1. Open Booth/Container	15 seconds per unit
2. Visual Inspection	30 seconds per unit
3. Install audio card in Disabled Access Unit (250 units)	15 seconds per unit
4. Power on functional test	2 minutes per polling location
5. Reset equipment	15 seconds per unit
6. Check paper supply in JBC (250 units)	30 seconds per unit
7. Install MBBs in JBC (250 units)and seal unit	15 seconds per unit
8. Clean screen on eSlate/DAU (Includes closing of booth)	10 seconds per unit

Exhibit IV-7: Component Set Up Time. The table above presents estimated time associated with each set up task.

All major subsystems and assemblies (BOSS, Ballot Now, Tally, eSlate units, DAUs, and JBCs) include automatic diagnostic testing. These tests include error checking of function output, input validation, Cyclic Redundancy Checks, and real time error checking. Additional manual functional tests are available for each subsystem, including testing of the input switches and buttons on the eSlate and DAUs. For the Polling Place equipment, these tests are performed automatically upon power up of the system.

The unique design of the eSlate Electronic Voting System allows the “power on functional test” to consist of nothing more than a button test. There is nothing to calibrate or adjust. Upon power up, the “Button Test” screen appears on each unit



and provides a visual confirmation that the test was successful. This greatly simplifies the election preparation process.

11.0 **BALLOT MANAGEMENT (INTERFACE TO VOTE TABULATION SYSTEM)**

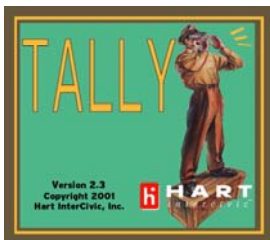
The Boulder County Clerk & Recorder uses Teamwork Tabulation software. The current procedure for setting up the Teamwork Tabulation ballot tabulation system uses information from the ballot layout and from the Integrity Voter Registration System. This data identifies contests, measures and candidates for each ballot type, "vote for" rules, and the base order after applying the state and local candidate and ballot issue positions. The Teamwork ballot counting program is manually configured from this data with all contest and ballot type definitions keyed in to a separate program. Both precinct ballots and absentee/mail/provisional ballots are tabulated using the same program.

11.1 *Requirement*

The proposed software shall automatically transfer all ballot setup information from the ABL system to the ballot tabulation system for both DRE and absentee/mail/provisional ballot processes.

Hart InterCivic Response

Tally is the eSlate's tabulation and reporting application. Tally reads, stores, and tabulates the Cast Vote Records from Mobile Ballot Boxes and provides a flexible reporting engine. Tally assures Boulder County election officials that tabulation is a simple, straightforward and, most important, accurate process.



At the close of polls on Election Day, all of the MBBs (including those used for absentee/mail or Early Voting) are returned to the central counting location or satellite tabulation centers. (Results also may be electronically transmitted from the polling place or regional collection centers.) The Tally database is initialized by the locked BOSS database that was used to create the election. This initialization prepares Tally for tabulation.

Tally accepts results in the form of Cast Vote Records from MBBs, and tabulates all Election Day, absentee, provisional, and Early Voting votes. The integration of results from these various voting options is seamless, since all Cast Vote Records come from the voting process to Tally on the MBB. Future voting methodologies (for example, Internet Voting) will be handled in the same manner to maintain the highly integrated nature of the system.

11.2 *Proposer's Response*



a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Make sure to include item(s) listed below:

(1) Describe the process required to prepare the ballot tabulation portion of your system after the ballot layout has been completed and proofed.

Hart InterCivic Response

All data is automatically transferred to Tally from the Ballot Origination Software System. When the Tally application is launched, a BOSS database must be selected to open a new election to tabulate. When the BOSS database for the Election is selected, the data in BOSS is transferred to Tally automatically.

Tally assures the Election Official that tabulation is a simple, straightforward, and most important, an accurate process. At the close of polls on Election Day, all of the MBBs (including those used for absentee/mail or the Early Voting process) are returned to the central counting location. The Tally database is initialized by the locked BOSS database that was used to create the election. This initialization makes the ballot definition data available to Tally for tabulation.

Tally accepts results from and tabulates all Election Day, absentee/mail, and Early Voting votes and election canvass information. The integration of results from these various voting options is seamless, since all CVRs come from the voting process to Tally on the MBB.

Many procedures that would be handled manually by other systems are automated by using Tally. Write-in candidates from both the DRE (eSlate) and ABS (Ballot Now) options are tabulated by Tally. Prior to tabulation, the names and any acceptable aliases for the certified write-in candidates are entered into the Tally application. During tabulation, Tally reads the CVRs from all MBBs. These MBBs include the write-in candidate names generated at the eSlate, or during absentee/mail ballot resolution. Votes for the write-in candidates are counted and reported, as for all candidates. The names of write-in candidates are displayed in reports with the annotation “(W).”

Under current Colorado law and procedure, provisional voters use paper ballots; the eSlate System meets this requirement through the Ballot Now System. Absentee/mail/provisional ballots, produced through the eSlate System’s Ballot Now component are separated from other cast votes and held for scanning, and therefore tabulation, until a determination of eligibility is made.

However, in the event that Colorado permits electronic processing of provisionals, the eSlate includes integrated capability for managing provisional votes.



Tally efficiently handles the processing of provisional ballots. Provisional ballots cast on the eSlate are assigned a random number, or Retrieval Code, used to identify a specific ballot in the Tally application. To process these ballots cast on the eSlate, prior to tabulation, the election official instructs the Tally System to hold provisional votes out of the tally until they are reviewed and resolved. Tally can also accept provisional votes until rejected. This is accomplished through a simple selection box in the application.

Once the provisional ballots have been reviewed and disposition rendered for each, election officials view the list of Retrieval Codes in Tally. The individual Retrieval Code would then be accepted or rejected depending on the disposition. Although the Retrieval Code may be used to identify a specific provisional ballot in the Tally application, there is no access to the actual ballot contents at any time during provisional ballot processing.

Tally produces a variety of standard reports that may be supplemented by customized report templates created by Hart InterCivic using Crystal Reports.

(2) Describe how you will extract any necessary information from Integrity that is needed for the vote tabulation system, so that the current manual process can be fully automated.

Hart InterCivic Response

As described previously, data from Integrity will be imported into BOSS through a highly automated import wizard. Data for the Tally tabulation system is then obtained from BOSS.

12.0 BALLOT MANAGEMENT (WEB INTERFACE)

The Boulder County Clerk & Recorder would provide the voters in the county with an automated look-up of their own individual ballot facsimile on the Elections web site. The web look-up routines access Printable Document Format (.PDF) documents that are organized by ballot type and, in primary elections, by party. These .PDF documents are only available in English at this time.

12.1 Requirements

- a. The ABL software shall generate files in a .PDF format that can be printed on standard letter size paper. These documents will match the layout of the absentee ballot for each ballot type; party, when necessary; and for all languages entered into the ABL system for an election.**



Hart InterCivic Response

The eSlate System produces .PDF files for printing or export to the Web. The .PDF files are produced using the same process as that used to create ballots for the absentee ballot application, Ballot Now, ensuring the format is identical. .PDF images can be created for each ballot type in all languages used in the election.

b. The following naming conventions shall be used, in primary elections. The English language files are named as follows: DEM001.pdf, REP001.pdf, etc. (party: first three characters; ballot type: second three characters). General elections do not require party specific file names. An example of the naming structure used for a general election is as follows: BC-001.pdf.

Hart InterCivic Response

The ballot definition software, BOSS, can directly produce .PDF files and use a file naming convention selected by the County.

12.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Provide a sample of .PDF documents used by other customers for this or a similar purpose. Other customers may use similar files for overseas absentee voting before receiving the official printed absentee ballots. These are not a replacement for official absentee ballots.

Hart InterCivic Response

Sample .PDF documents are included as *Attachment 4: Sample Web Interface Ballot*.

With regard to the overseas absentee voters reference, Hart InterCivic’s expertise in this area was acknowledged as the exclusive certified election system partner of the team that was awarded the Federal Voting Assistance Project’s (FVAP) Secure Electronic Registration and Voting Experiment (SERVE) contract. Through that project, Hart will be part of the team that will develop a standard for absentee voting by U.S. citizens overseas.



13.0 PRECINCT VOTING (PRESENTATION OF BALLOT)

13.1 Requirements

- a. Present the ballot so it is easy to read, intuitive and follows a logical progression.

Hart InterCivic Response

Each ballot on an eSlate unit and the hard copy ballot produced by the Ballot Now is presented in a format that is easy to read, follows a logical progression, is appealing to the eye, and includes easy to follow instructions.

Flexible ballot design capability enhances the options for ballot presentation for the voter. The eSlate ballot is presented in a color bitmap image, the clarity of which makes it easy for voters to navigate. The polycarbonate cover on the display protects the display from damage that might harm clarity; touch screens, for example, have been shown to lose as much as w35% of their clarity due to surface abrasions. As a result, the eSlate System has received widespread and enthusiastic support from voters.

Exhibit IV-8 presents an example of how the ballot is presented on the eSlate screen.



General Election		Precinct 101
November 05, 2002		Page 1 of 2
Instruction Note: VOTING FOR CANDIDATES AND PROPOSITIONS To vote for the candidate of your choice, or vote "For" or "Against" a proposition on the ballot, rotate the SELECT wheel until your choice is highlighted in blue. Press the ENTER button to mark your choice. Press the HELP button for assistance.		
President and Vice President		Mayor
<input type="checkbox"/> George W. Bush / Dick Cheney REP		<input type="checkbox"/> George Washington Carver
<input type="checkbox"/> Al Gore / Joe Lieberman DEM		<input type="checkbox"/> Betsy Ross
<input type="checkbox"/> Ralph Nader / Winona LaDuke GRN		<input type="checkbox"/> Charles Dickens
<input checked="" type="checkbox"/> Harry Browne / Art Oliver LIB		County Judge
United States Senator		<input type="checkbox"/> Martha Washington
<input type="checkbox"/> Abraham Lincoln		<input type="checkbox"/> James Madison
<input type="checkbox"/> John Adams		<input type="checkbox"/> Alex Haley
<input type="checkbox"/> Molly Pitcher		
<input type="checkbox"/> Booker T. Washington		
Governor		
<input checked="" type="checkbox"/> Harriet Tubman		
<input type="checkbox"/> Fredrick Douglass		
<input type="checkbox"/> Walt Whitman		
<input type="checkbox"/> Write In		
Attorney General		
<input checked="" type="checkbox"/> Susan B. Anthony		
<input type="checkbox"/> Mark Twain		
<input type="checkbox"/> Cesar Chavez		

Exhibit IV-8: Example eSlate DRE Screen. The eSlate presents the ballot to the voter in a form that is logical and easy-to-read.

b. Allow the voter to change his/her selection as often as necessary.

Hart InterCivic Response

Throughout the voting process, the voter has multiple opportunities to change a vote on the eSlate System. In fact, the voter may change selections at will until the ballot is cast. Complete audio instructions for reviewing the ballot and making changes is provided to visually impaired voters using the audio ballot instructions.

c. Alert the voter to undervote and prohibit overvotes before final vote is cast.

Hart InterCivic Response

The Ballot Summary that appears prior to the ballot being cast clearly identifies any undervoted contest by marking it "No Selection" in red type. For voters using the audio ballot, each contest name is read and any undervotes are identified as "No Selection." The voter is free to select a contest in which he or she wishes to change a selection. The eSlate System does not permit overvotes.



Exhibit IV-9 presents a sample of the eSlate’s Ballot Summary.

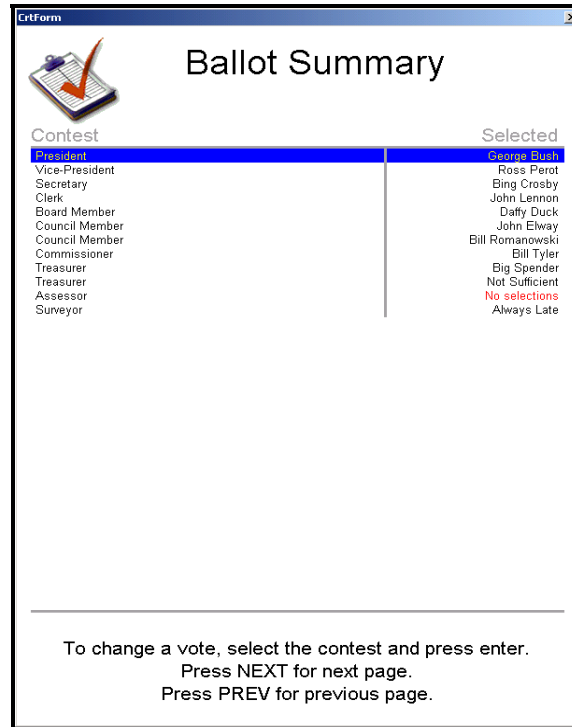


Exhibit IV-9: eSlate’s Ballot Summary Screen. The Ballot Summary Screen clearly indicates undervoted contests, and provides the voter an opportunity to return to any contest to change a vote, if desired.

d. Allow the voter to cast a write-in vote.

Hart InterCivic Response

The eSlate System accommodates write-in voting as an integral part of the electronic voting process. Unlike many other systems, the eSlate in-person voting method electronically records and stores write-in votes.

Exhibit IV-10 displays the eSlate’s write-in entry screen.

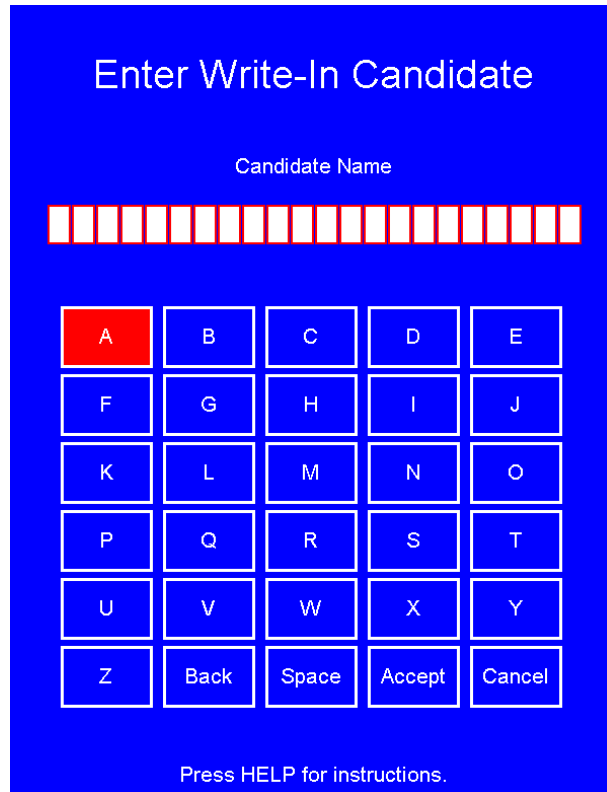


Exhibit IV-10: The eSlate’s Write-in Screen. The voter uses the SELECT Wheel and ENTER button to clearly enter the name of any write-in candidate.

e. Allow the voter to cast a provisional vote.

Hart InterCivic Response

Under current Colorado law and practice, provisional votes are cast using paper ballots. The eSlate System's Ballot Now application provides this capability.

Paper ballots are printed and marked “Provisional.” Ballot Now ballots include a bar code/serial number to identify the voters precinct in order to facilitate reporting.

Provisional paper ballots are distributed as required in polling places on Election Day. The ballots are separated from other ballots, following the same procedures currently in place, and returned to the elections office for adjudication. As determinations are made, the ballots are released for scanning. As Ballot Now



scans each ballot, a Cast Vote Record is created. When all provisional votes have been adjudicated, the MBB holding the provisional cast vote records is read and the results are included in the final tabulation.

In the event electronic processing of provisional voters is approved, the eSlate System enables elections officials to process provisional and challenged ballots efficiently by following these simple steps.

As soon as the voter completes the appropriate administrative procedures authorizing to vote a provisional ballot, the Polling Place Official will initiate the normal process using the Judge's Booth Controller (JBC) to "Add Voter." The poll worker then will select the voter's precinct number. Next, the election official will select "Provisional" on the JBC screen. This action will assign a Retrieval Code (a five-digit number) to the voter's ballot.

Once a Retrieval Code is assigned, the official then selects "Print" on the JBC to generate the Access Code and a Voter Provisional Stub. This stub contains the Retrieval Code, instructions to the voter, and designated spaces for the voter's name and signature.

After the voter has signed the stub with the retrieval code and returned it to the Polling Place Official, the voter may take the Access code and proceed to the booth to vote by the normal process.

- f. Provide a summary screen showing what the voter has chosen and what the voter has abstained from voting prior to final vote being cast.**

Hart InterCivic Response

The voter must view the Ballot Summary before he or she is able to cast a final ballot. The eSlate does not accept a CAST BALLOT command until the voter has viewed the Ballot Summary. The voter may view the Summary by voting the last contest on the last page of the ballot, by pressing NEXT after viewing the last page of the ballot, or by pressing CAST BALLOT the first time before having completed either of the above. An example of the eSlate's Summary Screen is provided in *Exhibit IV-11*.

- g. Device shall be capable of supporting multiple languages, including, but not limited to, English, Spanish and character-based languages.**

Hart InterCivic Response

The eSlate System Version 2.1, as certified in Colorado, supports English and Spanish. eSlate System version 3.0 supports up to 10 languages, including character-based languages. English and additional languages are entered directly into BOSS, which then formats the data for the MBB. Primary and secondary audio is recorded directly by the BOSS application. Import and export functions move the ballot data in and out of BOSS and support use of commercially



available translation software. *Locally recorded audio enhances understandability by taking into account local pronunciations and dialects, a consideration in the Justice Department implementation of language minority requirements.*

h. The system will protect the privacy and identity of the voter.

Hart InterCivic Response

There is no voter identification information in the eSlate System database. Furthermore, when votes are cast and Cast Vote Records created, the Cast Vote Records are stored in a randomized order rather than the order in which they were cast. This prevents someone from attempting to identify an individual’s vote by comparing it to the voting order in a roster book. Privacy is also guaranteed by the fact that eSlate Access Codes are not linked in any way to information that could be used to identify a voter.

13.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements?

Hart InterCivic Response

Each requirement was addressed directly in the above discussion.



14.0 PRECINCT VOTING (MULTIPLE BALLOT STYLES AND MULTIPLE BALLOT DISTRICTS)

14.1 Requirement

The system shall provide for the voting of multiple ballot styles and multiple ballot districts at a single election precinct.

Hart InterCivic Response

The ballot generation feature of BOSS is capable of presenting multiple ballot styles and multiple ballot districts at a single precinct.

14.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
--------------------------------------	-----	---	----

b. How do you propose to meet this requirement?

Hart InterCivic Response

Jurisdictional and election specific information is stored in BOSS. Ballot generation creates a single data file that is used to conduct the election across the County. The data, including ballot styles and districts, is stored on the MBB. MBBs are loaded in each Judge's Booth Controller. Judge's Booth Controllers are placed at the precincts.

When the JBC is activated, the polling place officials control which ballot styles are presented at each precinct by entering a precinct identification code. This can include presentation of all ballot styles if the polling place is being used for countywide early voting.

15.0 PRECINCT VOTING (ACCESSIBILITY FOR VOTERS WITH SPECIFIC NEEDS)

15.1 Requirements

- a. The proposed system shall provide audio instructions for the ballot and a mechanism for the visually impaired voter to cast a ballot, either on the voting unit, itself, or on a separate device designed for this purpose. The process shall imitate the process used by sighted voters, with the exception of the audio interface.

Hart InterCivic Response

When an eSlate voting device is outfitted with the Disability Access Unit, visually impaired voters may use the System's integrated audio ballot reader. Through



headphones supplied with the system, eSlate's audio ballot reader allows visually impaired voters to hear the ballot read in a human voice – not a synthesized electronic voice – including audible instructions and confirmation of each vote.

Audio is locally recorded, so local pronunciations are correct, and the system supports multilingual audio. Voters with literacy challenges can also use the audio ballot reader.

In addition, eSlate's controls are large and clearly shaped, providing a highly tactile interface. The SELECT Wheel provides both audio and tactile support to visually impaired voters, as well as an appropriate interface for individuals with limited dexterity who cannot master a touch screen target zone. The lightweight eSlate can be placed on a wheelchair tray or taken curbside, and eSlate DAU unit voting booths are designed to accommodate wheelchairs.

- b. It would be desirable for the system to support an enlarged ballot for the visually impaired.**

Hart InterCivic Response

The eSlate's System 3.0 affords the voter the option to select a larger font display of English ballots at each individual voting unit. In this manner, the voter makes the choice of the large type ballot privately.

The eSlate System Version 2.1 uses a standard 18-point font ballot text displayed on the eSlate. The font size can be increased, if Election Officials wish to provide a standard font that is larger than 18-point. In addition, since the eSlate is not a touch screen system, it easily accommodates standard screen magnifiers.

- c. The devices shall meet all requirements of Federal and State law that address accessibility to voting.**

Hart InterCivic Response

The eSlate Precinct Voting System complies with Section 504 of the Federal Rehabilitation Act of 1973 and its subsequent amendments, and Title II of the Federal Americans with Disabilities Act and its subsequent amendments.

- d. The devices shall be lightweight and portable enough for use on a voter's lap and at the curbside for voters unable to access the voting room or voting booth, or provide for an alternative solution.**

Hart InterCivic Response

The highly portable eSlate readily accommodates voters who cannot enter the polling place or who require that the voting device be placed on a wheelchair tray or lap. Each eSlate weighs just 7.7 lbs. with the battery pack installed. Without



the battery pack, the eSlate weighs just 5.2 pounds, the lightest weight DRE on the market. Procedures used for curbside voters follow those for other voters.

e. The devices shall provide a means for voters with limited dexterity to vote.

Hart InterCivic Response

Because of the SELECT Wheel design, the eSlate is the most accessible system for voters with mobility impairments. Whereas voters with limited dexterity may find touching a precise target zone on a touch screen difficult or impossible, voters with limited dexterity or even severe mobility challenges are able to navigate the eSlate's ballot independently using the SELECT Wheel. For example, mobility impaired voters have cast independent votes on the eSlate System using mouth straws (pointing devices), feet, and even with partial limbs.

The eSlate DAU also allows multiple means of auxiliary input by persons with physical disabilities. These include optional, externally mounted controls (“jelly switches”) that permit operation of the unit by people lacking fine motor skills or digital dexterity. The DAU also may be operated by any standard dual medical accessibility switch (a “sip-and-puff” device often used by disabled persons to operate their wheelchairs).

We are proud that the eSlate is rated as the highest ranked voting system in terms of accessibility in the November issue of *AccessWorld Magazine*. This is based on a review of voting systems by the American Foundation for the Blind Technology and Employment Center.

f. If the devices are contained in a voting booth, the booth legs should provide sufficient width to allow wheelchair access, or provide for an alternative solution.

Hart InterCivic Response

The eSlate System includes a booth especially designed for wheelchair access, including wide legs, a steeper angle of view, and lower height to provide comfort for wheelchair voters. Voters without disabilities may also use the booth.

15.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) What is the procedure for constructing the audio ballot (i.e. text-to-speech and voice recording)?



Hart InterCivic Response

Audio files (.wav files) are created in BOSS through an integrated recording process or may be imported to the system if recorded externally by a translator. During the ballot definition process, election officials (or language specialists) use a standard PC headset to record ballot information. The audio files are written to a PC card, which is inserted into a slot in the Disability Access Unit.

(2) Describe the equipment and procedure required for a visually impaired voter to cast a ballot? Is an additional or unique voting unit required?

Hart InterCivic Response

Voters with disabilities vote on units that are virtually indistinguishable from those used by voters with full physical capabilities. This is possible because regular eSlate units convert to accessible units simply by adding a special module (DAU) that is virtually undetectable. The DAU provides a slot for the PC Card containing audio files and two ports, one for headphones and one for alternative mobility devices.

Visually impaired voters use the same eSlate voting device and controls as all voters. No additional voting unit is required. The DAU presents a complete recording of all ballot instructions and ballot text, and gives users verbal confirmation of every selection as it is made.

The disability access unit module enables the eSlate to accommodate voters with even the most profound disabilities by supporting any standard dual switch accessibility device, such as a “sip-and-puff.”

When confirmed as a qualified voter, the visually impaired voter is assigned an Access Code and escorted to a voting booth by a Polling Place Official or other authorized individual. The escort provides a brief overview of the eSlate System operation, helps the voter understand how to operate the control buttons, and assists him or her in positioning the headphones and adjusting the volume for the audio ballot reader. Then, the escort either reads the four-digit Access Code to the voter for him or her to enter or provides assistance in entering the number. From this point, the voter may cast an independent, secret ballot.

Once the Access Code is entered, ballot navigation is accomplished with the SELECT Wheel. The ENTER button is used to record voter choices. As the voter rotates the SELECT Wheel, the text of highlighted boxes is “read” to the voter through the headphones. The noticeable click of the wheel as it rotates further helps the voter feel his or her way through the ballot (providing audible and tactile clues for ballot navigation).

Each time the ENTER button is pressed, the audio reader confirms the choice recorded by the voter and the system automatically advances to the next contest.



As with the standard operation of the eSlate, the system prevents the visually impaired voter from overvoting any race. The visually impaired voter has the opportunity to review his or her choices as the audio reader confirms them on the Ballot Summary. He or she may return to the ballot and make or change choices as many times as desired.

(3) How will the devices support an enlarged ballot?

Hart InterCivic Response

The eSlate's System 3.0 affords the voter the option to select a larger font display of English ballots at each individual voting unit. In this manner, the voter makes the choice of the large type ballot privately.

The eSlate System Version 2.1 currently uses a standard 18-point font ballot text. The font size can be increased, if Election Officials wish to provide a standard font that is larger than 18-point. Since the eSlate is not a touch screen, it also accommodates standard sheet magnifiers.

(4) Describe the procedure for a poll worker to remove a voting unit for laptop or curbside voting.

Hart InterCivic Response

The highly portable eSlate readily accommodates voters who cannot enter the polling place. Poll Workers, regardless of age or physical strength, are able to assist curbside voters, as the eSlate weighs less than eight pounds when fully equipped with the special access features for the disabled and the battery pack. It fits comfortably in the voter's lap.

Procedures used for curbside voters follow those for other voters. Once a curbside voter's qualification to vote has been established, the voter is assigned an Access Code in the normal manner. Next, an election official enters that Code into the last eSlate unit in the string; one that has a battery pack installed and is usually set up as a DAU. The official then detaches the network cable and takes the eSlate to the voter, instructs him or her on the operation of the unit, and allows the voter to complete the voting process in the privacy of the vehicle.

When the voter has cast his or her ballot, the official returns the voting unit to the polling place and re-connects the network cable. At that time, the voter's Cast Vote Record is recorded in the JBC and MBB as with all the other ballots cast in the polling place.

(5) Describe the equipment that would allow voters with specific needs to vote and cast their ballot (i.e. dexterity or hand mobility impaired voter).



Hart InterCivic Response

The eSlate System provides additional accessibility features that allow voters with other physical disabilities to cast a secret ballot.

The DAU allows multiple means of auxiliary input by persons with physical disabilities. These include optional, externally mounted controls (“jelly switches”) that permit operation of the unit by people lacking fine motor skills or digital dexterity.

The DAU also may be operated by any standard dual medical accessibility switch (a “sip-and-puff” device often used by disabled persons to operate their wheelchairs). Once the disabled voter is qualified for voting, the sip-and-puff switch may be disconnected from the wheelchair and plugged into the DAU. The voter then may vote independently, using only his or her breath (and not his or her hands) to navigate through the ballot.

All ADA access features may be used interchangeably, in whole or in part, with the eSlate’s standard interfaces, thus allowing the voter to overcome a wide range of physical challenges he or she might face in casting a ballot.

(6) Describe how a voter who uses a wheelchair would access the voting device?

Hart InterCivic Response

At the option of the customer, Hart includes with each DAU a specially designed eSlate Voting Booth positioned at a special angle, lower in height, and with widely spaced legs to permit easy wheelchair access. The design of the booth presents the ballot to all voters at a comfortable, easy-to-view angle, while allowing poll workers and clerks to easily monitor activity at each booth. Individuals in wheelchairs or who require or prefer a lower voting surface are able to cast their votes in comfort and privacy by using the specially designed eSlate voting booth.

Although similar in appearance to the standard voting booth, this booth places the voting terminal at a height and angle ideally suited for voters in wheelchairs or those who need a shorter voting platform.

(7) Have you received any awards or any endorsements from groups that represent voters with specific needs? Please provide the awards or the endorsements, if you have.

Hart InterCivic Response

Harris County, Texas, was recently honored with a joint award from the National Association of Counties and the National Organization on Disabilities for its



efforts to expand the voting process and enable disabled voters to exercise their rights at the polling place independently. The award included the accessibility features of the eSlate Electronic Voting System, currently being implemented in Harris County. Harris County Clerk Beverly Kaufman invited representatives of Hart InterCivic to join her at the award presentation.

Hart InterCivic has worked with organizations such as the National Federation of the Blind, the National Organization on Disabilities, and the American Association of People with Disabilities to obtain input and guidance regarding the accessibility features of the eSlate System. Letters from representatives of the National Federation of the Blind and the National Organization on Disabilities are attached as *Attachment 5: Awards and Endorsements*.

We are proud that the eSlate was rated as the highest ranked voting system in terms of accessibility in a recent issue of AccessWorld Magazine, based on a review of voting systems by the American Foundation for the Blind Technology and Employment Center. The Center provided us with the following statement:

“(The Center has) just completed a project in which we evaluated 4 electronic voting machines, including the eSlate by Hart InterCivic, the AVC Edge from Sequoia Voting Systems, the iVotronic from Election Systems and Software, and the Vote-Trakker from Avante International Technologies. (Note: Diebold’s system was not made available for review). We evaluated them for usability and accessibility to people who are blind or visually impaired.

*Although all the machines are usable and they are a huge step forward over the way blind and visually impaired people currently vote with assistance from poll workers or relatives, **we do rate the eSlate as the best machine we looked at.** It scored highest in overall usability and our testers liked the easy to use linear ballot and the fact that audio and visual voting can be used simultaneously. **We also found the eSlate to have the highest level of cross-disability access, with accessibility features to accommodate people with non-visual disabilities.** We will be publishing our results in the November issue of our AccessWorld magazine.”*

16.0 PRECINCT VOTING (MULTIPLE LANGUAGES)

16.1 Requirement

- a. The proposed system shall provide a method by which voters can choose the language of the ballot.**



Hart InterCivic Response

Voters choose their preferred language without the assistance of poll workers, in the same manner that they cast votes.

16.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Make sure to include item(s) listed below:

(1) Describe the process for choosing the ballot language for the voter. Include all responsibilities of the poll worker and voter, and at which point in the process the language is selected.

Hart InterCivic Response

At the polling location, the first screen the voter is a language selection screen that displays all available languages for the election. Once the voter selects a language, all further text and audio information is delivered in the selected language. There is no requirement for Polling Place Officials to assist in selecting a language other than English.

17.0 PRECINCT VOTING (HARDWARE CONFIGURATION)

17.1 Requirements

a. The proposed system shall contain, at a minimum, the hardware components necessary to process voters and deliver totals for closing the polls, i.e., voting devices, controller unit (if required for system), printer for zero tapes, overall results and voter receipt.

Hart InterCivic Response

The eSlate Precinct Voting System includes all hardware necessary to operate a polling place, including voting device (eSlate), controller (JBC) and printer for zero tapes, voter receipts, and other reports (built in to the JBC).

b. The components shall be as small and weigh as little as possible.

Hart InterCivic Response

The eSlate is the lightest weight DRE on the market, and has a compact, efficient design. Weights and dimensions are detailed in *Exhibit IV-13* below.

c. The components shall be durable.



Hart InterCivic Response

eSlate customers have a rugged, durable voting system that ensures them of many years of accurate, reliable operation. The eSlate is engineered to meet military specification for durability (MIL-STD-810). As an added benefit of eSlate's environmental tolerances, there is no need to store the units in an expensive, climate-controlled warehouse.

- d. The proposed system shall produce, at the time the voter votes his or her ballot or at the time the polls are closed, a paper version or representation of the voted ballot or of all the ballots cast on a unit of the voting system. The paper version shall not be provided to the voter but shall be retained by the Boulder County Clerk & Recorder for use during any recount or contest, as required by Colorado Revised Statutes.**

Each vote that is cast on the eSlate DRE or through a paper ballot produced by Ballot Now creates a Cast Vote Record. The Cast Vote Record is an alphanumeric representation of each ballot face. The eSlate System can produce paper copies of all Cast Vote Records recorded during an election. This process is managed efficiently after polls close and when the equipment is returned to the warehouse. The eSlate's SERVO utility serves as a tool for data archiving, and SERVO can facilitate the export of CVRs for subsequent printing.

An example of the paper representation of the Cast Vote Record is included below in *Exhibit IV-12 , Paper Version Representation of the Voted Ballot*.



Device Cast Vote Records				C00001	JBC	8/20/02	
Harris County 2000 General Election							
CVR: 1	Precinct	0001-A	Polling Place	SRD 0001			
					STATE REPRESENTATIVE, DISTRICT 139	SYLVESTER TURNER	<input checked="" type="checkbox"/>
				<input checked="" type="checkbox"/>	STATE REPRESENTATIVE, DISTRICT 143	JOB E. MORENO	<input checked="" type="checkbox"/>
PRESIDENT AND VICE PRESIDENT	PAT BUCHANAN AND EZOLA FOSTER			<input checked="" type="checkbox"/>	STATE REPRESENTATIVE, DISTRICT 145	RICHARD (RICK) NORIEGA	<input checked="" type="checkbox"/>
UNITED STATES SENATOR	MARY J. RUWART			<input checked="" type="checkbox"/>	JUSTICE, 1ST COURT OF APPEALS DISTRICT, PLACE 1	M. B.	<input checked="" type="checkbox"/>
UNITED STATES REPRESENTATIVE, DISTRICT 7	JEFF SELL			<input checked="" type="checkbox"/>	JUSTICE, 1ST COURT OF APPEALS DISTRICT, PLACE 2	MARY C. THOMPSON	<input checked="" type="checkbox"/>
UNITED STATES REPRESENTATIVE, DISTRICT 9	NICK LAMPSON			<input checked="" type="checkbox"/>	JUSTICE, 1ST COURT OF APPEALS DISTRICT, PLACE 3	ADELE HEDGES	<input checked="" type="checkbox"/>
UNITED STATES REPRESENTATIVE, DISTRICT 22	KENT PROBST			<input checked="" type="checkbox"/>	JUSTICE, 1ST COURT OF APPEALS DISTRICT, PLACE 4	ERIC ANDELL	<input checked="" type="checkbox"/>
UNITED STATES REPRESENTATIVE, DISTRICT 25	CLIFFORD LEB MESSINA			<input checked="" type="checkbox"/>	JUSTICE, 1ST COURT OF APPEALS DISTRICT, PLACE 5	TIM TAFT	<input checked="" type="checkbox"/>
RAILROAD COMMISSIONER	CAROLYN FIELDS			<input checked="" type="checkbox"/>	JUSTICE, 14TH COURT OF APPEALS DISTRICT, PLACE 1	CHARLES WESLEY SEYMORE	<input checked="" type="checkbox"/>
RAILROAD COMMISSIONER	GARY DUGGER			<input checked="" type="checkbox"/>	JUSTICE, 14TH COURT OF APPEALS DISTRICT, PLACE 2	JOHN S. ANDERSON	<input checked="" type="checkbox"/>
RAILROAD COMMISSIONER	JOHN DOE			<input checked="" type="checkbox"/>	JUSTICE, 14TH COURT OF APPEALS DISTRICT, PLACE 3	HARVEY HUDSON	<input checked="" type="checkbox"/>
RAILROAD COMMISSIONER (UNEXPIRED TERM)	MICHAEL L. WILLIAMS			<input checked="" type="checkbox"/>	JUSTICE, 14TH COURT OF APPEALS DISTRICT, PLACE 4	WANDA FOWLER	<input checked="" type="checkbox"/>
JUSTICE, SUPREME COURT, PLACE 1	NATHAN HECHT			<input checked="" type="checkbox"/>	JUSTICE, 14TH COURT OF APPEALS DISTRICT, PLACE 5	RICHARD EDELMAN	<input checked="" type="checkbox"/>
JUSTICE, SUPREME COURT, PLACE 2	FRISCILLA OWEN			<input checked="" type="checkbox"/>	JUSTICE, 14TH COURT OF APPEALS DISTRICT, PLACE 6 (UNEXPIRED TERM)	KEM THOMPSON FROST	<input checked="" type="checkbox"/>
JUSTICE, SUPREME COURT, PLACE 3	AL GONZALES			<input checked="" type="checkbox"/>	DISTRICT JUDGE, 11TH JUDICIAL DISTRICT	MARK DAVIDSON	<input checked="" type="checkbox"/>
PRESIDING JUDGE, COURT OF CRIMINAL APPEALS	SHARON KELLER			<input checked="" type="checkbox"/>	DISTRICT JUDGE, 351ST JUDICIAL DISTRICT	MARK KENT ELLIS	<input checked="" type="checkbox"/>
JUDGE, COURT OF CRIMINAL APPEALS, PLACE 1	CHARLES HOLCOMB			<input checked="" type="checkbox"/>	DISTRICT ATTORNEY	JAMES S.	<input checked="" type="checkbox"/>
JUDGE, COURT OF CRIMINAL APPEALS, PLACE 2	BARBARA PARKER HERVEY			<input checked="" type="checkbox"/>	JUDGE, COUNTY COURT AT LAW NO. 1 (UNEXPIRED TERM)	BRUCE MOSIER	<input checked="" type="checkbox"/>
MEMBER, STATE BOARD OF EDUCATION, DISTRICT 4	ALMA A. ALLEN			<input checked="" type="checkbox"/>	COUNTY ATTORNEY	MICHAEL P. FLEMING	<input checked="" type="checkbox"/>
STATE SENATOR, DISTRICT 7	JON LINDSAY			<input checked="" type="checkbox"/>	SHERIFF	TOMMY THOMAS	<input checked="" type="checkbox"/>
STATE REPRESENTATIVE, DISTRICT 132	SCOTT HOCHBERG			<input checked="" type="checkbox"/>	COUNTY TAX ASSESSOR-COLLECTOR	JOHN T. WEBB	<input checked="" type="checkbox"/>
STATE REPRESENTATIVE, DISTRICT 135	GARY ELKINS			<input checked="" type="checkbox"/>			
STATE REPRESENTATIVE, DISTRICT 138	KEN YARBROUGH			<input checked="" type="checkbox"/>			

Exhibit 12. Paper Version Representation of the Voted Ballot: Each time a vote is cast on the eSlate System, a Cast Vote Record is created. The Cast Vote Record can be printed in paper version to create a complete paper trail for all ballots.



- e. The proposed system shall be capable of printing a receipt (not ballot facsimile) for the voter at the polls, should the County ever be required or choose to do so.**

Hart InterCivic Response

The eSlate System can print a receipt at the polling place for each voter. As each vote is cast, a record of the access code is reported to the JBC. The receipt indicates the voter’s access code, time and date of voting and other information, but does not reveal the voter’s choices. The same feature allows the polling place official to determine the current status of any issued Access Code through the JBC (“check code” feature).

Hart InterCivic has also developed a voter verifiable paper ballot solution in the event Federal or Colorado standards require such an approach. The system has not yet been submitted for certification. We are awaiting the clarification of standards and requirements for such an approach. However, our proposed approach minimize the complexity and delays that may accompany voter verifiable ballot systems through the use of a ballot review station. Additional detail on this system are available at Boulder County’s request.

- f. The proposed system shall have the capability of operating on back-up power should the need arise.**

Hart InterCivic Response

Each eSlate polling place component will accommodate a battery pack that can power the unit for more than 18 hours (double or triple that of other electronic voting systems on the market today).

17.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

(1) Describe which components are used at the polls on Election Day.

Hart InterCivic Response

The following components of the eSlate Electronic Voting System are deployed at the polling place.



eSlate

The eSlate is the device voters use to cast their ballots at the polling place. The eSlate is approximately 16” tall, 10” wide, and 2.75” deep, weighing approximately 5.2 pounds. ***Given its compact size and light weight, the device is highly portable.*** Information is displayed to the voter through a full SVGA LCD display, illuminated by a backlight, with a durable polycarbonate screen that protects the display from damage in intense usage environments. Backup power is provided by a “D” cell battery pack.

The eSlate includes an integrated selector, known as the Precision Ballot Navigation System. The selector is a type of Rotary Optical Encoder (ROE) technology through which the voters select their preferences by turning the SELECT Wheel, and pressing the adjacent ENTER button when the preferred choice is highlighted. Other buttons, all of which are designed to be highly tactile and intuitive, allow the voter to obtain assistance in using the device, move to the previous or next screen, and cast the ballot.

Judge’s Booth Controller

The eSlate System’s JBC is located at each polling place and networked within the polling place to the eSlates. The JBC supports the Polling Place Official in controlling and monitoring the election process in the polling place or precinct. Each JBC controls up to 12 eSlates and enables the Polling Place Official to know which booths are in use at any given time. The JBC includes a built-in printer for printing ballot Access Codes, test and election information, and voter receipts. The JBC issues an Access Code linked to the voter’s precinct. When entered on the eSlate by the voter, the Access Code informs the JBC of the correct ballot to present to the voter. The Access Code does not link to the voter’s identity. The JBC also holds the PCMCIA flash memory card (MBB) on which election information and cast votes are stored and manages modem transmission to election central headquarters.

Disability Access Unit (DAU)

The eSlate System is ADA accessible by design. The eSlate can be upgraded to a DAU to accommodate various devices that support voting by the disabled. The DAU is an optional device that can be installed in an eSlate and provides the following additional features:

- audio output for “reading” the ballot to the voter,
- a slot to insert a flash memory card (MBB) containing audio data, and
- remote switch input used for physically challenged voters, supporting a range of alternative input devices including breath control (“sip-and-puff”) devices.



(2) Describe the dimensions and weight of each component, and if that component has the capability for operating on back-up power (battery), and if so, for how long. Please include all screen dimensions available.

Hart InterCivic Response

Details regarding the dimensions and weight of the eSlate System Components are presented in *Exhibit IV-13: eSlate System Components*.

eSlate Specifications			
Height	2.75 inches	Weight	5.2 pounds
Width	10.40 inches	Weight with DAU	5.5 pounds
Length	15.75 inches	Weight with battery pack	7.7 pounds
Display	600 x 800 SVGA LCD	Screen size	12"
JBC Specifications			
Height	5.30 inches	Weight	6.4 pounds
Width	13.75 inches	Display	320 X 240 LCD
Length	16.00 inches		

Exhibit IV-13: eSlate System Components. The eSlate System components are lightweight and compact.

Each eSlate polling place component will accommodate a battery pack that can power the unit for more than 18 hours (double or triple that of other electronic voting systems on the market today). If a power outage occurs, units with battery packs installed (which must include the JBC) can continue to operate without interruption or degradation of performance, as backup power will be activated immediately and automatically. No cast vote records will be lost.

(3) Describe the durability of the components.

Hart InterCivic Response

eSlate System components have been designed for a long product life. All electronic components that dissipate power were selected with more than twice the power handling capacity required for the particular circuit element. The other components were selected with at least double the current and the voltage required for the application. Utilizing MIL SPEC type “Part Count Method” analysis for calculating the reliability of electronic systems, a conservative calculation of the predicted Mean Time Between Failure (MTBF) for the system’s electronic circuits is approximately 24 years and has been verified by independent tests of the eSlate equipment.

Mechanical components of the eSlate System were selected, designed, and constructed to remain serviceable at least throughout the life of the electronic



components. Extensive durability testing has been conducted as part of the System’s ISO 9001 certified development and manufacturing quality process.

The eSlate is tested using state of the art test methodologies for validating product reliability and manufacturing processes. Before placing the eSlate on the market, the designs were validated for product life and reliability using Highly Accelerated Life Testing (HALT) techniques. HALT testing subjects the product to destructive temperature and vibration stresses – enough to expose any weaknesses in design or manufacture. Any weaknesses exposed are addressed and testing continues with the process repeating until the equivalent end-of-life is reached.

To monitor manufacturing process tolerances, sample units from each production run are subjected to Highly Accelerated Stress Screening (HASS). HASS subjects the units to extreme temperature stresses, not enough to destroy the unit as in HALT testing, but stressful enough to expose any intermittent or latent defects – before the unit is released to the customer. The result of the HASS test has a baseline yield established which indicates that the manufacturing processes are within tolerance.

Hart InterCivic continually tests the durability of the eSlate System. For example, in July 2002 a JBC, an eSlate with the DAU attached, and the associated cables necessary to outfit a Precinct Voting System with hardware underwent salt fog testing. This testing provided objective data that the eSlate election solution is able to withstand twelve years of storage under harsh conditions.

Peripheral Equipment. In addition to eSlate specific hardware, the System also uses off-the-shelf computers and third party peripheral equipment that is readily available on the commercial market. All such equipment included in this proposal has been selected for its demonstrated performance, dependability, durability, and maintainability.

(4) Describe the method for printing a voter receipt. Is additional equipment necessary? If so, what is needed?

Hart InterCivic Response

The eSlate System prints a voter receipt through the JBC. No additional equipment is necessary.

When the voter has cast his or her ballot, the polling place official presses the “CHECK CODE” button on the JBC. The unique architecture of the eSlate System immediately notes the status of the access code – in this case “Assigned and Cast” – and ***a receipt for the voter can be printed simply by pressing the “Print” command on the JBC screen.*** The receipt includes the day and time of voting, the access code that was assigned to the voter, and other pertinent data (the receipt does ***not*** show cast votes).



18.0 PRECINCT VOTING (POLL WORKER)

18.1 Requirements

- a. Set-up of the polling place shall require a minimum number of electrical and electronic connections.**

Hart InterCivic Response

There is only one unit (the JBC) to plug into electrical power, and only the JBC receives the election database (MBB). Poll Workers merely connect the eSlates to the JBC in a “daisy-chain” fashion. There are no stand-alone units that have to be individually powered.

- b. The proposed system shall be easy for the poll workers to transport, set up, open, close, and take down.**

Hart InterCivic Response

The eSlate’s voting booth/storage container is designed to be easy to store, transport, set up, and dismantle. It is secure, and can be sealed with a standard security seal when left unattended or in storage. It is a private, comfortable voting space for every voter. Legs and extensions store outside the booth for easy access and set-up by poll workers. The booth with the eSlate stored inside weighs less than 29 pounds, making it easy to move and assemble.

- c. The vendor shall provide poll workers with instructions that are easy to follow and easy to understand.**

Hart InterCivic Response

Hart provides training, simple instruction sheets, and trouble-shooting guides designed for Poll Workers by Hart InterCivic’s team of professional educators. These instructions have been extensively tested in other eSlate elections. A complete list and examples of poll worker instructional materials is included in *Attachment 6: Election Day Quick Reference*.

- d. The proposed system shall provide a method of activating a device that can be clearly understood by the poll worker.**

Hart InterCivic Response

Initial activation of voting devices when opening the polls is as easy as plugging in the JBC and touching the ENTER button on each device.

Because the JBC is connected to each eSlate, there are no smart cards or electronic key devices for voters to operate or polling place officials to collect after the voting process, eliminating a key point of failure or potential security weakness.



Poll workers are not required to initialize the voting unit for each voter. This results in significant cost savings over systems that require poll worker intervention.

When the polls have closed, all information needed by poll workers is consolidated in the JBC; no voting data must be obtained from individual eSlate units, and the single MBB contains the complete returns for the precinct, ready for modem transmission or transport to a collection site.

- e. The proposed system shall provide poll workers with a method to immediately detect if a voting unit is not operating properly.**

Hart InterCivic Response

All major subsystems and assemblies (specifically BOSS, eSlate units, DAUs, JBCs, Ballot Now, and Tally) include automatic diagnostic testing. These tests include error checking of function output, input validation, Cyclic Redundancy Checks, and real-time error checking. When power is applied to the eSlate Voting Unit, a diagnostic check of the system components is automatically performed. The results of the test (pass/fail) are recorded in the audit log of the unit.

Additional manual functional tests are presented to the operator following the diagnostic test, including testing of the input switches and buttons on the eSlate and DAUs.

Before the polls are opened or any application is used, tools are available to notify poll workers and operators of any possible problems. Once the polls have opened, poll workers may monitor the eSlate System in the polling place by observing the status indicator lights on the JBC. While in operation, the eSlate monitors itself and in the event of a malfunction, ceases operation and notifies the user with an on screen message "System Alert." The status indicator light on the JBC will extinguish indicating a problem with the unit.

- f. Any removable components shall be easy for poll workers to access and remove.**

Hart InterCivic Response

The only removable components to the eSlate Precinct Voting System are the MBB and the paper tape on the JBC. These components are easily mastered, and training on each is provided through eSlate's comprehensive training curriculum.

- g. Printer shall be easy for the poll worker to operate.**



Hart InterCivic Response

The printer at the polling place is built in to the JBC. All printer output (Access Codes, voter receipts, polling place reports) are generated from clear menus on the JBC screen.

18.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Describe the process used by the poll workers to transport, set up, open, close and take down the proposed system for voting. Describe each activity the worker shall complete prior to opening the polls, during the voting day, at the close of voting, and to return results to the counting location.

Hart InterCivic Response

The eSlate System may be transported by a transportation/delivery company or poll officials. It is lightweight and compact, and several eSlate booths can be transported in a standard passenger vehicle. As an added benefit, the booth can be secured using a standard security seal, providing tamper-proof protection.

Hart InterCivic designed the eSlate System not only to be voter friendly, but also to be easy to operate for poll workers and Boulder County Clerk and Recorder staff. Special attention was placed on easy-to-read and clear descriptions of the steps necessary for proper operation of the eSlate System.

When operating the JBC, poll workers follow a simple, menu-driven process and may perform functions only in the authorized sequence. Any unauthorized function attempts are rejected immediately. Options on the JBC screen are visible and available to poll workers only at the time they should be performed.

Polling place set-up with the eSlate System is accomplished easily and swiftly. It does not require special technical skills, physical strength, or unique facility features due to fact that the eSlate equipment is lightweight, compact, and easy to install. Only one power outlet is required -- the only electrical connection is to the JBC -- and the cable connecting the JBC to the eSlates carries both power and data. This also minimizes the clutter of power cords and extension cords at the polling place.

A typical polling place (using one JBC and five eSlates) may be readied for voting as detailed in *Exhibit IV-14: Readyng the Polling Place*.



POLLING PLACE SETUP		
Task	Time to Complete	Personnel Needed
Assemble 5 booths	< 10 minutes	2 or 3 Poll Workers
Connect 5 eSlates & the JBC in a daisy chain	< 2 minutes	2 or 3 Poll Workers
Apply power to the equipment & perform functional checks	<1 minute	1 Poll Worker
Power up the system	< 1 minute	1 Poll Worker
Election official signs off/accepts	1 minute	1 election official
Total	<15 minutes	2 or 3 Poll Workers

Exhibit IV-14: Readyng the Polling Place. The table above details the time and personnel required to prepare the polls.

OPEN POLLS		
Task	Time to Complete	Personnel Needed
Insert MBB in JBC (May be done at warehouse)	<1 minute	1 Poll Worker
Apply power to JBC	Negligible	1 Poll Worker
Enter password	<1 minute	1 Poll Worker
Identify/confirm polling locations	1 minute	1 Poll Worker
Open polls	1 minutes	1 Poll Worker
Assign booths (Press ENTER on each booth)	1 minutes	1 Poll Worker
Print "Open Polls" tape	3 minutes (varies with ballot size)	1 Poll Worker
Total	<11 minutes	1 Poll Worker

CLOSE POLLS		
Task	Time to Complete	Personnel Needed
Polls are closed by pressing "Close Polls" button and confirming action	3 minutes	1 Poll Worker
Final reports are printed from the JBC (JBC)	5 minutes (varies with ballot size and number of copies to print)	1 Poll Worker
Preliminary reports are transmitted by modem from JBC (optional)	3 minutes	1 Poll Worker
System is powered down	1 minute	1 Poll Worker
Total	<12 minutes	1 Poll Worker

Exhibit IV-15: Open and Close Polls . The tables above detail the time and personnel required to open and close the polls.



Ease of transportation is enhanced by the size of the eSlate equipment. The largest component, the eSlate voting booth, measures just 24.75” x 25.75” x 6.5” (when folded). It may be moved with ease through regular door openings into polling places and storage areas of various sizes.

Each eSlate Voting Unit weighs approximately 5.2 pounds without the backup power battery pack installed, and approximately 7.7 pounds with the battery pack installed. Each JBC weighs approximately 6.4 pounds and the eSlate Voting Booth weighs less than 29 pounds, with the eSlate and battery pack included. As a result, ***the eSlate voting system is the lightest DRE voting system on the market today.*** The low unit weight and small, regularly shaped physical profiles of the other system components makes it easy to store them efficiently in compact locations until needed for voting.

Once the polls have opened, poll workers may monitor the eSlate System in the polling place by observing the status indicator lights on the JBC.

Each eSlate and DAU is represented by a light that is green when the booth is available for use, red when the booth is in use, and unlit if the unit is disconnected from the network. The light also flashes red and green if the voter has pressed the HELP button twice to request assistance.

If a voting unit malfunctions, it will be off-line. Its indicator light will be extinguished, thus prompting immediate detection by poll workers monitoring the JBC.

Polls are closed through the JBC. Closing polls is initiated by pressing a clearly labeled “CLOSE POLLS” button on the JBC and following a short, menu-driven sequence of events. It is not necessary to individually deactivate each machine, unlike competitors’ units.

Complete official results also may be transmitted by physically transporting the MBBs to a tabulation center or substation for rapid download into the Tally tabulation and reporting application. This may be accomplished by carrying the JBC with the MBB sealed and intact, or by carrying the MBB alone. If the MBB is removed from the JBC at the polling place, it may be placed, along with provisional voter envelopes and other records (depending on County procedure) in its own security pouch and sealed with a security seal. Cast Vote Records are electronically stored on the MBB and ready to be read in the Tally application.

In addition, Tally can export all reports in .PDF format to removable media, thereby facilitating easy distribution of these reports to the Internet. Tally also has the ability to export reports and report data in Access, ASCII, Excel, HTML, and XML formats to facilitate electronic transmission through the medium selected by local Elections Officials.



c. Provide description of instructional material for setup and operation of the equipment at the polls, and samples if available.

Hart InterCivic Response

Hart provides printed materials designed to assist poll workers and election office staff in the confident, accurate operation of each eSlate component.

Every poll worker has at his or her fingertips the eSlate Poll Worker’s Operations Desk Reference and a Quick Reference. The latter is a short, easy-to-follow two-page guide highlighting the process necessary to complete the major tasks with the eSlate polling place components. More detailed training manuals serve as an additional resource. Specially designed checklists and task logs (Ballot Now Reprinted Ballots Log) also help poll workers, election office workers, and administrators complete their assigned tasks accurately and with assurance.

The steps preparing each polling place are taught in two classes, the eSlate Support Procedures Course and the eSlate System Management and Tasks Course.

Examples of the materials described in this section are included as *Attachment 6: Election Day Quick Reference*.

d. Describe the removable components and how the poll worker will access them.

Hart InterCivic Response

The only removable components in the eSlate Precinct Voting System are the MBB and the paper tape on the JBC.

Removal of the MBB occurs only if the County determines by policy that the MBB is to be removed by the polling place official. If this is the case, access to the MBB is a simple matter of sliding the PC card out of the slot. (As a safeguard against unauthorized or unintentional removal of the MBB, Hart recommends that a security seal be used to secure the MBB in the JBC.)

The JBCs printer tape is a standard product, similar to that used in cash registers and adding machines. Replacement of the tape is a simple process, and poll workers are trained in the steps required.

An important advantage of the eSlate System’s architecture is that Poll Workers or voters are not required to handle any expensive smart cards, “electronic keys,” or other programmable devices. Therefore, the eSlate does not contain a breach in the system’s security, providing access for creative hackers or others seeking to tamper, subvert, or vandalize the system or the election. The Access Code is issued on a piece of printer tape that can act as a receipt or can be disposed of



after voting. The Poll Workers do not need to be on the lookout for voters forgetting to return smart cards or other activation devices.

19.0 PRECINCT VOTING

19.1 Requirements

- a. The proposed system shall have the ability to incorporate minimal, easy-to-follow on-screen instructions on the ballot for the voter.**

Hart InterCivic Response

When a voter presses the help button once, simple instructions appear on-screen. Pressing the button twice causes a status light to blink on the JBC and prompts the Election Official to send a Poll Worker to assist the voter.

- b. Voting choices shall be clear to the voter.**

Hart InterCivic Response

Contests are clearly and legibly presented, and eSlate's PrecisionVote design leaves no doubt as to which selection the voter is making. This is the case because the blue highlight bar distinctly illuminates the voters intended selection.

- c. Voter shall be allowed to review all voting choices before casting the ballot.**

Hart InterCivic Response

The voter moves freely through the ballot and may review all contests before casting his or her ballot. The voter cannot complete voting until he or she has seen the Ballot Summary Screen, which lists selections made and alerts the voter to contests where no selection was made.

- d. Voter shall be allowed to change selection(s) at any time prior to the final casting of a ballot.**

Hart InterCivic Response

Voters may change selections at any time until the CAST VOTE button is pressed when the voter is viewing the last page of the Summary Screen.

- e. Vendor shall provide a means to demonstrate the operation of the devices to the voters.**

Hart InterCivic Response

Hart makes available various tools for voter instruction and demonstration. Options are presented below in *Exhibit IV-16: Voter Instruction Materials*.



f. Voters shall be warned and acknowledge that s/he has failed to completely vote a contest or measure (i.e., under-voted).

Hart InterCivic Response

The eSlate’s Ballot Summary clearly indicates “No Selection” in every contest where the voter does not make a choice. Then the voter has the option to return to the contest and make a selection.

19.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Describe how on-screen instructions can be provided.

Hart InterCivic Response

Each voting unit has a HELP button that, when pressed by the voter, presents on-screen (and audio on the DAU) context-sensitive help specific to the particular stage of the voting process. If needed, the voter may summon poll worker assistance by following the instructions directing him or her to press HELP a second time. This action will first inform the voter that assistance is coming and then informs the election official that the voter requires assistance through the indicator on the JBC that flashes red and green.

(2) Describe how the voter will make voting choices. Include all steps, including the review of the ballot choices and how the voter can make changes to choices or correct under-voted contests or races. The proposed system should require conformation from the voter of their choice to under-vote. Include samples of the ballot screens.

Hart InterCivic Response

Voting on the eSlate is simple. When confirmed as a qualified voter, the voter is assigned an Access Code, which is printed by the Judge’s Booth Controller. The Access Code is a randomly generated four-digit number that is linked to the correct ballot style for the voter. ***The Access Code cannot be linked to the voter’s identity in any way.*** (The Access Code is also displayed on the JBC screen in the event of a printer malfunction.)

The voter may go to any open eSlate Booth. The voter selects a language by turning the SELECT Wheel and pressing the ENTER button, and is then presented with an image of a number pad on the screen. Using the SELECT wheel and the ENTER button, the voter enters the four digit access code, which



instructs the eSlate System which ballot to present to the voter. The ballot is then presented on the eSlate's full color SVGA screen.

Once the Access Code is entered, ballot navigation is accomplished with the SELECT Wheel. The ENTER button is used to record voter choices. As the voter rotates the SELECT Wheel, the text on the ballot is highlighted, and the voter records his or her selection by pressing ENTER. Video material showing the operation of the eSlate is included with the *Attachment 7: Voter Instruction Materials*.

The eSlate does not accept a CAST BALLOT command until the voter has viewed the Ballot Summary. The voter may view the Ballot Summary by voting the last contest on the last page of the ballot, by pressing NEXT after viewing the last page of the ballot, or by pressing CAST BALLOT the first time before having completed either of the above.

Upon entering the Ballot Summary, the voter is presented with a review of his or her ballot selections, including contests in which the voter has made no selection (which is to say, he or she has undervoted). The Ballot Summary clearly identifies any undervoted contest by marking it "No Selection" in red type. For voters using the audio ballot, each contest name is read and any undervotes are identified as "No Selection."

The voter is free at any point to select a contest in which he or she wishes to change a selection. By not returning to correct a "No Selection" contest, the voter confirms his or her choice to undervote.

Returning directly from the Ballot Summary to a specific contest or proposition is accomplished simply by scrolling the SELECT wheel to highlight the desired contest and then pressing ENTER. This action takes the voter directly to the selected contest to make any desired change. Using the SELECT Wheel, NEXT, and PREV, the voter may also navigate freely backward and forward through the ballot to change or review any selection at will.

When the voter is finished making his or her selections, he or she presses the CAST BALLOT button. The ballot is recorded electronically as a Cast Vote Record.

Throughout the voting process, the voter has multiple opportunities to change a vote on the eSlate System. In fact, the voter may change selections at will until the ballot is cast. Furthermore, the voter must view the Ballot Summary before a final ballot can be cast.

Sample eSlate Ballot Screens are included in *Attachment 8: DRE eSlate Ballot Screens*.

c. How do you propose the operation of the voting devices would be demonstrated to the voters?



Hart InterCivic Response

Every aspect of the eSlate System has been designed to be user friendly and to provide maximum guidance to voters on the operation of each component.

Hart InterCivic provides voters a variety of multimedia instructional tools so that they may use all eSlate components accurately and with absolute confidence. Examples of these materials are listed in *Exhibit IV-16, Voter Instruction Materials*. Please refer to *Attachment 7: Voter Instruction Materials*, contained in the separately bound volume, for samples of these print materials.

Item	Description
Flyers	These flyers are printed on paper and handed out, one to each voter as they arrive at the polls. They contain the same steps as the voter instruction placards.
Placards	These placards are placed in the eSlate booth. They include the same steps as the voter instruction flyers. They may be laminated for preservation.
Flag Placards	These placards are placed in the eSlate booth and contain a reminder to press CAST BALLOT until the voter sees the waving American flag.
Instruction Scripts	These scripts are printed on paper with a picture of the eSlate on one side, and a voter instruction script on the opposite side. Poll Workers may use the script when giving voter instructions.
Video (optional)	This video may be played on any TV/VCR combination. It walks voters through voting on the eSlate System.
Computer slideshow presentation (optional)	This presentation may be run on any computer with Microsoft PowerPoint. It loops continuously and walks voters through voting on the eSlate System.
Demo eSlates	Hart InterCivic offers a demonstration eSlate that can be placed at the polling location. The demo eSlate is not an operating unit, but is identical in look and feel to the eSlate voting device. The demo unit allows a voter to understand the placement of controls and, in conjunction with simple instructions, prepare for the actual use of the unit in the voting booth.

Exhibit IV-16: Voter Instruction Materials. Hart provides voter instruction materials in a variety of media.

Each voting unit also has a HELP button that, when pressed by the voter, presents on-screen (or audio) context-sensitive help specific to the particular stage of the voting process. If needed, the voter may summon poll worker assistance by following the instructions directing him or her to press HELP a second time. This action causes an indicator on the JBC to flash red and green, thus notifying the polling place official that the voter in the specified booth has requested assistance.



Hart InterCivic is also completing development of a functional eSlate demonstrator unit that can be used at the polling place or in public demonstrations.

20.0 PRECINCT VOTING (PHYSICAL REQUIREMENTS)

20.1 Requirements

- a. The proposed system could be used in some polling locations that are dark, damp, and open to the elements, and that may have limited electrical outlets. The proposed system shall be able to operate accurately and correctly in these conditions.**

Hart InterCivic Response

The eSlate System can be, and has been, successfully operated under extremely adverse conditions.

JBC and eSlate units are engineered and built to strict ISO 9001 quality standards. Where eSlate's software solution components are designed for "command and control" functions that assure correct election programming, the polling place-deployed hardware has been engineered for the "front line" to be rugged and reliable in the trenches on Election Day. Extensive testing has demonstrated eSlate's durability, even under harsh environmental conditions.

The eSlate's Rotary Optical Encoder is not affected by high humidity, or even liquid spilled directly on the device. The system is engineered to military specifications for ruggedness. A strong validation of the durability of the eSlate System in damp environments is a recently concluded Salt Fog test which clearly demonstrated the system's durability in harsh damp environments.

Only one electrical outlet is used for the system, and the entire string of eSlate devices can be activated from battery power if necessary, enabling it to operate in a polling place without AC power.

- b. The proposed system shall be capable of sustaining voting activity with back-up power for a minimum of 3 hours under constant use, or provide an alternative solution.**

Hart InterCivic Response

Backup power is provided through a battery pack that holds eight standard D-Cell batteries. The alkaline D-Cells provide a high level of power, lasting up to 18 hours, and do not require special storage or recharging when in the warehouse.

- c. The arrangement of the system components at the polls shall not create hazards for the poll workers and voters.**



Hart InterCivic Response

With only one (1) electrical outlet required, polling place hazards caused by electrical wires and cables are minimized. Because the JBC is connected to each eSlate, there are no smart cards or electronic key devices for voters to operate or Poll Workers to collect after the voting process, eliminating a key point of failure or potential security weakness. *There is no requirement for additional Poll Workers to initialize the voting unit for each and every individual voter, resulting in significant cost savings and eliminating a potential obstacle to poll worker recruiting.*

20.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Describe the requirements necessary for optimum operation of the system in a polling place, including open garages (e.g., temperature, humidity, and ambient lighting).

Hart InterCivic Response

The eSlate System can operate optimally in all conditions, including open garages. The environmental standards for each component of the eSlate System are detailed in *Exhibit IV-17: eSlate Environmental Standards*.



eSLATE ENVIRONMENTAL STANDARDS			
Components & Peripheral Equipment	Specifications	Operating	Storage & Transportation
eSlate 3000	Temperature	40 – 100 degrees F	-15 to 150 degrees F
	Humidity	0 – 95 percent relative humidity, non-condensing	Per MIL-STD-810
	Vibration	Per MIL-STD-810	Per MIL-STD-810
	Drop Height	Per MIL-STD-810	Per MIL-STD-810
	Power Requirement	120 VAC, 60Hz; Fuse – 250V, 2A	N/A
DAU 5000	Temperature	40 – 100 degrees F	-15 to 150 degrees F
	Humidity	0 – 95 percent relative humidity, non-condensing	Per MIL-STD-810
	Vibration	Per MIL-STD-810	Per MIL-STD-810
	Drop Height	Per MIL-STD-810	Per MIL-STD-810
	Power Requirement	120 VAC, 60Hz; Fuse – 250V, 2A	N/A
JBC 1000	Temperature	40 – 100 degrees F	-15 to 150 degrees F
	Humidity	0 – 95 percent relative humidity, non-condensing	Per MIL-STD-810E
	Vibration	Per MIL-STD-810	Per MIL-STD-810
	Drop Height	Per MIL-STD-810	Per MIL-STD-810
	Power Requirement	120 VAC, 60Hz; Fuse – 250V, 2A	N/A

Exhibit IV-17: eSlate Environmental Standards. Unlike competitors' systems, the eSlate can operate optimally in all conditions, and can be stored in a warehouse with no special power or environmental accommodations.

Hart InterCivic has performed aggressive tests, subjecting the equipment to environmental conditions that ultimately test the equipment to the point of failure. This type of testing, called Highly Accelerated Life Testing (HALT), is used to verify a rugged design and precipitate conditions that result in latent equipment failures in the field. Environmental test conditions used include extreme temperatures, rapid rates of temperature change, and vibration all occurring



simultaneously. If a product incorporates the results of such tests in its design and construction, the result is a greatly reduced occurrence of field failures and a longer product life.

Results from HALT testing show that the eSlate System is able to operate within a temperature range of -85°F to 158°F and to withstand thermal transition rates of 140°F per minute. Drawing upon results of these tests, improvements have been incorporated into the eSlate System to increase the reliability and decrease the occurrence of field failure rates. The System has even passed all functionality tests after a simulated of storage for 12 years in a high saline humid environment with no climate controls.

The eSlate LCD is illuminated by a backlight, minimizing the requirement for additional lighting.

(2) Describe the physical requirements for a polling location, including but not limited to electrical outlet requirements for amperage, dedication of circuit, electrical draw of equipment for up to an eight-station voting arrangement, including any ancillary equipment.

Hart InterCivic Response

Polling place operations require just one AC outlet for the operation of the eSlates, DAUs, and JBCs, and the system can be activated on battery power if required. The electrical draw of the eSlate equipment for a voting arrangement that has eight stations (for example) does not exceed 2.5 amps.

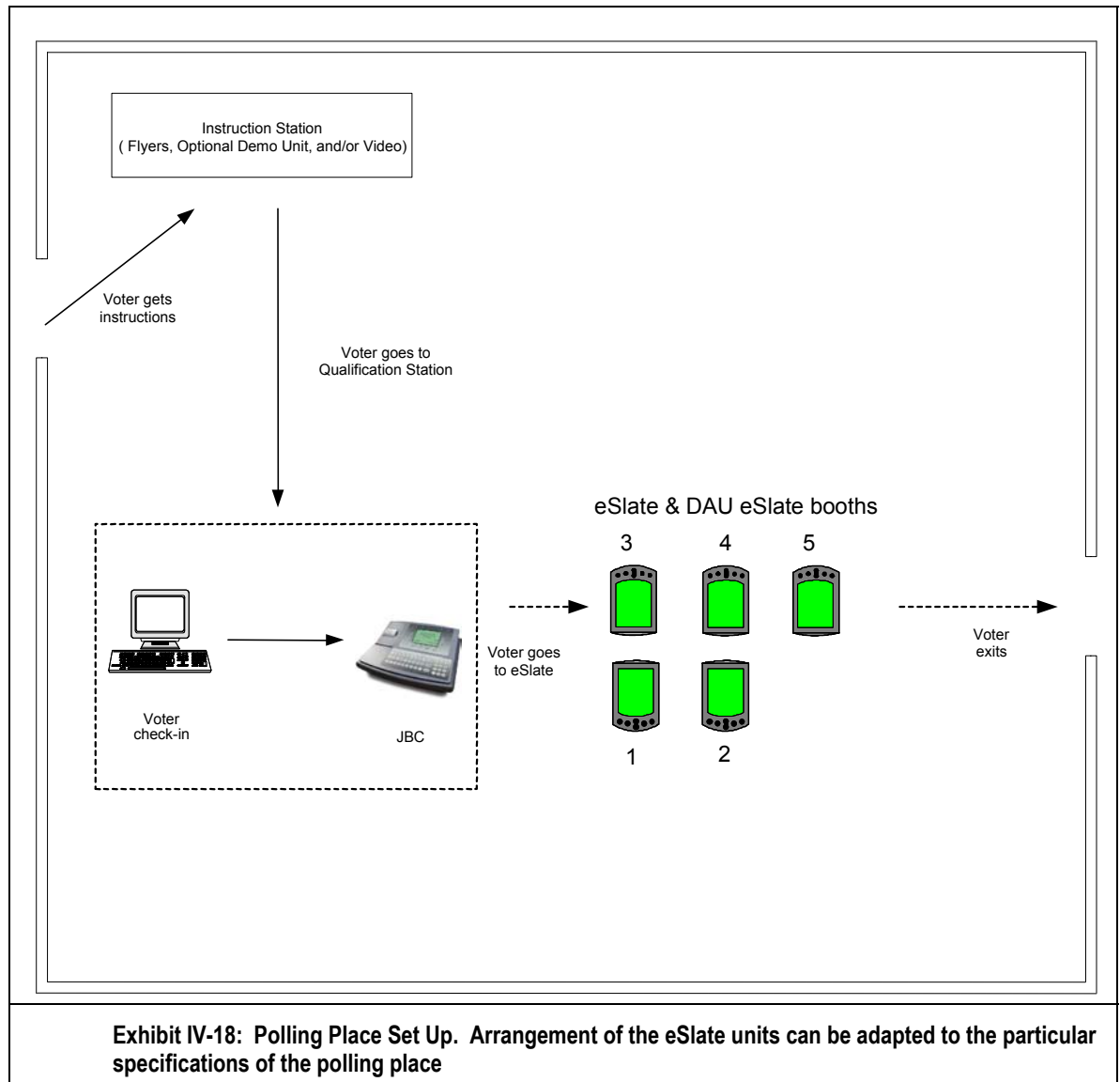
Similarly, remote collection sites need only an AC outlet to power the equipment (such as a PC) used in reading or receiving the cast vote information.

(3) Describe the recommended arrangement of check-in table, booths, the path of travel for voters, and placement of electrical cords and connections, and how these are secured to allow maximum safety for voters and poll workers.

Hart InterCivic Response

The eSlate Polling Place Operations Course covers all facets of processing voters, including: planning furniture and utilities placement for the functional flow of traffic in the polling place, handing out Access Codes, assigning booths, processing provisional ballots, canceling booths, checking voter Access Codes, aiding voters who require curbside voting assistance, and safety concerns.

Exhibit IV-18: Polling Place Set Up provides one option for polling place set up assuming a single JBC and 5 eSlates.



(4) Describe the procedure for transitioning the voting devices from AC to backup power supply if a power outage occurs.

Hart InterCivic Response

If a power outage occurs, units with battery packs installed (including the JBC) can continue to operate without interruption or degradation of performance. Backup power is activated immediately and automatically, with no perceptible impact. Power is not required to store and retain a vote. Each eSlate polling place



component may be equipped with a battery pack that can power the unit for more than 18 hours.

The eSlate's architecture also provides unmatched data security to protect cast votes in the event of a power failure. When the voter casts his or her ballot, the Cast Vote Record is immediately stored in non-volatile flash memory in three physically separate locations: the eSlate unit on which the vote is being cast, the JBC, and the MBB. Non-volatile memory does not require continuous power to retain data. Consequently, in the event of any type of power failure, the redundancy and engineering of the eSlate System assures that all CVRs are safely recorded and NO data is lost.

Units without battery packs installed will cease to function, will NOT lose any data, and will allow data to pass through them to/from units that remain operational. Normal voting operations may continue with the battery equipped units until power is restored, and additional units may be brought on-line as they are equipped with battery packs.

The procedure to bring all units back on-line following a power outage, or to bring additional battery powered units on-line while external power is still off, is simply to shut the system down, re-apply power, re-assign the booths, and resume operations. The procedure should take less than one minute to accomplish.

In the case of complete power failure (no external or battery power available), the system will cease to function immediately but NO data will be lost. As soon as power is re-applied (either regular external power or battery power), the system is activated automatically. It may be returned to normal operation by simply re-assigning the booths, as described above.

21.0 BALLOT TABULATION (HARDWARE AND SOFTWARE ENVIRONMENT /SECURITY)

The Boulder County Clerk & Recorder operates in a Microsoft Windows NT/2000 server network environment.

21.1 Requirements

- a. The vendor shall provide all hardware and software necessary to conduct elections and ensure a secure environment, both physical and logical.**

Hart InterCivic Response

The hardware and software required to conduct and ensure a secure environment, both physical and logical, is provided in this response.

The eSlate tabulation system (Tally) operates in closed, Windows NT/2000 configuration to provide a secure physical and logical environment. Data input into this closed tabulation system is only through reading the MBBs. Output data



from the closed tabulation system is only through printed reports, exported files and databases written to floppy disks or CD-ROMs.

The settings for OS are configured at installation. The configuration can be modified during the installation process according to County requirements if necessary.

- b. The proposed system shall interface with the Microsoft Windows network and operate seamlessly within this environment for all vote tabulation activities.**

Hart InterCivic Response

All data and applications are Windows NT or 2000 compatible. However, the eSlate System does not transmit data within an external network environment, therefore providing the highest level of security. This configuration keeps the entire election system completely secure from outside intrusion. Since the election system is not connected to outside networks, attacks cannot be made from these outside networks to the eSlate System.

If a configuration requires a direct electronic transmission capability, it is provided by a one-way data link that only allows data to be transmitted out of the eSlate System.

- c. The proposed system shall move and store data from the DREs and absentee/mail/provisional ballot system, interfacing with Windows NT operating system software. Data being moved between components will be protected using industry standard encryption.**

Hart InterCivic Response

The closed nature of the eSlate system does not require the use of published encryption methods.

- d. All software used to move results shall generate logs reporting all unexpected error conditions, movement of vote totals, log data and operator activity occurring during any time votes are accumulated at the central count point.**

Hart InterCivic Response

An audit trail is maintained of all data movement. In addition, a real time audit log is continuously printed during the tabulation process.

21.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------



b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Provide a diagram of a proposed hardware configuration to handle the vote tabulation of 250 voting precincts, with 1250 devices reporting results to a central count site. To keep it simple, you can assume that the Boulder County Clerk & Recorder will not transmit votes from any of the voting precincts electronically and will use no remote site counting. Votes will be counted at a central location. Vote data will arrive at the central count location at a rate of 70 (formerly 300*) precincts per hour, with a peak of 150 (formerly 900*) precincts for a one-hour period. Precincts will begin arriving at approximately 7:30 pm, with all precincts in-house by 11 p.m. Mountain Time. The last precinct received will be processed no later than 11:10 p.m. Mountain Time.

***NOTE: Per Addendum 1, this item is changed to state the need to process an average of 70 precincts per hour, with a peak of 150 per hour.**

Hart InterCivic Response

Exhibit IV-19: Boulder Voting System Hardware Configuration shows the configuration designed to handle the tabulation of more than 250 precincts in the prescribed amount of time. The configuration is based on the assumptions provided in the RFP, which were modified following analysis of the information.

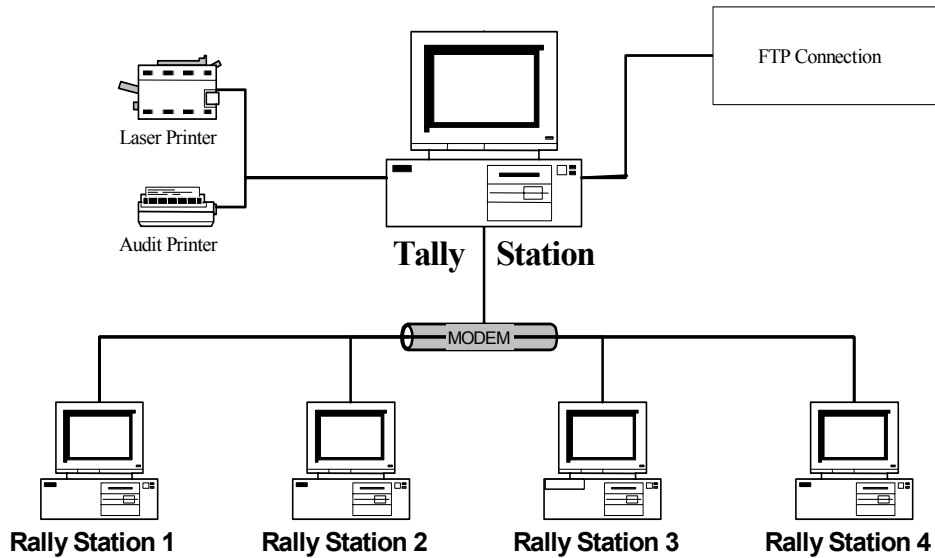
The assumptions provided allow 3.5 hours to process 250 voting precincts. We assumed that there is one MBB for each precinct. The configuration must be designed for the peak load of 170 voting precincts per hour.

The timeframe of 3.5 hours will permit processing of far more than the estimated 250 Election Day precinct MBBs.

The hardware and software are not the limiting parameter when establishing a configuration with sufficient capacity to handle the peak load. Instead, human factors determine the amount of time required to process all of the voting precincts.



Configuration Diagram



Mobile Ballot Box Delivery

# of MBBs	Time
70	8:30 to 9:30
170	9:30 to 10:30
10	10:30 to 11:00
250	total MBBs (1 per precinct)

Assume 5 seconds to process an MBB (2 sec to read, 3 seconds to insert and remove). Design for peak load.

170 MBB/hour arrival rate at peak
14 Minutes required for processing

Exhibit VI-19: Boulder Voting System Hardware Configuration. The diagram above shows the configuration designed to handle the tabulation of 250 precincts in the prescribed amount of time.



- (2) Provide a detailed description of all security protocols used when transmitting data within a network environment. Also, provide recommendations to secure your proposed system within a County Wide Area Network (WAN). This should include domain accounts, SQL security if applicable, firewall software, etc.

Hart InterCivic Response

The eSlate System does not transmit data within an external network environment, therefore, providing the highest level of security.

All eSlate Election Management components are non-networked, including ballot definition (BOSS), ballot presentation (eSlates, Ballot Now), and ballot tabulation (Tally) systems. Data transfer is accomplished by the physical transfer of the eSlate Mobile Ballot Box (MBB). The remote transfer (Rally) stations connected to the ballot tabulation systems (Tally) are mutually connected via a physically secure private network, which is not connected to outside networks.

This configuration keeps the entire election system completely secure from outside intrusion. Since the election system is not connected to outside networks, attacks cannot be made from these outside networks to the eSlate System.

22.0 BALLOT TABULATION (SETUP)

22.1 Requirements

- a. As noted in requirements in the Ballot Management (Automated Ballot Layout) section, all setup of the vote tabulation program shall be accomplished automatically through the Automated Ballot Layout software.

Hart InterCivic Response

All setup takes place through BOSS, the eSlate System's automated ballot layout software.

As noted previously, BOSS is a powerful election database application that manages jurisdiction data and election-specific information – districts, contests, candidates, and ballot styles – necessary for conducting the election. BOSS provides the ability to easily format ballots and distribute the formatted ballots to the voting devices. All data entry is conducted through BOSS, either manually or through the import capabilities of BOSS. The BOSS database powers the Ballot Now absentee/mail/provisional voting software and initializes the Tally tabulation and reporting software for both the polling place and absentee/mail/provisional voting systems.



- b. Manual entry shall be allowed for special races such as recall contests. It is also expected that manual setup will be necessary for election specific parameters.**

Hart InterCivic Response

BOSS supports manual entry of data, including special races, and manual setup of election specific parameters.

- c. The software shall allow for variations of the ballot titles that will appear on the election night results reports, the statement of vote and the voting pages of the sample ballot pamphlets. In other words, the titles could be worded differently on each.**

Hart InterCivic Response

Variations of the ballot titles that will appear on the Election Night results reports, the statement of vote, and the voting pages of the sample ballot pamphlets can be accommodated. The system also allows for manual changes to the contest titles in the election results reporting files to cascade throughout all vote reporting export files.

- d. The software shall allow for manual changes to the contest titles in the election results reporting files. These shall cascade throughout all vote reporting export files.**

Per Addendum 1, the intent is to address last minute ballot corrections or changes.

Hart InterCivic Response

The eSlate System provides the flexibility to accommodate last minute ballot changes quickly and efficiently. The key factors supporting this flexibility include:

- Every MBB contains all ballot styles for the election;
- Every MBB is universally assignable to any precinct or polling location; and
- Individual voting machines do not have to be re-programmed to smoothly incorporate ballot changes.

If the BOSS database has not been locked, changes are made globally by editing data fields, including contest titles. Changes are applied to all ballot types linked to the data that has been changed. If the BOSS database has been locked, the election official can copy the existing BOSS database and create a new election database in which to make the necessary changes. This process takes one to two minutes and retains a copy of the incorrect database for the election record.



Polling Place Voting. eSlate requires that only one MBB be written for each polling location. This greatly reduces the effort needed to program and distribute equipment. Other systems may need a precinct specific card for each voting unit, requiring election officials to address the programming of 1,250 stand alone units.

Absentee Voting. In the Ballot Now absentee system, the process to incorporate last minute changes is the same, since Ballot Now uses the same database, ballot format, and MBB that is generated by BOSS. Thus, the system may begin immediately to print ballots with the revised ballot information

Variations in contest titles can also be managed through specialized reporting developed with Crystal Reports.

- e. The software shall allow for adding a race or candidate without affecting the initial layout, edits and testing.**

Hart InterCivic Response

Through BOSS, races or candidates can be added without affecting the initial layout, edits, and testing. BOSS allows for manual editing of the ballot without affecting the initial style and is capable of printing numerous variations of vote reports and other information reflecting the ballot titles/styles. When any data element is changed, the change is automatically and globally carried to all ballot types, reports, contests, districts, voting locations, precincts, or other data element linked to the data that has been changed.

22.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

(1) Describe each element that is transferred from the ABL to the tabulation software and list whether manual changes are allowed to that field, e.g., contest name, proposition title or text, candidate name, occupation, vote for, etc.

Hart InterCivic Response

All data fields resident in the BOSS application are transferred to the Tally application. This includes:

- election
- equipment
- party



- polling places
- precinct
- contest
- proposition title and text
- candidate names
- polling place and precinct associations
- contest and precinct associations

All data elements can be edited manually. Editing occurs while in BOSS. When any data element is changed, the change is automatically and globally carried to all ballot types, reports, contests, districts, voting locations, precincts, or other data element linked to the data that has been changed.

Tally does not permit editing election data, which maintains and ensures the integrity of the data. If specialized reports are required (with special headings, race titles, etc.) this is achieved through Crystal Reports, eSlate’s integrated custom report writing tool.

23.0 BALLOT TABULATION

Currently, election night results are reported by election precincts (polls); declared absentee precincts; and requested absentee precincts. Election precincts and declared absentee precincts are maintained in the Election Management System; requested absentee precincts are not maintained in the system.

Per Addendum 1, “declared absentee” precincts and voters is changed to “Federal Ballot” precincts and voters.

23.1 Requirements

- a. The proposed system shall be capable of tabulating and reporting separate results by the following categories: polls voters, Federal Ballot (formerly declared absentee) precincts and voters, requested absentee voters, and early voters.**

Hart InterCivic Response

Standard eSlate reports identify the ballot option by categories that include Early Voting, Election Day, and Absentee. Boulder County can easily identify a specific precinct to manage ballots for accumulating results for the Federal Ballot category.

Federal ballots and voters can be accommodated on the eSlate System either by (1) creating a special Federal Ballot precinct or (2) using Ballot Now to create paper ballots for Federal Ballot voters. Through either approach, Federal Ballot votes can be separately tabulated and reported.



- b. The proposed system shall be capable of supporting the following schemes of reporting requested absentee results: ballots shall be tabulated and reported by the voter’s ballot type or in a precinct corresponding to the voter’s polls precinct.**

Hart InterCivic Response

Each Ballot Now ballot includes a bar code that identifies the precinct and/or ballot style. This eliminates the need to sort ballots before scanning, which eases the workload for the Elections Staff and speeds ballot processing.

Results are reported through Tally, the eSlate System’s fully integrated tabulation and reporting application. Results are reported by precinct, showing separate totals for Election Day, Early Voting in Person, and absentee/mail, as well as consolidated results. Results can also be reported by ballot type.

- c. The proposed tabulation system shall create the necessary precincts for accumulating and reporting results for requested absentee ballots. The County should have the option of identifying these precincts by number and description, requiring no manual keying.**

Hart InterCivic Response

Precincts are created in BOSS (from data supplied from Integrity or manually created) and automatically flow through the system. The naming convention must be selected at this stage of election preparation and may be alpha or numeric references. Precinct names are not re-keyed for tabulation.

23.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

- (1) Using a flow chart, identify all possible ballot origination points in your vote tabulation system. Identify the direction the ballot can take after it is cast and in which type of precincts the results might be accumulated. Include DRE and absentee/mail/provisional ballot.**

Hart InterCivic Response

Exhibit IV-20, Hart InterCivic eSlate Electronic Voting System Workflow, presents the ballot origination and subsequent workflow through the voting and tabulation process.



Hart InterCivic eSlate Electronic Voting System Workflow

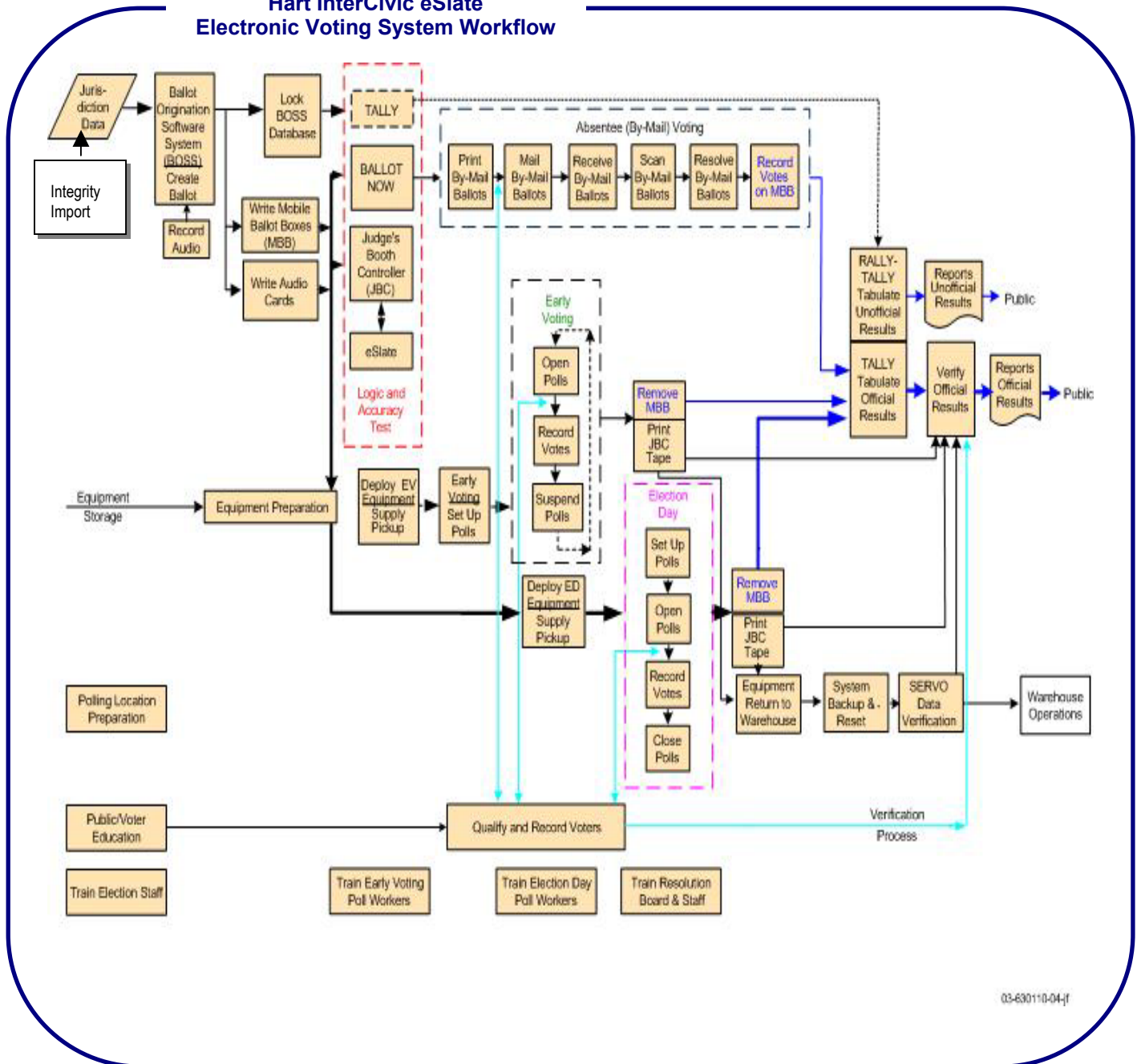


Exhibit IV-20: Hart InterCivic eSlate Electronic Voting System Workflow. User connection to the eSlate system occurs at various points in the workflow, including election setup, polling place operations, tabulation, and warehousing.



24.0 BALLOT TABULATION (STATISTICAL STATEMENTS)

24.1 Requirements

- a. **The vote tabulation program shall allow for the automated import of election precincts, districts, and voter totals data used to report election results. This data includes number of precincts and number of registered voters eligible to vote in contests and in political jurisdictions, and the overall totals for the county. The precinct totals are set early in the process and are not changed after the initial load. The voter totals are captured at different times throughout the election cycle: 60 days before, 29 days before, and 15 days before the election. For the initial testing, totals from 29 days before the election will be displayed.**

Hart InterCivic Response

Election data is entered and managed through BOSS. As indicated previously, data can be readily imported into BOSS. Voter totals can be imported at the specified times during the election cycle.

- b. **The system shall allow for the update of the voter registration totals from 15 days before the election without affecting any of the contest and candidate information that has been certified through the logic and accuracy testing prior to 15 days before the election.**

Hart InterCivic Response

Hart InterCivic will provide a mechanism that will support the update of voter registration so they are current as of 15 days before the election.

- c. **The vote reporting system shall display precincts counted against total precincts for a contest, political jurisdiction and overall totals for the county.**

Hart InterCivic Response

Tally has a number of standard reports with the cumulative result reporting the number of precincts counted versus the total number of precincts.

- d. **The vote reporting system must have a way to automatically combine results from optical scan absentee ballots with electronic results from DRE machines, so that a single final result is reported for each race.**



Hart InterCivic Response

The eSlate System is fully integrated, so that results from the Ballot Now application are automatically combined with results from the eSlate DRE units in Early Voting or Election Day polling places.

- e. **The Boulder County Clerk & Recorder also reports ballots cast vs. registration for each contest and jurisdiction on the ballot, in order to calculate voter turnout. We would like the option of generating an additional summary page at the end of the results report for selected contests, political jurisdictions and overall totals for the county. These statistics should be made available in all reports and exports, including web pages.**

Hart InterCivic Response

Through Crystal Reports, the industry's leading custom reporting tool, reports can be developed to meet Boulder County's specifications. Definition of specialized reporting requirements is one of the activities in the initial Work Process Analysis (WPA), the first activity in the project execution plan. Following the WPA, Hart will develop the template for the additional summary page and integrate it as a standard report in the Boulder County System.

24.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. **How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

- (1) **Does your system currently support ballots cast vs. registration reporting? If the system currently does not support the ballots cast vs. registration reporting, could it be incorporated into your current software? Describe how and when this could be accomplished.**

Hart InterCivic Response

The Hart InterCivic system currently supports ballots cast versus registration reporting. The number of registered voters in each precinct is entered (or imported) through BOSS, and the data is carried through to the tabulation process. Tally's standard reports provide formats that include the percentage of registered voters that voted, by precinct.



- (1) Provide samples of existing printed results reports; web pages; export files showing contest information; candidates; vote totals; etc.; and precincts reporting and ballots cast information, if supported.

Hart InterCivic Response

Samples of eSlate System reports are included as *Attachment 2: eSlate System Reports*.

25.0 BALLOT TABULATION (SECRETARY OF STATE BPS REPORTING)

The Secretary of State requires counties to report election results through their BPS system. County vote totals are accumulated by the system for the issuance of statewide results.

25.1 Requirements

- a. The vote tabulation program shall support all existing and future automated reporting options used to report vote totals to the Secretary of State.

Hart InterCivic Response

Hart InterCivic acknowledges and will meet this requirement.

- b. The proposed software shall be certified by the Secretary of State prior to being allowed to participate in automated reporting on election night.

Hart InterCivic Response

The reporting functionality will be certified by the Secretary of State prior to Election Night as a component of the tabulation system.

- c. The proposed system shall automatically generate results using the Secretary of State template files for election night reporting, Statement of Vote and Supplement of the Statement of Vote, with no manual editing of the output files.

Hart InterCivic Response

This requirement will be met. See discussions below.

- d. The system shall also support File Transfer Protocol to move these files directly to BPS at timed five minutes intervals.

Hart InterCivic Response

This functionality is extensible and configurable to support future automated reporting requirements and supports scheduled tasks to allow automated File



Transfer Protocol transmission through a firewall to the Colorado Secretary of State.

e. The File Transfer Protocol shall support a firewall connection.

Hart InterCivic Response

This requirement will be met. See discussions below.

f. The system shall support scheduled tasks to allow automated File Transfer Protocol transmission to the BPS results site.

Hart InterCivic Response

This requirement will be met. See discussions below.

g. The system shall have a mechanism for entering the write-in candidates vote totals and the voter registration totals associated with the valid contest for the Statement of Vote and Supplemental Statement of Vote templates.

Hart InterCivic Response

The write-in candidate vote totals will be supplied electronically from Tally to be included in the Statement of Vote and Supplemental Statement of Vote templates. Write-in candidate data and voter registration information is already contained in the results data passed from the tabulation function.

25.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Has your software been used to report results to the Colorado Secretary of State's automated report process or to a similar report process? Indicate each election and the county. Identify which of the Secretary of State's formats you have successfully generated and for which county.

Hart InterCivic Response

The eSlate System will support reporting results to the Colorado Secretary of State's automated report process. This system has not yet been used to report results to the Colorado Secretary of State's automated report process. Hart does, however, have experience with such a process in the State of Texas for reporting to a State level system in a pre-defined template.



The Hart system can support scheduled reporting to the Secretary of State on any frequency including real-time updates of results. Hart has implemented a reporting utility in another jurisdiction (Tarrant County), called Press that outputs a continuous update of results from the tabulation system. The frequency of these updates can be set to any desired time interval to support reporting requirements for the Colorado secretary of state. For security concerns, it is necessary for these tasks to be performed on a separate machine that is connected to the tabulation system through a one-way secure data link.

The requirement for regular, automatic reporting is provided through the Tally Uplink capability. The Tally Uplink process runs continuously on the same computer client as the Tally application. Tally Uplink can be configured to access Tally report generation on a scheduled basis without interrupting other Tally processing. If Tally Uplink finds a new or updated County election report, it will transfer that report automatically and instantaneously from the Tally application computer. This is done via a one-way data link that allows programmatic output from the Tally application computer, while still maintaining a non-networked security status.

The computer on the other side of the one-way data link is running the Tally Uplink companion. This computer automatically receives the new or updated Tally report and uploads it to the Internet at a County-specified location.

(2) If your system has not been used to report results to the Colorado Secretary of State's automated report process, please describe how you will accomplish this.

Hart InterCivic Response

See the discussion in the previous response.

(3) Is the File Transfer Protocol client local or external to the vote tabulation program?

Hart InterCivic Response

Our FTP client program is external to our tabulation system.

(4) Does your system support scheduled jobs for executing scheduled tasks (e.g., reporting to the Secretary of State)? If so, how many jobs can be scheduled while the vote accumulation is taking place. Can these scheduled jobs reside on a machine other than the main vote tabulation system?



Hart InterCivic Response

The requirement for regular, automatic reporting is provided through the Tally Uplink capability. The Tally Uplink process runs continuously on the same computer client as the Tally application. Tally Uplink can be configured to access Tally report generation on a scheduled basis without interrupting other Tally processing. If Tally Uplink finds a new or updated County election report, it will transfer that report automatically and instantaneously from the Tally application computer. This is done via a one-way data link that allows programmatic output from the Tally application computer, while still maintaining a non-networked security status.

The computer on the other side of the one-way data link is running the Tally Uplink companion. This computer automatically receives the new or updated Tally report and uploads it to the Internet at a County-specified location.

26.0 BALLOT TABULATION (VOTE SIMULATION)

The Boulder County Clerk & Recorder is required to simulate ballots cast and votes that represent predetermined results. Test decks of ballots are created with voted contests, which are then hand tallied and compared to the results shown by the ballot counting program. This allows us to assemble a set of test data for testing the accuracy of the ballot counting both before and after each counting session during early voting and on Election Night. This data is also used for testing the Secretary of State's BPS automated reporting certification, and for the simulation of election night vote counts for media results.

Problems are identified when comparing the test deck votes to the votes counted by the ballot counting program, and differences are found.

26.1 Requirements

- a. The vote tabulation system shall be capable of simulating multiple vote patterns against all precincts including absentee/mail/provisional ballot precincts (i.e. one vote per candidate, random votes per candidate or measure for each ballot cast, one vote per contest, increasing votes per candidates, etc). All of the simulations, with the exception of random vote per candidate, will produce predetermined results that can be verified.**

Hart InterCivic Response

This requirement will be met. See discussions below.



- b. The DRE shall have an automated means of voting a set of test ballots with predetermined results. These test ballots shall represent one of the simulations supported in (a).**

Hart InterCivic Response

This requirement will be met. See discussions below.

- c. The casting of additional test ballots after (b) is completed should be allowed.**

Hart InterCivic Response

The eSlate System permits the casting of additional ballots after test ballots are voted.

26.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

(1) Describe in detail the steps you recommend to verify the system is programmed correctly. Include all proofing steps except those conducted during ballot generation.

Hart InterCivic Response

The eSlate System supports a variety of traditional Logic and Accuracy tests to verify the system is programmed correctly. Vote patterns manually entered using a test or election MBB on the eSlate allow the voted information to be returned to Tally for verification of results. This can be performed on a precinct or ballot style basis. The autovote utility is available to execute this process without human intervention.

Hart InterCivic has developed a procedure manual detailing procedures for managing logic and accuracy testing on the eSlate System. A copy of this manual is available upon request.

Hart has developed a vote simulation utility, used to simulate voting on the eSlate System, and will provide this capability to Boulder County. Using an external PC to run the utility, keystroke and wheel turn commands are fed into the polling place closed network to exercise the maximum amount of executable code and ballot data. Voting patterns, number of votes and speed on the process are all controllable parameters from the vote simulation utility. Once a defined vote simulation cycle is complete, additional votes may be cast on the target system.



(2) Is the proposed system capable of simulating results acceptable to the Secretary of State using their automated reporting system without manual adjustment to the ballots and votes cast?

Hart InterCivic Response

Yes. The eSlate System is capable of simulating results acceptable to the Secretary of State using their automated reporting system without manual adjustment to the ballots and votes cast.

27.0 BALLOT TABULATION (PROVISIONAL BALLOTS)

At the November 2000 Presidential General Election, 22,431 provisional ballots were voted in Boulder County. Of the total, 17,153 were released into the count by the Monday following Election Day.

The process for managing provisional ballots starts by issuing envelopes to each polling place to act as a return vehicle for the ballot and the voter information. Each of these envelopes contains a serial number that is assigned to the consolidated precinct by the Election Management System. After a voter casts a provisional ballot, he/she fills in information on the back of the provisional envelope, places the ballot in the envelope, seals the envelope and gives it to the precinct worker. The ballots are returned to the Boulder County Clerk & Recorder on election night, where the ballots are accumulated by type, location, and political jurisdiction. Boulder County Clerk & Recorder then reports the number of outstanding ballots at the end of the election night count.

The Election Management System is used to verify the provisional ballots; the serial number located on the provisional ballot plays a critical roll in the adjudication process. The serial number is entered into the failsafe/provisional module to validate the voter to the actual voting precinct and ballot type. All provisional envelopes at a polling location show the same serial number.

27.1 Requirements

- a. The proposed system shall accept a provisional ballot without tabulating or recording the provisional ballot cast when reporting that precinct's totals.**

Hart InterCivic Response

The eSlate System can accept a provisional ballot without tabulating or recording the cast ballot when reporting precinct totals. The process for this is explained in 27.1 below.



- b. The proposed system shall assign a unique number to each provisional ballot voted at a polling place. This number shall allow us to locate the precinct the ballot came from and identify the voter so the ballot can be released.**

Hart InterCivic Response

The Ballot Now System prints a serial number/bar code on each ballot which permits the County to identify the precinct. The eSlate System assigns a unique Retrieval Code to each provisional ballot, enabling retrieval of the ballot so a determination can be made. Release of the ballot for tabulation is approved or rejected within the Tally application. Results of approved, released ballots are included in the results reporting.

- c. The proposed system shall provide an automated interface from our Election Management System to the vote tabulation system for releasing these ballots into the count. The interface shall use the number assigned at the time the ballot is cast.**

Hart InterCivic Response

As part of the Boulder solution, an interface will be developed for Tally to read an output file from the Election Management System that supplies the results of the adjudicated provisional ballots. Following additional analysis of the adjudication process and the resulting data available from the Election Management System, Hart and the County can define an automated process to support the volume of provisional ballots cast in an election. The analysis and process definition would occur after contract award and the resulting effort included in the signed contract.

27.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

(1) Describe how provisional votes are cast. This should include the process for the voter and the poll worker. You should describe how the unique number for the provisional ballot is generated or where you expect the number to come from if the proposed system does not generate it.

Hart InterCivic Response

Ballot Now, eSlate's digital absentee balloting application, is a paper balloting system that is fully integrated with the eSlate Electronic Voting System. Ballot Now manages the printing, scanning, and resolution of paper ballots for absentee



or provisional voting. Ballot Now also records voted ballots as electronic Cast Vote Records (CVRs) for tabulation through the eSlate Tally tabulation and reporting system.

Under current Colorado law and procedure, provisional voters are handled through paper ballots; the eSlate System meets this requirement through the Ballot Now System. Absentee/mail/provisional ballots, produced through the eSlate System's Ballot Now component are separated from other cast votes and held for scanning, and therefore tabulation, until a determination of eligibility is made.

However, in the event that Colorado permits electronic processing of provisionals, the eSlate includes integrated capability for managing provisional votes.

Tally efficiently handles the processing of provisional ballots. Provisional ballots cast on the eSlate are assigned a random number, or Retrieval Code, used to identify a specific ballot in the Tally application. To process these ballots cast on the eSlate, prior to tabulation, the election official instructs the Tally System to hold provisional votes out of the tally until they are reviewed and resolved. Tally can also accept provisional votes until rejected. This is accomplished through a simple selection box in the application.

Once the provisional ballots have been reviewed and disposition rendered for each, election officials view the list of Retrieval Codes in Tally. The individual Retrieval Code would then be accepted or rejected depending on the disposition. Although the Retrieval Code may be used to identify a specific provisional ballot in the Tally application, there is no access to the actual ballot contents at any time during provisional ballot processing. The Tally application allows Colorado election officials to specify prior to tabulation that the provisional ballots should not automatically be included. Ballots can be accepted into the tabulation if it is later determined that the voter was qualified to vote.

Although the Retrieval Code may be used to identify a specific provisional ballot in the Tally application, there is no access to the actual ballot contents at any time during provisional ballot processing.

The Tally application allows election officials to hold the provisional ballots out of the election tally until they are deemed eligible. (For other States and Counties, Tally can also permit provisional ballots to be "accepted until rejected.")

(2) Describe the procedure for releasing provisional ballots into the count. This should include the number of workstations that can be used to release provisional ballots and an estimated number of ballots that can be released in one hour on a single workstation.

The Tally application provides a complete list of Retrieval Codes on-screen, one for each Provisional Ballot. A Tally operator utilizing a list of Retrieval Codes for ballots not to be accepted can "click" on the code number and "click" on the



Reject button. Depending on the operator, approximately 1500 ballots per hour can be rejected. The remaining Provisional Ballots can be brought into the election results without further processing.

(3) Describe all reports and file export routines related to provisional ballot status, including ballots pending and ballots released. Indicate what information is available on the reports, such as date, precinct, ballot type, party, etc., and how it can be sorted.

Hart InterCivic Response

The Provisional Ballots report lists the retrieval codes for the Voter Challenge Stubs issued at election polling places. Voter Challenge Stubs represent challenged, or retrievable, ballots. NOTE: Votes from provisional ballots are included, or not included, in the vote totals of other Tally reports based on the condition set in the Include Provisional Ballots in Totals field of the Tally Options window.

When an election official at the polling place issues a retrievable ballot to a voter whose eligibility to vote was in question, the following things occur:

- A Voter Challenge Stub is printed
- A Retrieval Code is linked to the Voter Code
- The Access Code ticket is printed, or
- The voter is required to print and sign his or her name on the Voter Challenge Stub before he or she is allowed to vote

The Provisional Ballots report shows:

- The retrieval code for the challenged ballot
- The name of the precinct where the challenged ballot was issued
- The status of the provisional ballot
 - **Initial** - not yet processed through the Reject Provisional Ballots window
 - **Accepted** - accepted as a valid ballot through the Reject Provisional Ballots window
 - **Rejected** - the ballot was rejected as not valid through the Reject Provisional Ballots window
- The ID of the MBB that recorded the challenged ballot
- The name of the polling place where the challenged ballot was issued
- The election type origin of the challenged ballot



- **Early** – the ballot was cast during Early Voting
- **Election** – the ballot was cast during Election Day and
- The total number of provisional ballots read into the Tally System

28.0 BALLOT TABULATION (WRITE-IN CANDIDATES)

28.1 Requirements

- a. **The proposed system shall provide a means of recording the selection of candidates for any office whose names do not appear upon the ballot.**

Hart InterCivic Response

The eSlate System accommodates write-in voting as an integral part of the electronic voting process. Write-ins are accommodated in both the eSlate DRE and the Ballot Now absentee/mail system. The process is described in response to the questions below.

- b. **It shall have the capability for entry of as many names of candidates as the voter is entitled to select for each office.**

Hart InterCivic Response

Voters may write-in as many names as the number of permissible selections in the contest.

- c. **The proposed system shall be used to cast the vote for the write-in candidate. The voter’s precinct, contest and write-in text shall be transferred to the central count computer and stored for later resolution.**

Hart InterCivic Response

The eSlate’s in-person voting method electronically stores write-in votes. These may be resolved at a later time as determined by County Elections Officials.

- d. **During absentee/mail/provisional ballot processing, ballots containing write-in candidates shall be separated from the ballots with no write-in candidates.**

Hart InterCivic Response

This is a matter of local procedure, since these ballots do not have to be separated when being processed by Ballot Now. These ballots are identified during the imaging process, and the digital image of the ballot/write-in contest “set aside” in the system to be resolved at a time determined by County Election Officials.

- e. **A report containing a list of write-in candidates captured through the proposed system shall be available after the election night count. The report shall contain totals of potential votes for each write-in candidate**



for the contest. These will be unofficial results and shall indicate that on the report heading.

Hart InterCivic Response

Write-in votes are integrated with tabulation reports and included in final summary reports.

- f. There shall be a mechanism for entering the final write-in candidates' votes into the tally system to enable the final summary reports, Statement of Vote, and Supplemental Statement of Vote to contain the write-in votes as required by the Secretary of State.**

Hart InterCivic Response

Prior to tabulation, the names and any acceptable aliases for the certified write-in candidates are entered into the Tally application. During tabulation, Tally reads the Cast Vote Records from all MBBs, includes the write-in votes in the tabulation process, and reports write-in votes as candidates. The names of write-in candidates are displayed in reports with the annotation “(W).”

28.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

- (1) Describe your systems capability for voting, tabulating and reporting write-in candidates for both the DRE and absentee/mail/provisional ballot system.**

Hart InterCivic Response

When designing the ballot for a given election in BOSS, the election staff simply selects the appropriate number of write-in options for each contest. This and all other election information is provided to the MBB cards used in the eSlate Precinct Voting System and the Ballot Now and is used to produce the various ballot styles for the election.

At the polling place, the voter viewing the ballot on the eSlate unit then may select “Write-In” when it is presented as an option for a specific contest.

Upon selecting the write-in option, an easy-to-navigate electronic keyboard appears on the screen, and the voter rotates the SELECT wheel to highlight a letter, presses ENTER to record that letter, and repeats the process to spell out the



name of a write-in candidate. When the write-in process is complete, the voter’s ballot reappears with the name he or she entered displayed under the write-in option. Complete audio instructions are provided to voters using the audio ballot instructions.

With Ballot Now, the voter records his or her absentee/mail/provisional write-in votes on the paper ballot. Prior to scanning the ballot in order to tabulate it, the election staff enters the names and acceptable aliases into Ballot Now for certified write-in candidates. After the ballots are scanned, the election staff accepts or rejects the voter’s write-in choice according to the list of certified candidates. For “free form” write-ins, a field is displayed that allows the entry of the candidate name as written on the ballot. With this method, all selections, including write-in candidates, are recorded electronically in the Ballot Now system. These records are written to the MBB as CVRs.

Prior to tabulation, the names and any acceptable aliases for the certified write-in candidates are entered into the Tally application. During tabulation, Tally reads the Cast Vote Records from all MBBs, includes the write-in votes in the tabulation process, and reports write-in votes as candidates. The names of write-in candidates are displayed in reports with the annotation “(W).”

Given the recent national attention to elections and election related processes, discussions concerning write-in votes have called for expanded capability. In response to such customer demand, Hart InterCivic will introduce additional capability to handle un-certified write-in candidates in the System 3.0 release. The new functionality will allow Tally to accept unapproved write-in votes and provide a report for review and adjudication prior to tabulation. This will greatly improve efficiency for what is thought to be an increased volume and variability of unannounced candidates for office contests.

29.0 BALLOT TABULATION (RECALL ELECTION CONTEST)

29.1 Requirement

The proposed system shall have the ability to cast and record ballots for both DRE and absentee/mail/provisional ballots in a recall contest as prescribed by the Colorado Elections Code.

Hart InterCivic Response

The eSlate System has the ability to cast and record ballots for both DRE and absentee/mail ballots in a recall contest as prescribed by the Colorado Elections Code.

29.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------



b. How do you propose to meet this requirement?

Hart InterCivic Response

Section 1-12-112 of the Colorado Election Code requires that the official ballot shall contain a statement consisting of two hundred words or less stating the reasons set forth in the petition for demanding the recall, as well as a statement of justification from the officer being recalled, if that statement is submitted according to the procedure outlined. This additional text is accommodated in BOSS.

The same section also states that ballots for the election of a successor to the officer being recalled shall contain the candidates' names which shall be placed on the ballot by lot, regardless of the method of nomination. This is also supported in BOSS.

Section 1-12-118. of the code states that no vote cast shall be counted for any successor candidate for the office unless the voter also voted for or against the recall. Again, BOSS provides the capability to meet this requirement. The recall question is setup by usual procedures in BOSS as a proposition, with the options of “Yes” and “No.” Immediately following the recall question is the office contest that offers the names of successor candidates. An option within BOSS makes the selection of a candidate dependent on voting either “Yes” or “No” on the recall question.

BALLOT TABULATION (SPECIAL VOTING OPTIONS)

30.1 Requirement

The proposed system shall have the ability to cast ballots using all special options prescribed by the Colorado Elections Code, including methods of selecting more than one candidate by casting a single vote (e.g., President and Vice President); other methods for handling cross-voting between parties in open, blanket or unitary primary elections; the “modified” closed primary; and any other pattern of voting authorized by the Elections Code.

30.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement?



Hart InterCivic Response

The eSlate System is fully certified by the State of Colorado, and can accommodate the patterns of election voting currently permitted under the Colorado Code. The type of election and specific requirements are defined in BOSS, and ballot styles and election processes are automatically generated through BOSS.

As new or additional voting options are defined for Boulder County, Hart will review the system to determine the best means to address the requirement.

31.0 BALLOT TABULATION (ELECTION NIGHT REPORTING)

The Boulder County Clerk & Recorder releases election results through the use of printed reports showing results for each precinct, and with summary reports showing the combined results for all counted precincts. The Boulder County Clerk & Recorder also creates web pages of up-to-the-minute election results on Election Night for all contests, organized by jurisdiction. The web page results are posted to the Boulder County website every 5 – 10 minutes while precincts are reporting.

The media also asks for key (targeted) precinct results to be printed once the precinct has been counted. Up to 20 precincts are identified as key precincts in a countywide election. The key precinct reports are automatically sent to a pre-determined printer.

31.1 Requirements

- a. The tally system shall allow the flagging of precincts and the automatic generation of precinct reports to a printer designated by the operator for key precinct reporting.

Hart InterCivic Response

Hart InterCivic will implement a reporting process that will flag key precincts and automatically generate and print reports when the precincts are counted.

- b. The tally system shall be capable of manually and automatically generating election results at timed intervals set by the program.

Hart InterCivic Response

Tally supports manually and automatically generating results bulletins that are contained in a single report. The reporting utility will allow the user to generate these reports on demand or input a set time interval for output.

- c. The election results shall support two formats:



- (1) a standard format showing contest, total precincts to report, precincts counted, percentage of precincts counted, candidate name and votes, and percentage of votes. This report will rank the candidates, with the candidate with the most votes listed at the top and other candidates listed in order by decreasing number of votes.**

Hart InterCivic Response

The eSlate System's standard reports include formats that provide all of the data described above. If the current format of standard reports does not meet the County's requirements, we will use the Crystal Reports application to develop custom formats that will be incorporated in to the Boulder County set of standard reports.

During the initial Work Process Analysis, we will produce detailed requirements specifications as to which standard reports meet the requirements, and design and implement custom report solutions through Crystal Reports or other approaches. Hart has substantial experience in the design and implementation of specialized reports that meet customer-specific requirements,

- (2) a duplicate of the report listed above, but which also includes "overvote" and "undervote" totals for each contest.**

Hart InterCivic Response

See previous response.

- d. The tally system shall be capable of generating precinct reports displaying the information listed in (c). The Boulder County Clerk & Recorder shall have the option to print this report in either winner ranking order (candidate with most votes first) or base rotation order (candidates in original rotation order).**

Hart InterCivic Response

See previous response..

- e. The tally system shall be capable of generating web pages with election results displaying the information listed in (c). The Boulder County Clerk & Recorder shall have the option to print this report in either winner ranking order (candidate with most votes first) or base rotation order (candidates in original rotation order). Web pages generation will be automated to produce current results at a specified time interval controlled by the operator and to post to the County web site. The time interval must be able to be as short as five (5) minutes in length. Results must be able to be separated by jurisdiction onto separate web pages, with a separate turnout shown for each jurisdiction.**



Hart InterCivic Response

See previous response.

Production of reports for posting to the Web is a standard feature of the eSlate System. Specific requirements for the Web reports will be determined during the initial Work Process Analysis.

The Hart system can support scheduled reporting on any frequency including real-time updates of results. Hart has implemented a reporting utility in another jurisdiction (Tarrant County), called Press that outputs a continuous update of results from the tabulation system. The frequency of these updates can be set to any desired time interval to support reporting requirements for the Colorado secretary of state. For security concerns, it is necessary for these tasks to be performed on a separate machine that is connected to the tabulation system through a one-way secure data link.

- f. The tally system shall support file export such as XML or ASCII delimited.**

Hart InterCivic Response

The eSlate System will export files in standard formats such as delimited or XML.

Hart InterCivic is pursuing a strategy of providing a standardized XML import/export interface for the import or export of ballot definition data, and the import and export of election tabulation data. The Hart InterCivic XML Schemas, presently in review and titled "BDX" for Ballot Data eXchange, will provide for the transfer of all election definition, election management, election tabulation and reporting data in a single structure.

Hart InterCivic will provide facilities in all relevant products to import and export data in BDX, and to validate this data. Hart products will be able to accept imports of any election data in BDX format. Modern election products that provide output in XML structures other than BDX can be accommodated easily by developing an XSLT document, which is an XML translation document for converting one XML structure into another.

By using the BDX XML data structure for import and export of data, Hart InterCivic will be able to provide fast, accurate, robust and complete election data integrations between different election products and systems.

- g. The tally system shall support some type of job scheduling at intervals set by the system operator. These shall include all report printing and file export.**



Hart InterCivic Response

Tally supports manually and automatically generating results bulletins that are contained in a single report. The reporting utility will allow the user generate these reports on demand or input a set time interval for output.

31.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) List and describe each report generated by the proposed system. These should include results formats, precinct reports, html, XML, ASCII, etc.

Standard reports for the BOSS, Tally, Ballot Now and SERVO applications are detailed in *Exhibit IV-21: Standard Reports*. All the file types mentioned above (html, XML, ASCII) are presently supported. To meet the County's requirements, all that is required is the format for the file type. Hart's full-time engineering staff is well versed in all popular file structure technologies.

Application	Reports	
BOSS	Active Contest List Active Contest Delegates List Active Contest Options List Audit Trail Ballot Content Proof Contest List Summary Contest List With Details Entire Ballot Slate Equipment List Media Production List	Polling Place List – Absentee Voting - Detail Polling Place List – Absentee Voting - Summary Polling Place List – Early Voting - Detail Polling Place List – Early Voting - Summary Polling Place List – Election Day - Detail Polling Place List – Election Day - Summary and Precinct List
Ballot Now	Audit Trail Certified Write-Ins Election Report Printed Ballots by Precinct	Scan Batch Report Scanned Ballots by Precinct Scanned Ballots by Batch and Unresolved Ballots
Tally	Combined Official Canvass Election Day Precinct Not in Status Final Cumulative Precinct Status Precinct Status With MBB IDs Provisional Ballots	Results Detail Results Summary Summary for All Contests Summary for All Contests by Precinct Summary for All Contests for Public Unreported Polling Places



Application	Reports	
SERVO	Rejected Write-In Candidates	Write-in Candidates
	Equipment List Backup Devices Device Connectivity Report Device Audit Log	Device Cast Vote Records Report Votes by Precinct Report SERVO Internal Audit Report

Exhibit IV-21: Standard Reports. Each application provides a wide array of standard reports.

In addition to the above reports, all applications are supported by Crystal Reports, an industry standard database-reporting tool that essentially provides our customers with unlimited report formatting capabilities without requiring re-certification of the products.

Hart InterCivic is pursuing a strategy of providing a standardized XML import/export interface for the import or export of ballot definition data, and the import and export of election tabulation data.

(2) Describe how results will be automatically generated for posting on the County web site.

Hart InterCivic Response

The requirement for regular, automatic reporting is provided through the Tally Uplink capability. The Tally Uplink process runs continuously on the same computer client as the Tally application. Tally Uplink can be configured to access Tally report generation on a scheduled basis without interrupting other Tally processing.

If Tally Uplink finds a new or updated County election report, it will transfer that report automatically and instantaneously from the Tally application computer. This is done via a one-way data link that allows programmatic output from the Tally application computer, while still maintaining a non-networked security status. The computer on the other side of the one-way data link is running the Tally Uplink companion. This computer automatically receives the new or updated Tally report and uploads it to the Internet at a County-specified location.

32.0 BALLOT TABULATION (PRECINCT RESULTS)

32.1 Requirement

The software shall generate a statement of vote report that complies with section 15501 of the Colorado Election Code. This report displays vote totals and ballots cast for each reporting precinct, voting district and total votes for each candidate within each contest. The report also displays statistical statements for the breakdown above for registered voters vs. total ballots cast



and percentage of the vote that each candidate earned. It is important to note that most current tally systems do not provide the percentage of votes cast for each candidate, but this will be a requirement for Boulder County.

Per Addendum 1, this paragraph is amended to delete the reference to section 15501. The software should generate a statement of vote report that complies with the Colorado Election Code.

32.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
--------------------------------------	-----	---	----

b. How do you propose to meet this requirement? Provide a sample page of your statement of vote.

Hart InterCivic Response

The eSlate Tally application includes a standard Statement of Vote report. An example of this is Tally’s Summary – All Contests report, a sample of which is included in *Attachment 2: eSlate System Reports*. Similar data is reported in the Final Cumulative and Results Detail reports. As part of the initial Work Process Analysis, Boulder County’s requirements for reporting and formatting will be identified, and Hart will then customize standard reports, as appropriate, or create custom reports to meet Boulder County’s requirements.

33.0 STORAGE REQUIREMENTS (ENVIRONMENTAL CONDITIONS)

33.1 Requirement

All components will be stored in a warehouse environment. The current warehouse is not climate or dust controlled. All components shall be able to survive these conditions with minimal change to the existing warehouse environment.

Hart InterCivic Response

There are no special storage requirements for the eSlate System. The eSlate extends ease and efficiency beyond the polling place and into the warehouse. eSlate’s user-focused engineering and design results in a system that can be stored securely and compactly, without the need for environmental or power modifications, while still allowing easy access for data and inventory management.



We suggest a clean, orderly, secure storage facility that has adequate space for the preparation of equipment for testing, distribution, maintenance, and other administrative procedures.

Ease of storage is a significant advantage of the eSlate System. The eSlate voting device stores securely in its booth. At the option of the County, while in storage, the booths are neatly secured in a caddy that can also serve as a transportation device.

As mentioned previously, utilization of non-rechargeable battery packs with the eSlate units eliminates the necessity to charge batteries continuously while in storage. This substantially eases the storage burden on eSlate System owners by eliminating the need for a power source to the stored units. Storage costs are further reduced for system owners because of eSlate's rugged design, which allows the units to withstand a broad range of conditions during storage. Expensive climate-controlled warehousing is not necessary for eSlate System components.

Equipment storage concerns are further reduced because each eSlate or DAU comes with a specially designed eSlate Voting Booth. These booths provide a number of valuable benefits for election administrators, Poll Workers, and voters.

- **Compact storage** The eSlate voting booth stores the voting unit securely in the booth, thereby reducing storage space requirements. The low unit weight and small, regular shaped physical profiles of the components facilitate efficient storage.
- **Special design for warehouse operations** The ports for data cables are on the outside of the booth, facilitating connection to warehouse utilities software without removing the voting unit from the booth.
- **Tamper detection** Each eSlate voting booth may be secured with a security seal for tamper detection while in the warehouse or in storage at the polling place, before or after use.

To facilitate warehouse operations, the County may choose to use the booth caddies designed especially for storing and moving the booths in the warehouse.

Hart InterCivic tests its products using state of the art test methodologies for validating product reliability and manufacturing processes. Before placing the eSlate on the market, the designs were validated for product life and reliability using Highly Accelerated Life Testing (HALT) techniques. HALT testing subjects the product to destructive temperature and vibration stresses – enough to expose any weaknesses in design or manufacture. Any weaknesses exposed are addressed and testing continues with the process repeating until the equivalent end-of-life is reached.

To monitor manufacturing process tolerances, sample units from each production run are subjected to Highly Accelerated Stress Screening (HASS). HASS



subjects the units to extreme temperature stresses, not enough to destroy the unit as in HALT testing, but stressful enough to expose any intermittent or latent defects – before the unit is released to the customer. The result of the HASS test has a baseline yield established which indicates that the manufacturing processes are within tolerance.

A strong validation of the durability of the eSlate System while in storage is the recently concluded Salt Fog test referenced elsewhere in this report. This stringent test uses a special chamber as specified in ASTM B117-97 Standard Practice for Operating Salt Spray (Fog) Apparatus. Fog generators use a tank of synthetic seawater to produce a mist in the atmosphere of the chamber. The chamber is also maintained at a constant 40 degrees Celsius, or about 100 degrees Fahrenheit. One week in this highly corrosive, aggressive environment equates to about one year of storage in a warehouse without climate controls, located near a marine environment. Hart InterCivic equipment was tested for 12 weeks, thus emulating 12 years of warehouse storage.

After exposure to the salt fog chamber environment, the units were disassembled and inspected for visually apparent damage and degradation. The Hart InterCivic test units showed only minor corrosion of external pieces of hardware such as screws and nuts on connector fittings. The corrosion seen did not impact the user’s ability to connect the hardware to the system cables. There was also some oxidation of the copper electromagnetic interference (EMI) shielding on the DAU unit, but this did not affect the functionality of the shielding.

More importantly, after reassembly of the test units, each passed a functional test. This functional test took the test units through an election cycle, and tested every button and switch for functionality. The units properly and accurately recorded CVRs and stored these on the MBB, the eSlate, and the JBC paper record.

In summary, this testing was a successful demonstration of the eSlate election solution’s durability and reliability under adverse storage and operating conditions.

33.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Make sure to include item(s) listed below:

(1) Are all components in a protective case? Please describe.



Hart InterCivic Response

Hart InterCivic's eSlate Electronic Voting System includes a specially designed voting booth that is used to store and transport the eSlate, and provides security and easy set-up.

Each eSlate Voting Booth is configured so that the connection ports for data cables are on the outside of the booth, facilitating connection to warehouse utilities hardware without removing the voting unit from the booth. By storing and transporting the eSlate and DAUs inside their eSlate voting booths (which are included in the price of the components), the units are well protected against the hazards of frequent handling and use.

Each eSlate voting booth may be secured with a security seal for tamper detection while in the warehouse or in storage at the polling place, before or after use.

(2) Describe the environmental requirements of all components.

Hart InterCivic Response

We detail environmental requirements for each component in *Exhibit IV-22: Environmental Requirements*.

(3) Detail the changes that would be needed in the Boulder County Clerk & Recorder warehouse to properly store the equipment.

Hart InterCivic Response

Since there are no special storage requirements for the eSlate system, no changes are needed in County Clerk and Recorder's warehouse to properly store the proposed eSlate equipment.

The eSlate System includes a sturdy booth caddy that securely stores up to eight eSlates. The integrated design of the eSlate Voting Booth – Booth Caddy combination and the near maintenance free features of the voting devices afford the County broad flexibility in selecting a storage configuration that is efficient for both space utilization and equipment handling. At the County's option, suitable warehouse storage racks may be utilized to achieve a storage configuration that best meets the County's needs.

Hart will assist the Boulder County Clerk in the development of warehousing plans and processes. This is a standard element of the installation process. An excellent example of Hart's work in this area is the Harris County Elections Warehouse Analysis included in the *Attachment 9: Warehouse Plan Example (Harris County)*.



Components & Peripheral Equipment	Specifications	Operating	Storage & Transportation
eSlate 3000	Temperature	40 – 100 degrees F	- 15 to 150 degrees F
	Humidity	0 – 95 percent relative humidity, non-condensing	Per MIL-STD-810
	Vibration	Per MIL-STD-810	
	Drop Height	Per MIL-STD-810	Per MIL-STD-810
	Power Requirement	120 VAC, 60Hz; Fuse – 250V, 2A	N/A
DAU 5000	Temperature	40 – 100 degrees F	- 15 to 150 degrees F
	Humidity	0 – 95 percent relative humidity, non-condensing	Per MIL-STD-810
	Vibration	Per MIL-STD-810	Per MIL-STD-810
	Drop Height	Per MIL-STD-810	Per MIL-STD-810
	Power Requirement	120 VAC, 60Hz; Fuse – 250V, 2A	N/A
JBC 1000	Temperature	40 – 100 degrees F	- 15 to 150 degrees F
	Humidity	0 – 95 percent relative humidity, non-condensing	Per MIL-STD-810
	Vibration	Per MIL-STD-810	Per MIL-STD-810
	Drop Height	Per MIL-STD-810	Per MIL-STD-810
	Power Requirement	120 VAC, 60Hz; Fuse – 250V, 2A	N/A

Exhibit IV-22: Environmental Requirements. eSlate System components are highly durable and require no special operating or storage climate controls.

34.0 STORAGE REQUIREMENTS (SPACE)

34.1 Requirement

The voting booth/storage case should be designed to allow a stable stacking of the components. Other components should also be designed to be stored in a space-efficient manner.

Hart InterCivic Response



The eSlate voting devices are stored in their booths, which are stacked and held securely and neatly in a specially designed caddy. The caddy can also serve as a transportation device to facilitate the transfer of multiple booths to a polling location.

The caddies have been designed such that changes can be made to suit a variety of warehouse procedures, storage and transportation options. Hart will work with the County to optimize the desired approach and configuration.



More than 8000 eSlates, stored in their voting booths, are warehoused by Harris County, Texas, using the eSlate Voting Booth Caddy.

34.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Make sure to include item(s) listed below:

(1) Describe in detail the storage requirements for all components.

Hart InterCivic Response

The integrated design of the eSlate Voting Booth – Booth Caddy combination, and the near maintenance free features of the voting devices themselves, afford the County broad flexibility in selecting a storage configuration that utilizes space very efficiently.

The most efficient use of floor space for storage and the fastest and most efficient handling of system components can be achieved by storing the eSlate voting devices secured in their eSlate Voting Booth on the eSlate Booth Caddy. The Caddy holds eight (8) booths in a configuration that affords easy access to each individual eSlate’s external port connection, while allowing highly efficient movement of the devices by forklift, manual or powered pallet jack, or two-wheeled manual hand truck.

Storage of the eSlate Judge’s Booth Controller (JBC) in individual, durable, specially designed storage and transportation cases affords an equally broad range



of options to achieve highly efficient space utilization and materiel handling. JBCs can be stored at floor level or on racks with up to thirty (30) units on a standard 42”x 48” pallet.

(2) Could your system components be stored separately from your proposed voting booth/storage case, should the County choose to purchase or have manufactured its own voting booth?

Hart InterCivic Response

eSlate components do not have to be stored in the eSlate booth. The County could purchase or have manufactured its own booth.

However, the eSlate booth is designed to protect the DRE unit while in storage. Also, storing the eSlate in the booth offers an efficient use of Boulder County’s limited storage space and increases ease of deploying the equipment for elections.

35.0 STORAGE REQUIREMENTS (DURABILITY)

35.1 Requirement

All components shall be able to withstand frequent changes in location and be designed so that relocation can be easily and efficiently accomplished.

Hart InterCivic Response

When stored in their booths and caddies, the eSlates are easily and efficiently moved inside the warehouse or transported to the polling place. The eSlate and JBC units are built for durability and heavy field use.

35.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Describe the durability of the components.

Hart InterCivic Response

eSlate System components have been designed for a long product life. All electronic components that dissipate power were selected with more than twice the power handling capacity required for the particular circuit element. The other components were selected with at least double the current and the voltage required for the application.

Utilizing MIL SPEC type “Part Count Method” analysis for calculating the reliability of electronic systems, a conservative calculation of the predicted Mean Time Between Failure (MTBF) for the system’s electronic circuits shows that the



eSlate product life will far exceed 24 years. Mechanical components of the eSlate System were selected, designed, and constructed to remain serviceable at least throughout the life of the electronic components.

36.0 STORAGE REQUIREMENTS (SECURITY)

36.1 Requirement

Once set up for the election, all components shall be tamper-proof when left unattended, whether in the Clerk and Recorder’s warehouse or at the polls.

Hart InterCivic Response

The eSlate System includes both physical and electronic security features to minimize the possibility of tampering when the system is unattended.

36.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Describe the security features associated with each component.

Hart InterCivic Response

Each specially designed eSlate Voting Booth, which doubles as a storage case for the eSlate and DAUs, may be secured with a security seal for tamper prevention and detection while in the warehouse or the polling location.

In addition to these physical security features, the eSlate polling place components run on a closed, secure network with no external access that would allow intrusion. This feature, coupled with the use of propriety communication protocols and database structures, and built-in electronic security measures, renders eSlate System components virtually impervious to electronic tampering.

37.0 STORAGE REQUIREMENTS (MAINTENANCE)

37.1 Requirement

Components shall require minimal maintenance during storage.

Hart InterCivic Response

All components are nearly maintenance-free. The units can be stored under minimal climate control and do not require continuous power for battery charge.



37.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Make sure to include item(s) listed below:

(1) Describe all maintenance that would be required prior to preparation for an election. Examples might include changing of printer paper, charging time for batteries, and clearing redundant memories of previous election data.

Hart InterCivic Response

All components are nearly maintenance-free and are not reprogrammed for each election. They require only the minimum measures outlined below in preparation for an election.

eSlate DRE Units

- Reset internal memory (may be combined with capturing a backup copy of the data, if desired)
- Test charge level of backup battery power, if batteries are installed and will remain in the unit
- Wipe the display screen

eSlate DRE Units with Disabled Access Unit

- Remove DAU Audio Card
- Reset internal memory (may be combined with capturing a backup copy of the data, if desired)
- Test charge level of backup battery power, if batteries are installed and will remain in the unit
- Wipe the display screen

Judge's Booth Controller

- Remove Mobile Ballot Box
- Reset internal memory (may be combined with capturing a backup copy of the data, if desired)
- Test charge level of backup battery power, if batteries are installed and will remain in the unit
- Check printer paper and replenish, as necessary



- Wipe the display screen

(2) What maintenance can be completed without opening the case or removing the unit from a stored location?

Hart InterCivic Response

All maintenance is performed without opening the case except for wiping the screen, testing the charge level of the battery, and replacing paper in the JBC. No other maintenance is required. Through the port located on the outside of the eSlate booth, election officials can download election data for archiving, create asset management data files, reset equipment in preparation for the next election and update system firmware.

(3) What are the warehouse power requirements for 1,250 (1,000 for polling places + 250 for line abatement and backup devices)? How many backup batteries can be charged simultaneously on a single 20-amp circuit?

Hart InterCivic Response

The eSlate backup power is provided by a battery pack of eight standard D cell alkaline batteries. These are not rechargeable batteries and, therefore, *there are no power requirements during storage*. The battery packs have a tested shelf life of five years, and can provide power to voting devices for 18 hours.

Hart InterCivic's decision to use alkaline batteries in the eSlate was based on several considerations.

- Rechargeable batteries, especially the NiCad batteries typically used in competitor's voting devices, must be charged according to manufacturers specifications. This generally means that the battery must be fully discharged before being recharged, or the battery capability is diminished as a result of the "memory effect." ("Nickel-cadmium batteries have a memory effect in which the voltage drops by two levels during discharge after shallow charge/discharge cycles." Quoted from an Engineering Handbook published by Sanyo, makers of "Cadnica" NiCads).
- Recharge cycles for NiCad batteries may be as often as every 45 days. This places a significant burden on warehousing staff.
- Alkaline batteries provide more reliable, consistent power.
- The eSlate does not require power to maintain device or system settings.

(4) If the Boulder County Clerk & Recorder fully charges the batteries four weeks prior to Election Day, how many hours of backup power could be provided should the need arise? Explain.



Hart InterCivic Response

Please refer to the detail presented in previous subsection. The battery packs in the eSlate devices provide power for up to 18 hours of continuous use.

38.0 TRANSPORTABILITY

38.1 Requirement

The components shall be transported to many different locations. All components should be lightweight and easily and efficiently transported without damage.

Hart InterCivic Response

The eSlate's components are lightweight and easily transported. Each eSlate Voting Unit weighs approximately 5.2 pounds without the backup power battery pack installed, and approximately 7.7 pounds with the battery pack installed. Each JBC weighs approximately 6.4 pounds and the eSlate Voting Booth weighs less than 28 pounds, with the eSlate and battery pack included. Several eSlates in their booth/storage cases can be transported in a standard passenger vehicle.

38.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Make sure to include item(s) listed below:

(1) Describe how all components can best be transported to and from the polling sites.

Hart InterCivic Response

The eSlates, DAUs, JBCs, and Mobile Ballot Boxes are either delivered by a transportation/delivery company or warehouse staff to the polling place, or are transported to the polling place by the Poll Workers. For ease of transportation, the voting units are placed in the specially designed eSlate voting booths, that double as compact, sturdy storage and transportation cases.

At the option of the County, up to eight eSlates can be securely racked in the eSlate Caddy, which can serve as a transportation device for multiple eSlates.

(2) Is there a transport unit that would hold all components for a single poll facility?



Hart InterCivic Response

Delivery and storage requirements vary with each customer so Hart has designed a variety of solutions to meet the varied requirements. The County may choose to use the Booth Caddies designed especially for storing and moving the booths in the warehouse. The Booth Caddies can be configured to store components for a single poll facility, as well as supplies required. The Caddies have been designed such that changes can be made to suit a variety of warehouse procedures, storage and transportation options. A fully loaded caddy can be moved through the use of a standard hand truck (dolly). Hart will work with the County to optimize the desired approach and configuration.

39.0 TECHNICAL REQUIREMENTS AND INFORMATION

39.1 Requirements

Vendor will identify:

- (1) all computer hardware and software required for the proposed system, all associated licenses, and the costs of those licenses. These include but are not limited to:**
 - a. Server requirements, both hardware and software;**
 - b. Workstation PC requirements, both hardware and software;**
 - c. Printer requirements.**

Hart InterCivic Response

A complete list is provided in response to the question below.

- (2) all databases used for vote tabulation and any associated requirements;**

Hart InterCivic Response

All software applications supporting the eSlate System use Sybase SQL database.

- (3) all reports included in the proposed system;**

Hart InterCivic Response

Lists and samples of all standard reports included as part of the eSlate System are provided in *Attachment 2: eSlate System Reports*.

- (4) any reporting tools that can be used by Elections Office staff to create custom reports, so that data from the proposed system can be extracted and organized in ways that differ from the reports included in (3);**



Hart InterCivic Response

Crystal Reports is included in the proposed system for creating and formatting custom reports.

(5) all modules in the proposed system that can directly interface with the Integrity EMS. These would include but not be limited to:

- a. Electronic capture of voter signature at polling place to add to Integrity signature database**
- b. Ability to view map of county on County web site, choose a precinct, and view election results for that precinct on Election Night**
- c. Ability to publish reports as PDF files for posting to County web site**

Hart InterCivic Response

We acknowledge and will meet the requirements for integration with Integrity. Please see the detailed response below.

The eSlate System can print PDF files for posting to County web site. We will work with the County to implement the digital signature capture capability and the graphical interface (map) described above.

39.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Provide a complete list of the hardware and software necessary for the proposed system.



Software Category	Product
Application Software	Ballot Origination Software System Tally Ballot Now SERVO Rally
Operating system (PCs in Elections Offices):	Windows NT/2000 NT: Version 4.0, Service Pack 6 Windows 2000, Service Pack 3
Operating System (Precinct Voting System)	Precise MQX
Database Management System (DBMS):	Sybase SQL Anywhere V7.0
Custom report writer program	Crystal Reports v8.5 (optional)
Other	Adobe Acrobat v5.0

Component Type	Proposed Specification
Polling Place Equipment	
	eSlate3000
	Judge's Booth Controller
PC (BOSS, Ballot Now, Tally)	
Type	Dell 260 GX
Processor	P4, 2 GHz
Chip Set	Intel 845G
RAM	512 Mb
Disk Storage Capacity (GB)	7200 RPM, 80 GB
Avg. Access Time (Ms)	9.9 Ms
Transfer Rate (Mb/sec)	100 Mb/sec
3½" Floppy, 1.44 Mb	Standard
Monitor Size (Inches)	17"
CD/DVD	n/a
Monitor Type (1024 x 768)	1024 x 768
Video Memory (MB)	8Mb
Keyboard Type	Standard AT
Optical Backup	CDRW 24 x 10 x 40
NIC, Network Cards	10/100 Mb



Component Type	Proposed Specification
USB Ports	None
Serial Ports	None
Parallel Port	EPP compliant
PC (SERVO)	
Type	Dell Latitude C640
Processor	MP4, 2.4 GHz
RAM	512 Mb
Disk Storage Capacity (GB)	40 GB
Avg. Access Time (Ms)	9.5 Ms
3½" Floppy, 1.44 Mb	Standard
Monitor Size (Inches)	14.1" display
CD/DVD	n/a
Video Memory (MB)	8 Mb
Keyboard Type	87 key US layout included
Optical Backup	CDRW 24 x 10
NIC, Network Cards	10/100 Mb
USB Ports	Not required
Serial Ports	Not required
Parallel Port	EPP compliant
Laser Printer (BOSS and Tally)	
Type	HP 2300 laser jet
Speed	19 pages per minute
Scanner	
Type	Kodak i830
Speed	160 ppm 8.5"x11"

(2) Provide a complete list of the reports and reporting tools included in the proposed system;

Hart InterCivic Response

The following table provides a lists of all standard eSlate reports. Report samples are provided in *Attachment 2: eSlate System Reports*. As noted previously,



Crystal Reports, the industry’s leading custom report writing tool, is also included with the eSlate System installation.

Application	Reports	
BOSS	Active Contest List Active Contests Delegates List Active Contests Options List Audit Trail Ballot Content Proof Contest List Summary Contest List With Details Entire Ballot Slate Equipment List Media Production List	Polling Place List – Absentee Voting - Detail Polling Place List – Absentee Voting - Summary Polling Place List – Early Voting - Detail Polling Place List – Early Voting - Summary Polling Place List – Election Day - Detail Polling Place List – Election Day - Summary and Precinct List
Ballot Now	Audit Trail Certified Write-Ins Election Report Printed Ballots by Precinct	Scan Batch Report Scanned Ballots by Precinct Scanned Ballots by Batch and Unresolved Ballots
Tally	Combined Official Canvass Election Day Precinct Not in Status Final Cumulative Precinct Status Precinct Status With MBB IDs Provisional Ballots Rejected Write-In Candidates	Results Detail Results Summary Summary for All Contests Summary for All Contests by Precinct Summary for All Contests for Public Unreported Polling Places and Write-in Candidates
SERVO	Equipment List Backup Devices Device Connectivity Report Device Audit Log	Device Cast Vote Records Report Votes by Precinct Report SERVO Internal Audit Report

(3) What modules do you currently have that integrate with Integrity?

Hart InterCivic Response

As part of the initial Work Process Analysis, Hart InterCivic will define all necessary interface points between Integrity and the eSlate System. This will include the interface with BOSS for data importing, as well as necessary interfaces with Ballot Now and Tally to support updating of Integrity data.

Also included in the analysis will be integration with any existing or proposed signature databases and the impact of such integration on the operation of the eSlate System. Hart InterCivic is experienced in the integration of the eSlate



System with other Election Management Information Systems. For example, in Harris and Tarrant Counties (Texas), issuance of Access Codes and presentation of the correct ballot style to early voters is fully integrated and automated at the Early Voting polling place. Hart will assess the system requirements for automating the interface between the Integrity System and the eSlate System, and ensure that operational requirements are achieved.

(4) What modules do you expect to develop that integrate with Integrity?

Hart InterCivic Response

Please see previous response.

40.0 TRAINING (IT STAFF)

40.1 Requirements

- a. **Vendor shall provide to the Boulder County Clerk & Recorder IT staff the following, at a minimum:**
- **comprehensive operator manuals;**
 - **on-site instruction sufficient to allow successful operation of the system without further vendor support;**
 - **system and engineering training to Boulder County Clerk & Recorder systems personnel. This should include hardware maintenance and rebuilding, software setup beyond normal election setup, web page generation, and the exporting of files for the reporting media;**
 - **use of election management, ballot generation, and absentee voting software.**

Hart InterCivic Response

Hart InterCivic has assembled a team of professional educators to design the training program supporting installations of the eSlate Electronic Voting System. Manuals, guides, videos, hands-on instruction, Web-based materials, and a wide range of other methods are included in the Hart InterCivic curriculum. Hart training specialists will use this material to thoroughly train the Boulder County Clerk & Recorder's IT Staff on all aspects of eSlate System operation. This will include comprehensive operations manuals, on-site instruction with the objective of "vendor-free" operation, system and engineering training, and instruction in the use of all eSlate System components. Examples of course content are described below.

Hart training is step-by-step, providing detailed instructions on setup, operation, transmission of results, closeout, and troubleshooting. A key objective of the



training is establishing a level of mastery, on the part of the customer, that supports **independence** in the operation of elections.

Samples of training materials are included as *Attachment 10: eSlate Comprehensive Training Program*.

b. All training plans and materials shall be approved by the Boulder County Clerk & Recorder.

Hart InterCivic Response

Hart will prepare a complete Training Plan to accompany the eSlate deployment. The Training Plan, like all components of the overall project plan, will be submitted to the County Clerk and Recorder for approval prior to execution.

40.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Give a detailed description of the training you will provide to Boulder County Clerk & Recorder IT staff.

Hart InterCivic Response

The following courses will be provided to the Boulder County Clerk and Recorder's IT Staff:

- **The eSlate Polling Place Operations Course.** This half-day course provides instruction for setting up the eSlate System, opening the polls, running the system, identifying when voters may need assistance, closing and/or suspending polls, transmitting results by modem, powering down the eSlate System, handling the MBB appropriately, and packing the eSlate components for return to the warehouse.

This course includes instructions on features such as curbside voting and the handling of provisional ballots. The Polling Place Operations Course includes a segment on troubleshooting, and each trainee is provided desk references. Trainees use the system as if they are voters after they enter the classroom.

Trainees also receive instruction on the specifics of operating the eSlate and the Disability Access Unit (DAU), and educating and assisting voters using the eSlate and DAU. Instruction includes the basic operations of the eSlate and DAUs, and answering questions that voters may have about



special features, such as write-in voting, moving through pages of the ballot with the PREV and NEXT buttons, using the Ballot Summary to change a vote, intentionally undervoting, using the headphones and various input devices on the DAU, and system security.

- **The eSlate Support Procedures Course.** In this two-day course, trainees are reviewing storage, delivery, maintenance procedures and eSlate PC configurations; PC and related software troubleshooting; physically setting up eSlate System hardware (consisting of JBC, DAU, and eSlate) and connecting it.

The course also includes performance acceptance and functionality testing, a walk through of logic and accuracy testing; applying backup procedures through the eSlate SERVO program, resetting the eSlate hardware systems for a new election; practicing troubleshooting procedures; and preparing the hardware systems for an election. A segment of this course also provides training to Ballot Board members and/or ballot transmittal personnel.

(2) How will you support engineering training for hardware components?

Hart InterCivic Response

Training is provided on set up of the polling place hardware and the PC hardware, as well as maintenance and troubleshooting training for all eSlate components (hardware and software) in our Support Procedures Course.

(3) How will you support engineering training for software?

Hart InterCivic Response

Training is provided on all aspects of eSlate software in our Support Procedures Course.

(4) What resources will you dedicate to meet these requirements? How much and for how long?

Hart InterCivic Response

The Support Procedures Course is a hands-on course with one trainer per eight trainees. This course requires two full days of trainee participation. Detailed information regarding allocation of hours and resources to training is included in the eSlate Training Planner for Boulder County, provided in *Attachment 10: eSlate Comprehensive Training Program*.



41.0 TRAINING (BOULDER COUNTY CLERK & RECORDER STAFF)

41.1 Requirements

a. The vendor shall provide detailed instructions and instructional materials to Boulder County Clerk & Recorder staff on all aspects of the system, including but not limited to on-site hands-on training in:

- early voting;
- setup and operation of all system components;
- troubleshooting procedures, both in the office and in the field;
- demonstrating the system at the polls.

Hart InterCivic Response

The Hart training curriculum for the Boulder County Clerk & Recorder staff is extensive. The process and courses are described below. All courses include extensive instructional materials including training guides and troubleshooting aids.

b. All training plans and materials shall be approved by the Boulder County Clerk & Recorder.

Hart InterCivic Response

Hart will prepare a complete Training Plan to accompany the eSlate deployment. The Training Plan, like all components of the overall project plan, will be submitted to the Boulder County Clerk & Recorder for approval prior to execution.

41.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
--------------------------------------	-----	---	----

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Specify how these requirements would be met and what type of instructional materials would be provided. Provide samples of materials, if available.

Hart InterCivic Response

eSlate System training covers all areas of eSlate System functionality (including Ballot Now, the optical scan voting by mail component) for all users involved. eSlate training is methodical, using multi-media instructional tools and hands-on



exercises taught in a laboratory environment. All training plans and material will be approved by the Boulder County Clerk & Recorder prior to use. We detail the recommended training sequence in *Exhibit IV-23: Training Sequence*.

The Instructors

All training is done by a professional eSlate Training Specialist, who leads trainees through lectures, examples, and exercises. The Training Specialist provides feedback during exercises, and conducts reviews.

The Training Specialist also would train local Elections Professionals to conduct Poll Worker training in optional Train-the-Trainer sessions.

Course of Instruction

Through the Work Process Analysis process, all training is oriented to meet the needs of the customer. County elections officials work with the Project Manager and Training Specialist to determine who should be assigned to which courses. Courses are offered to central office staff, including managers and employees of the Elections Office, Operations Center, and the Information Technology Department. Separate courses are designed as well for software operators, Poll Workers (both Early Voting and Election Day), and staffs of the tabulation center and substations. Hart InterCivic's eSlate Electronic Voting System Training includes the items listed below.

- **The eSlate System Management and Tasks Course.** In this half-day course Elections Officials learn the workflow of the eSlate System, how to manage the eSlate System for an efficient, successful election, and how to complete administrator-specific tasks.
- **The BOSS Operator Training Course.** In this two-day course, Elections Officials, elections office staff, and BOSS data entry specialists run BOSS ballot generating software to define and create eSlate and Ballot Now ballot formats and styles. Training includes everything from logging into BOSS to writing MBBs containing ballot information for the eSlates and Ballot Now.
- **The eSlate Polling Place Operations Course.** In this half-day course, Elections Officials, elections office staff, lead Poll Workers and their alternates receive training on how to set-up the eSlate System, open the polls, run the system, identify when voters may need assistance, close (and/or suspend) polls, transmit results by modem, power down the eSlate System, handle the MBB appropriately, and pack the eSlate components for return to the warehouse. This course also includes instructions on features such as curbside voting and handling of provisional ballots. It also contains a module on troubleshooting and provides a desk reference for each trainee.



Students also receive instruction on the specifics of operating the eSlate and the DAU, as well as learn how to educate and assist voters using the eSlate and DAU. Instruction includes the basic operations of the eSlate and DAUs, and answering questions that voters may have about special features, such as write-in voting, moving through pages of the ballot with the PREV and NEXT buttons, using the Ballot Summary to change a vote, intentionally undervoting, and using the headphones and various input devices on the DAU.

Lead Poll Workers and their alternates may receive this training from Hart InterCivic training specialists or from trained local election professionals who have taken part in Hart InterCivic's optional Train-the-Trainer program.

- **The eSlate Polling Place Operations Course (Administration Level).** In this half-day course with a class size limit of 24 Election Officials, elections office staff, and support personnel receive training on how to set-up the eSlate system, open the polls, run the system, identify when voters may need assistance, close (and/or suspend) polls, transmit results by modem, power down the eSlate System, handle the MBB appropriately, and pack the eSlate components for return to the warehouse. This course includes instructions on features such as curbside voting and the handling of provisional ballots. The Polling Place Operations Course includes a segment on troubleshooting, and each trainee is provided a desk reference.

Students also receive instruction on the specifics of operating the eSlate and the DAU, and educating and assisting voters using the eSlate and DAU. Instruction includes the basic operations of the eSlate and DAUs, and answering questions that voters may have about special features, such as write-in voting, moving through pages of the ballot with the PREV and NEXT buttons, using the Ballot Summary to change a vote, under voting, and using the headphones and various input devices on the DAU. We recommend that all election staff members participate in the eSlate Polling Place Operations Course.

- **The Poll Worker's eSlate Operations Course.** In this one-hour course, all Poll Workers receive training in the specifics of operating the eSlate and the DAU. Trainees also learn how to educate and assist voters using the eSlate and DAU. Training includes the basic operations of the eSlate and DAUs, and answering questions that voters may have about special features, such as write-in voting, moving through pages of the ballot with the PREV and NEXT buttons, using the Ballot Summary to change a vote, intentionally undervoting, and using the headphones and various input devices on the DAU. This course includes a desk reference for all Poll Workers. Poll Workers may receive this training from Hart InterCivic



training specialists, or from trained local election professionals who have taken part in Hart InterCivic's optional Train-the-Trainer program.

- **The Ballot Now Operator Training Course.** In this one-day course, Elections Officials, elections office staff, and Ballot Now (by mail voting) operators use BOSS MBBs to create paper ballots that may be scanned into the system. Post election, users scan ballots, save CVRs back to MBBs, and send MBBs to Tally for tabulation. Ballot Now training covers how to assign write-in candidates to certified write-in candidates and to convert the handwritten image on the paper ballot into an electronic CVR readable by the Tally tabulation software. Training also explains how to view ballots that need resolution of an issue (such as write-in, undervote, or overvote) and how to resolve them.
- **The Tally Operator Training Course.** In this one-day course, Elections Officials, elections office staff, and tabulation specialists use Tally software with valid data from election MBBs to tabulate an election and create election tabulation reports. This course walks trainees through everything from logging into the software to recount procedures. Tally course instructions also cover archiving the election to CD-ROM.
- **The eSlate Support Procedures Course** In this two day course, Elections Officials, support personnel, and warehouse staff review storage, delivery, and maintenance procedures, physically set up eSlate System hardware (JBC, DAU, and eSlate) and connect it, perform acceptance, functionality testing, and logic and accuracy testing, review eSlate PC configurations, outline PC and related software troubleshooting, reset the eSlate hardware systems for a new election, practice troubleshooting procedures, and prepare the hardware systems for the election. A segment of this course also provides training Early Voting Ballot Board members and/or ballot transmittal personnel.
- **eSlate Train-the-Trainer Course:** In this two-day course with a class size limit of eight, local facilitators are trained in the eSlate training approach and course content for the eSlate Polling Place Operations Course. Including a train-the-trainer element in our training ensures that the county will have the skills, processes, and materials to conduct future Poll Worker training independent of the vendor. Courseware includes a training manual, agendas, PowerPoint, video, .mpg, and .wmv format presentations.



Sequence	Timeframe	eSlate Course	Audience
1	ASAP after contract is signed	Administration Level Polling Place Operations	Elections Officials, Central Office Staff, Warehouse and Support Staff
2	Within a week after Course #1	eSlate System Management and Tasks	Elections Officials and Management Staff
3	A month before election preparation begins	Software Courses – BOSS, Ballot Now, and Tally; mock election	Elections Officials, Software Operators
4	Before first delivery of equipment	Support Procedures – Acceptance Testing segment	Support Personnel
5	Before mock election	Support Procedures – Full Course	Support Personnel
6	Within a month of first live election	Polling Place Operations and Poll Workers' eSlate Operations Courses	Poll Workers
7	Day before end of Early Voting and the day before Election Day	Support Procedures – MBB Processing Procedures segment	Early Voting Ballot Board Members and/or Ballot Transmittal Personnel
8	Before 2 nd election cycle	Polling Place Operations Train-the-Trainer	Locally identified Facilitators

Exhibit IV-23: Training Sequence. The suggested sequence of training sessions is detailed above.

(2) What resources will you dedicate to meet these requirements? How much and for how long?

Hart InterCivic Response

Training is led by a professional Hart eSlate Training Services Manager and your Project Manager or a member of the Hart InterCivic training staff. Course lengths are specified in the training plan. Detailed information regarding allocation of hours and resources to training is included in the eSlate Training Planner for Boulder County, provided in *Attachment 10: eSlate Comprehensive Training Program*.

Training includes laboratory experience-type training sessions supplemented by extensive written materials. Instruction covers how to set up the equipment, operate it, close the polls, and transmit the results electronically and via hardware (by delivering the PC card in the JBC to a tabulation center or substation), as well as troubleshooting. Coursework is designed with the goal that trainees may operate the eSlate Electronic Voting System independent of Hart InterCivic.



42.0 TRAINING (POLL WORKERS)

42.1 Requirements

- a. Vendor shall provide staff and materials necessary to train poll workers on the new system.**

Hart InterCivic Response

Hart InterCivic has trained more than 5,000 poll workers since eSlate System installations began in 2001. Hart has assembled a team of professional educators to design the training program supporting installations of the eSlate Electronic Voting System. Manuals, guides, videos, hands-on instruction, Web-based materials, and a wide range of other methods are included in the Hart InterCivic curriculum. Hart training specialists will use this material to thoroughly train poll workers with the goal of achieving mastery and independence at the polling place.

Hart InterCivic training is step-by-step, as required in the RFP, providing detailed instructions on setup, operation, and transmission of results, closeout, and troubleshooting. A key objective of the training is establishing a level of mastery, on the part of the customer, that supports **independence** in the operation of elections.

- b. All training plans and materials shall be approved by the Boulder County Clerk & Recorder.**

Hart InterCivic Response

Hart will prepare a complete Training Plan to accompany the eSlate deployment. The Training Plan, like all components of the overall project plan, will be submitted to the County Clerk and Recorder for approval prior to execution.

42.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

- (1) What resources will you dedicate to meet these requirements? How much and for how long?**

Hart InterCivic Response

Hart InterCivic will provide staff and materials necessary to train poll workers on the new system. All training plans and materials will be approved by the Boulder County Clerk & Recorder. Detailed information regarding allocation of hours and



resources to training is included in the eSlate Training Planner for Boulder County, provided in *Attachment 10: eSlate Comprehensive Training Program*.

The Hart InterCivic training curriculum supports training trainers, election judges, poll workers and Election Day support staff. All training is conducted with a platform-based training methodology. The Hart InterCivic curriculum has been tested and proved to be a valid and successful training curriculum. Hart InterCivic training materials have been used successfully in many areas including, Arapahoe County in Colorado; Harris, Travis and Tarrant Counties in Texas; Charlottesville, Virginia; and Philadelphia, Pennsylvania. The curriculum was developed in 2000 and has been continuously refined to its current version.

- **Election Judges** – We recognize that each polling site must have one or more persons responsible for overseeing the activities of the polling site on Election Day. We propose to train approximately 250 Election judges using the eSlate Polling Place Operations Course. The Election judges receive a one-half day of training with a class size of approximately 24 participants. Two classes are held each day for a total of 21 sessions.
- **Poll Workers** – Poll Workers are those workers who assist voters in using the eSlate voting system. We propose to train approximately 1100 Poll Workers using the Poll Worker’s eSlate Operations Course. The poll workers receive a one-hour training course with a class size of approximately 50 participants. Six classes are held each day for a total of 32 sessions.

Hart Course Descriptions

The eSlate Polling Place Operations Course. In this half-day course, Election judges and their alternates receive training on how to safely un-package and set-up the eSlate System, open the polls, run the system, identify when voters may need assistance, close (and/or suspend) polls, transmit results by modem, power down the eSlate System, handle the MBB appropriately, and safely pack the eSlate components for return to the warehouse. This course includes instructions on features such as curbside voting and the handling of provisional ballots. The Polling Place Operations Course includes a segment on troubleshooting, and each trainee is provided a desk reference. Instructional methods and materials include multi-media presentations, job aides, and an end-of-course exam.

Participants also receive instruction on the specifics of operating the eSlate and the DAU, and educating and assisting voters using the eSlate and DAU. Instruction includes the basic operations of the eSlate and DAUs, and answering questions that voters may have about special features, such as write-in voting, moving through pages of the ballot with the PREV and NEXT buttons, using the Ballot Summary to change a vote, intentionally undervoting, and using the headphones and various input devices on the DAU.



The Poll Worker’s eSlate Operations Course. In this one-hour course Poll Workers receive training in the specifics of operating the eSlate and the DAU. Trainees also learn how to educate and assist voters using the eSlate and DAU. Training includes the basic operations of the eSlate and DAUs, and answering questions that voters may have about special features, such as write-in voting, moving through pages of the ballot with the PREV and NEXT buttons, using the Ballot Summary to change a vote, intentionally undervoting, and using the headphones and various input devices on the DAU. This course includes a desk reference for all Poll Workers. Instructional methods and materials include multi-media presentations, job aides, and an end-of-course exam.

Upon the conclusion of this Poll Worker training course, Poll Workers will have the skills and know the processes, enabling them to fully conduct the polling place portions of a successful election with the eSlate System.

(2) Provide samples of training plans and materials.

Hart InterCivic Response

Samples of training plans and materials are provided in *Attachment 10: eSlate Comprehensive Training Program*.

43.0 DOCUMENTATION OF SYSTEM

43.1 Requirements

- a. Detailed and comprehensive system documentation shall be provided to the Boulder County Clerk & Recorder on or before delivery date of the proposal submittal. It shall include:
 - Complete instructions detailing system’s operation and functionality (hard copy and electronic form);
 - Documentation which includes: requirements for storage; transportation; temperature and humidity tolerance ranges; electrical requirements; information showing that construction components are non-corrosive; durable, and meet strength test requirements; analysis of the life expectancy of each piece of hardware and software; and information showing that the system is upgradeable.
 - Software and firmware documentation and materials that includes:
 - √ Copies of any and all information required to install, operate, and test the system.
 - √ Charts describing system information flow including entry and exit points and relationships of programs, device drivers, data files, and other relevant components.



- √ **Source Code documentation (hard copy and electronic form directly to County IT Division).**
- √ **With each new version the County will require two new copies of the source code.**
- √ **Source code will be provided to the County at no additional charge.**

Per Addendum 1, only the awarded vendor will be required to submit source code. If a copy of the source code is on file with the State of Colorado, that is sufficient to satisfy this requirement.

Hart InterCivic Response

Technical documentation is on-file with the Colorado Secretary of State, including escrow of the source code and the County may access those materials as prescribed by the Division of Elections.

Comprehensive system document will be provided to the County upon award, as specified in Addendum 1. Documentation will include

- Copies of any and all information required to install, operate, and test the system;
- Charts describing system information flow including entry and exit points and relationships of programs, device drivers, data files, and other relevant components;
- Training materials and user support documentation; and
- Other documentation as requested by Boulder County.

Source code will continue to be on file in escrow with the Secretary of State.

b. Assurances that documentation shall be updated in a timely manner.

Hart InterCivic Response

Please see discussion below.

43.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Describe your organization's approach to updating documentation of the proposed system, including source code.



Hart InterCivic Response

Hart InterCivic's ISO 9001 Registration, included in *Attachment 1: Documentation of System Certification*, requires that strict processes for documentation be maintained. Revision control and product change management come under controlled procedures within Hart's ISO-approved Quality Manual. As part of any product revision, all related documentation is required to be revised as well. This is procedurally required in Hart's Quality Manual. Hart is audited by an independent ISO auditor on an annual basis to verify compliance with the approved procedures.

A Requirements Specification, Functional Specification, and a Design Specification, at a minimum, document each product. Any revision to a product requires that each of the specifications is included in the updated release of a product.

Source code is maintained in an industry standard configuration control software application, Microsoft Visual Source Safe. This application maintains source code configuration and enforces rule-based requirements when changing, updating, and releasing software.

User documentation (training manuals, operations manuals) is extensive, and updated regularly to reflect feature and functionality changes as well as continuous improvement objectives.

(2) Describe how your organization will provide the Boulder County Clerk & Recorder with access to all documentation.

Hart InterCivic Response

Documentation will be determined during contract negotiations. Complete system documentation will be provided during installation and training, or at the time determined during contract negotiations and development of a Project Implementation Plan and Schedule. Some of the material to be provided will be confidential, containing trade secrets and will be labeled as such. Documentation will be provided in a form suitable to the County, including electronic versions on CD-ROM or paper formats.

(3) How will your organization ensure the adequacy of documentation of packaged systems that support the overall system provided by third-party vendors?

Hart InterCivic Response

With the exception of Windows NT/2000 and reporting utilities (Adobe Acrobat, Crystal Reports), all other software from third party vendors is embedded or incorporated within the products. These products are maintained through license



and/or OEM agreements and Hart InterCivic provides any required documentation as part of their system documentation. For the latter software, the original manufacturer's documentation is available through a variety of public sources. Quality of documentation is one criterion used when selecting 3rd party hardware and software for the eSlate System.

(4) Provide customer satisfaction testimony regarding your system documentation.

Hart InterCivic Response

System documentation is written to provide all the information needed to operate each component and to successfully and efficiently conduct elections. As new versions of each component are released, all documentation is updated completely to introduce new functionality. Our customers consistently report that the documentation is thorough and clearly written. As one example:

“Harris County has been installing the eSlate System for the past year, and we have had quite a bit of opportunity to review, use, and comment on the training documentation for the office and operations manuals for the software and system that Hart InterCivic provides. We have found the documentation to be of excellent quality and very thorough. In addition, the training program guidebooks and desk references for poll workers have been an invaluable resource for election Judges and clerks in the field.”

The Honorable Beverly Kaufman, County Clerk, Harris County, Texas.

Our customers are happy to share their comments on using our system documentation. We present a list of customers as *Exhibit IV-24: Documentation References*.



Hart InterCivic Election Solutions Group Documentation References	
<p>Arapahoe County, Colorado Ms. Cynthia Coleman Deputy of Elections 5334 S. Prince Street Littleton, Colorado 80166-0211 (303) 795-4245 ccoleman@co.arapahoe.co.us</p>	<p>Charlottesville, Virginia Ms. Sheri Iachetta City Registrar PO Box 911 Charlottesville Virginia 22902-0911 (434) 970-3250 iachetta@ci.charlottesville.va.us</p>
<p>Harris County, Texas Mr. Johnnie German Administrator of Elections 1001 Preston, 4th Floor Houston, Texas 77002 (713) 755-3550 jgerman@cco.hctx.net</p>	<p>Harris County, Texas Ms. Beverly Kaufman County Clerk 1001 Preston, 4th Floor Houston, Texas 77002 (713) 755-3550 bkaufman@cco.hctx.net</p>
<p>Tarrant County, Texas Ms. Germaine Williams Programmer 100 W. Weatherford, B90 Fort Worth, Texas 76196 (817) 838-4650 gcwilliams@tarrantcounty.com</p>	<p>Travis County, Texas Ms. Dana DeBeauvoir County Clerk PO Box 1748 Austin, Texas 78767 (512) 854-9211 election@co.travis.tx.com</p>

Exhibit IV-24: Documentation References. The table above presents detail regarding six of our satisfied customers.

44.0 OUTREACH/PUBLIC EDUCATION

44.1 Requirements

- a. Vendor shall provide support to educate the public in use and acceptance of the system.

Hart InterCivic Response

Hart InterCivic leads the industry in the development of voter education programs that support the implementation of new electronic voting systems. Hart InterCivic has provided support for educating the public in the use and acceptance of the eSlate System in these current installations: Harris County (Houston), Texas; Tarrant County (Fort Worth), Texas; Arapahoe County (Littleton), Colorado; Travis County (Austin), Texas; Brazos County (College Station), Texas; and Charlottesville, Virginia.



For example, HarrisVotes!, the comprehensive voter education program developed by Hart InterCivic for Harris County, has received national recognition as *PR Week Magazine's* Community Relations Program of the Year for 2002 and recognition from NACRC for excellence in election practices. We are excited about the potential of providing similar support to the Boulder County Clerk and Recorder.

b. All outreach plans and materials shall be approved by the Boulder County Clerk & Recorder.

Hart InterCivic Response

This requirement is standard operating procedure in all Hart processes. In voter education and community outreach, especially, we never lose sight of the fact that the program is representing Boulder County and the Boulder County Clerk and Recorder Office. Programs are carried out in close collaboration and, at all times, with the Boulder County Clerk and Recorder approval.

44.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) How much staff support and what materials will be provided?

Hart InterCivic Response

Hart InterCivic has a proven track record of working with local Elections Officials to identify key community organizations and employers. Hart InterCivic then provides a program that enlists their support to help deliver information about the new voting system to their members and employees.

Hart InterCivic has developed a library of materials, including brochures, advertisements, displays, Web content, video, and more. These materials are ready to be customized to Boulder County's requirements. ***In all cases, materials and plans will be submitted to the County Clerk for approval,*** and all program execution will be conducted under the control of the Boulder County Clerk and Recorder.

Hart InterCivic's Voter Education Team includes individuals with more than 20 years of experience in strategic communication, public relations, and community outreach, providing Elections Officials with a skilled team to support the county's voter education initiatives. In addition, Hart InterCivic is prepared to provide the services of an experienced local public communications company. This model



has been successfully applied in other installations, and provides an excellent mix of elections expertise and local knowledge.

In order to support this program, Hart InterCivic has engaged the services of GBSM, a prestigious public affairs/communications firm based in Denver with experience in broad-based community outreach programs. For more than 15 years, GBSM has been involved in many of the region's most important projects, including the opening of Denver International Airport for United Airlines, the extension of E-470 from Southeast Denver to D.I.A., the citing of Coors Field and the community input process surrounding future uses of Boulder's Barker Reservoir.

The GBSM team includes men and women with extensive experience in the media, politics, political campaigns and community outreach in both Boulder and the greater metropolitan area. With the addition of GBSM, Hart InterCivic's voter education team has extensive expertise in marketing, public relations, government affairs and community relations. The team also has significant experience in implementing customized voter education and outreach programs of varying sizes for eSlate customers throughout the United States.

Please refer to *Attachment 11: Sample Boulder County Voter Education Program* for samples of voter education and outreach materials prepared by Hart InterCivic for existing eSlate installations, as well as a strawman voter education plan for Boulder County. We also present a sample plan in *Attachment 11: Sample Boulder County Voter Education Program*.

Hart InterCivic's Voter Education Philosophy

The successful rollout of a new voting system depends not only on outstanding equipment and a superb election administration team, but also hinges on a broad based voter education program. Thomas Mann of the Brookings Institution summarized the importance of effective voter education in a 2001 Brookings Policy brief:

"No aspect of the electoral process in the United States suffers from greater under investment than preparing citizens to cast their ballot. Mistakes made by voters account for a substantial portion of spoiled ballots and other errors on Election Day."

For this reason, Hart InterCivic was the first company in the election systems industry to offer a comprehensive voter education program, incorporating a wide range of outreach mechanisms including flyers, videos, visual displays, Internet sources, and public service and paid commercial announcements through the media.

Hart InterCivic's award winning voter education and outreach philosophy is straightforward:



- Outreach must be proactive and inclusive, reaching out to all voters, including underrepresented communities and language minorities;
- The program must leverage local resources through community-based partnerships with advocacy groups, trade and professional organizations, chambers of commerce, political subdivisions, and others;
- The program should employ multiple media and multiple channels to reach the target audience of voters, including Internet home page, posters, direct mail, public service announcements, (print radio, TV) advertising, events, and other activities; and
- There should be a consistent message across jurisdictions, coordinated with other election messages such as registration and Get Out The Vote.

Because each community is unique, Hart InterCivic's Voter Education Outreach (VEO) program offers several activities from which the customer may choose in order to complement and strengthen existing voter education activities. The suggested activities have been used successfully in other locations and range from no-cost/little-effort ideas (Public Service Announcements) to more expensive/people-driven ones (direct mail or voting system demonstration sites in popular venues). Examples of techniques that have been used successfully are shown in *Attachment 11: Sample Boulder County Voter Education Program*.

Working with GSBM Hart will initially complete a comprehensive assessment of the existing environment and infrastructure in which the voter education program must be executed, and based on the results of that assessment, will develop a voter education plan to support the rollout of the system. The plan will be reviewed closely with the Boulder County Clerk and Recorder, and when approved, will serve as the work plan to guide program implementation over the following months. We present a sample plan in *Attachment 11: Sample Boulder County Voter Education Program*.

See *Exhibit IV-25: Voter Education Strategies* on page 152, Hart has used a variety of strategies to educate voters in the use of the eSlate System.

(2) Include a description of County roles and responsibilities.

Hart InterCivic Response

Hart will provide professional services, either directly or through partners in this proposal, focusing on development of a comprehensive voter education plan, submission of the plan to the Clerk for approval and refinement, development of camera ready materials to support voter education, coordination of special events and community partner programs, support for and participation in (as appropriate) community demonstrations and presentations, and similar activities.



The role of the County will be to oversee program execution, participate in creative sessions as available, represent the voter education initiative to the public (through the media, public appearances, special events, etc.) and print camera-ready materials or produce other educational collateral developed by the project team. The program is to be conducted in conjunction/collaboration with other County offices, as determined by the Boulder County Clerk and Recorder, including others, as appropriate.



ACTIVITY	Harris	Tarrant	Travis	Arapahoe	Charlottesville
Marketing and Voter Education Assessment	X	X	X	X	X
Marketing and VEO Plan	X	X	X	X	X
Print Products	X	X	X	X	X
Brochure	X	X	X		X
Polling site instructional materials	X	X	X	X	X
"I Voted" or "I Voted Early" stickers or buttons		X	X		
Bookmarks	X				
Laminated instruction card to mail with voter registrations			X		
Stuffers for utility bills	X		X		
Customized VEO program press kits	X	X	X		X
Media/Advertising Materials					
How to Use eSlate video (Multilingual available)	X	X	X	X	X
Press releases to newspapers	X	X	X	X	X
Public Service Announcements	X		X		
Videos to Cable Networks	X		X		
Newspaper Ads	X	X	X		X
Ads in taxis, buses, air or bus terminals, etc.	X		X		X
Billboards	X				
Newspaper wrappers or message inserts	X				
Grocery bag/stuffers	X		X		
Theater slides	X	X	X		
Community Organizations					
Automated message for customer's phone system	X	X	X		
"How to Use eSlate" materials at voter reg. events	X	X	X		
Video Library at all public libraries	X		X		
Target mailing to known early voters		X			
Video and How to Vote materials to civic clubs	X				
Community meeting and workshop presentations, including Speaker's Bureau	X		X		
Voting demonstrations at various public sites	X	X	X		X
Mailing to targeted registered voters	X	X	X		
Voter education website	X	X	X		X
Jurisdiction-wide mock elections	X				
Kids Voting program in local elementary school	X		X		
Kick off event/press conference	X		X		
email campaign	X		X		

Exhibit IV-25: Sample Voter Education Strategies. This table illustrates a few of the voter education strategies that Hart InterCivic has employed to support eSlate System implementations.



45.0 WARRANTY

45.1 Requirements

- a. **A minimum of a two (2) year warranty shall be provided, with the option to extend to four (4) years, for all voting system hardware, equipment and software. Except for circumstances of malicious actions or gross negligence by the Boulder County Clerk & Recorder, the vendor shall repair or replace any hardware, equipment and software so that it fully and properly performs as required under this contract.**

Hart InterCivic Response

The Hart InterCivic team acknowledges and accepts the requirements presented in the RFP Section 45. The eSlate System includes a three year warranty in the purchase price and additional optional extended warranty arrangements are also available.

The warranty period begins upon delivery of equipment. Any component that malfunctions is returned to Hart and exchanged for a serviceable unit. This warranty, however, does not cover damage resulting from abuse or use outside of prescribed operation.

Third-party software and equipment is warranted by the respective manufacturer (such as Dell Computer Corporation, Microsoft). Hart InterCivic will pass through to the County any warranties given by the manufacturer, to the extent permitted by the manufacturer, and can arrange extended warranty coverage as may be negotiated.

- b. **The vendor represents and warrants that it is not currently bound by any agreements, restrictions or obligations, nor will the vendor assume any such obligations or restrictions, which would negatively affect the performance or service to the Boulder County Clerk & Recorder.**

Hart InterCivic Response

Hart represents that there are no agreements, restrictions, or obligations that would negatively affect the performance or service to the Boulder County Clerk and Recorder.

- c. **The vendor warrants that Boulder County shall acquire good and clear title to the equipment being purchased and all equipment shall be new, free from defects and perform to the required levels.**



Hart InterCivic Response

Hart InterCivic warrants that Boulder County will acquire good and clear title to the eSlate System. All equipment purchased will be new, free from defects, and will perform at the required levels.

45.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Describe the warranties your company will provide.

Hart InterCivic Response

As noted above, the eSlate System includes a three-warranty in the purchase price and additional optional extended warranty arrangements are also available. Long-term support for the eSlate System is managed by a designated Project Manager in accordance with the license.

The warranty period begins upon delivery of equipment. Any component that malfunctions will be exchanged for a serviceable unit. This warranty, however, does not cover damage resulting from abuse or use outside of prescribed operation.

Third party software and equipment is warranted by the respective manufacturer (such as Dell Computer Corporation, Microsoft) and Hart will pass through to the County any warranties given by the manufacturer, to the extent permitted by the manufacturer, and can arrange extended warranty coverage as may be negotiated. All third party software and equipment comes with a standard one-year warranty.

46.0 MAINTENANCE

46.1 Requirement

Vendor shall maintain system so that it functions properly in the warranty and post warranty periods for the full duration of the maintenance contract.

Hart InterCivic Response

See below.

46.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------



b. How do you propose to meet this requirement? Make sure to include item(s) listed below:

(1) Describe the support and maintenance you will provide for the system during the warranty and post-warranty periods.

Hart InterCivic Response

While under warranty, Hart will correct any existing function that does not perform per the specifications of that product. Malfunctioning hardware will be returned and replaced. We will also provide telephone, and when requested, written answers to questions from designated County staff regarding the operation of the eSlate System, during the County's scheduled work hours, which include extended voting hours during elections. Written documentation of problem resolution for requests will be provided.

Product release upgrades will also be provided to the licensed Hart InterCivic products. These are upgrades produced as a result of changing federal, state, or local requirements, a request of customers, or the addition of features and functionality that will improve the product. Upgrades will also be installed to correct errors.

Extended warranty plans are available beyond the initial warranty period. Extended warranty services continue at the same level as those in the original warranty.

In addition to ongoing maintenance and warranty services, Hart has developed a comprehensive service delivery approach to support Boulder County's eSlate implementation, described elsewhere in this response. Services cover the full range of requirements necessary to successfully deploy the new voting system, manage the change process associated with the implementation, and subsequently support the elections process. Hart will provide personnel to support training, acceptance testing, Logic and Accuracy testing, and Poll Worker training. Additionally, our team will provide field level support for Early Voting and Election Day, as well as post-election support for tabulation and reporting, data validation and archiving, equipment maintenance, and warehousing storage.

(2) Provide a copy of your proposed maintenance and support agreements.

Hart InterCivic Response

A copy of Hart InterCivic's annual licensing and maintenance agreement is included in *Attachment 12: eSlate Warranty, Support, Maintenance and License Agreement*.



47.0 SUPPORT (ELECTION RELATED)

47.1 Requirement

The vendor shall provide the following well-trained support personnel, at a minimum, for the preparation and conduct of all Boulder County elections from contract award through calendar year 2008:

- An overall contract administrator who will serve as the principal contact.
- 24-hour technical support (hotline)
- On-site technical support for the following:
 - √ Pre-election programming and ballot setup;
 - √ Pre-election logic and accuracy testing;
 - √ Election Day support during the full hours of operation;
 - √ Post election testing and reporting; and
 - √ Development of a program that addresses Election Day field troubleshooting.

Address all requirements listed above, making sure to include item(s) listed below:

Hart InterCivic Response

The Hart solution provides trained support personnel for the preparation and conduct of all Boulder County elections from contract award through the contract year of 2008. Hart has developed a comprehensive service delivery approach to support Boulder County’s voting initiative. Each element of the proposed package of support is addressed below.

47.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Make sure to include the level of technical support, days and hours of service and response time for contacts by phone, or on-line modem.

Hart InterCivic Response

Key to our proposal is the selection of a strong Project Manager who is responsible for all project performance, tasks, and subtasks, and delivery of all deliverables. The Project Manager ensures compliance with the contract



agreement. The Project Manager is available to meet and confer with the County's Project Director at least bi-weekly, and weekly during the two-month period prior to any Election Day. The purpose of these meetings is to review project progress and ensure close project coordination. These meetings are held at mutually agreeable times and locations.

Pre-Election Programming and Ballot Setup. Pre-election support includes support for Election Management software, pre-election programming and ballot setup, and equipment delivery and setup.

Pre-Election Logic and Accuracy Testing. Hart will work with the County to develop and implement a logic and accuracy-testing program that fully complies with the provisions of the Colorado Election Code and provides efficient, thorough assurance that the eSlate's tabulation system is operating properly.

Election Day Support During the Full Hours of Operation. Election Day support includes support of eSlate and JBC equipment, Election Management Software, and elections processes. We are available to provide on-site support throughout Boulder County on the day prior to the election as well as on Election Day. Pre-election support is available for the normal eight-hour workday. Election Day support is available for the full time the polls are open during the day as well as two hours before the polls open and an hour after the official poll closure.

Post Election Testing and Reporting. Reporting requirements for election results will be provided through Tally, which supports a wide range of standard reports, as well as custom reporting capabilities. Hart will support post-Election Day logic and accuracy testing, as well as reporting and archiving requirements for both election data and asset (equipment) management. The eSlate System's SERVO application is designed specifically to provide a fully integrated utility for maintaining on-going equipment history and supplying election records as required. SERVO is used to back up cast vote records and audit logs from eSlates and JBCs used in an election. The backed-up data can then be used to provide reports on cast vote records, audit logs, and equipment used, and recount data to be supplied to Tally.

Election Day Field Troubleshooting. The Project Manager is responsible for coordinating and scheduling all staff on the first Election Day the eSlate System is in operation. This includes 12-15 Election Day Support staff.

Election Day Support Staff are assigned to specific precincts and serve as troubleshooters on Election Day. These staff are able to back up the Election Judges in their rolls of managing the polling sites on Election Day. We propose a 1:20 coverage ratios of support personnel to precincts. Election Day Support Staff have may carry spare eSlates and JBCs so that any faulty equipment can be promptly replaced on Election Day.



Hart has given extensive consideration to the County’s needs relative to Election Day support and troubleshooting. We have developed a deployment strategy to provide appropriate coverage for the County. In addition, we have identified a number of potential risk factors and developed response strategies to ensure we are prepared to respond appropriately.

Before training of the election support staff begins, a Support Field Manual is developed. This manual is used in the training and explains all of the actions and processes expected of the election support staff. It is essentially a “field guide” for staff to help them deliver outstanding service to the volunteer staff working at the polling sites.

A Hart program objective is to enable the County to achieve mastery and independence based on the intensive support we provide through two election cycles. This support should form a firm foundation for the County to assume control of the full election process. Hart will provide well-trained personnel to provide ongoing technical support through the year 2008 under the terms of warranty and maintenance agreement.

Days And Hours Of Service

We propose a 24-hour hotline for technical support during elections. This hotline is staffed with qualified technical personnel who are able to assist with any problems that the Boulder County Clerk and Recorder might encounter during the system transition and the pre-election timeframe. Contact is also available through e-mail and a web page for general posting is available to all project team staff, both County and Hart.

Response Time For Contacts By Phone Or On-Line Modem

When a problem or issue occurs, the Election Judge contacts the Help Desk. A member of this staff responds to the issue within a 15-minute time period. Hart technical staff are available to support all of these efforts.

Exhibit IV-26 summarizes Hart InterCivic’s warranty and support program for Boulder County.

Hart InterCivic’s Warranty Program for Bolder County, Texas	
What is the length of the warranty (months)?	36 months
When does the warranty begin?	Delivery
What are the hours of warranty and maintenance coverage	Mon-Fri 7:30 to 5:30 MST During an election - 7 days a week 24 hours a day



Hart InterCivic's Warranty Program for Bolder County, Texas	
Warranty/Maintenance Services:	
Telephone Support (Y/N)?	Y
Normal hours of telephone support operations (Mountain time)?	Mon-Fri 8a.m. to 5p.m. MST
Extended hours of telephone support operations (Mountain time)?	During an Election: 7 days a week 24 hours a day
Toll Free "800" number (Y/N)?	Y
Remote dial-up/Internet software diagnostics (Y/N)?	Y
Remote dial-up/Internet software update (Y/N)?	Y
Updates and enhancements included (Y/N)?	Y
How often are enhancements provided?	As released, as least annually
User group membership (Y/N)?	Y
Newsletter (Y/N)?	Y

Exhibit IV-26: Hart InterCivic's warranty and support program for Boulder County.

48.0 SUPPORT (GENERAL)

48.1 Requirement

Vendor's support personnel will provide timely response to questions and resolution to problems at all times.

Hart InterCivic Response

See discussion below.

48.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Describe the type and level of support you will provide. Include commitment of resources, days and hours of service, and response time for contacts by phone, e-mail or web. Include a description of other support services that will be provided, such as user groups and newsletters.



Hart InterCivic Response

The Hart staff includes support personnel who provide timely response to questions and resolution of problems at all times. Hart proposes a 24-hour hotline that is operational the week prior to Election Day and all day Election Day. The hotline is staffed with qualified personnel who are able to assist with any problems that may come up on Election Day. The requests come in through the various methods of communication and are referred to the appropriate Election Day Support Staff for resolution. A response will be provided within 15 minutes of a request being received. Technical support staff is also available throughout the Election process to assist with any technical issues that may arise.

Hart InterCivic has established an aggressive research and development operation supporting development of the eSlate Electronic Voting System and a specialized engineering and integration team. *Located in Boulder County*, the R&D organization includes software engineers, manufacturing specialists, computer scientists and others dedicated to constant improvement and innovation in the eSlate System. Operating under an ISO 9001 certified process, this team of resources keeps the product compliant with statutory changes and aligned with individual customer requirements. These individuals are available to assist Boulder County throughout the project.

Hart InterCivic is in the process of launching a periodic newsletter/technical bulletin for eSlate users, and in December will hold the first eSlate Users' Group Meeting. An enhanced web presence for eSlate users is also under development.

49.0 SUPPORT (SYSTEM IMPLEMENTATION AND PROJECT MANAGEMENT)

49.1 Requirements

- a. At a minimum, the vendor shall provide a Project Implementation Team for the Primary and General elections in 2004, which will be responsible for overseeing the delivery, installation and testing of the new voting system.**

Per Addendum 1, the County will require on-site support through 2008.

Hart InterCivic Response

Hart InterCivic will provide support to the County through 2008. Responsibilities of the team will include delivery, installation, and testing. Immediately upon contract execution, detailed schedules and resource allocation for each election will be adopted into the comprehensive Boulder County project plan.

- b. Vendor shall provide a Project Manager that will be assigned to the account.**



Hart InterCivic Response

Hart will assign a full-time, professional Project Manager who will serve as the primary contact for any operational matters related to the project. The Project Manager ensures compliance to established project parameters and schedules, and provides the scheduling and coordination of all assigned resources.

- c. The vendor shall provide a project implementation plan, subject to approval of the Boulder County Clerk & Recorder.**

Hart InterCivic Response

Development of the project plan, including a detailed project scheduled using Microsoft Project, is one of the first activities in the project. The plan and schedule will be submitted to the Boulder County Clerk and Recorder for approval.

Hart InterCivic utilizes a Project Management approach that is based on the Project Management Institute (PMI) framework and our extensive experience managing technology deployments for government agencies. This approach serves as a template that is customized and adapted to meet the specific requirements of each customer project.

Implementation begins with an intensive two- to three-week Work Process Analysis, establishing a baseline understanding of current processes and the “ideal process.” These activities are necessary to establish a detailed integration plan that addresses all aspects of the project. The results of this activity are used to develop a Migration Plan, which defines each step necessary to incorporate the use of the eSlate System in the County's activities, while addressing risk areas and carrying out mitigation activities defined by the Risk Management Plan.

The key document for ongoing project management is the Project Work Plan and Schedule. Hart InterCivic uses a rigorous management process documented through a series of Gantt charts using Microsoft Project. The Project Work Plan and Schedule is updated immediately after contract award and thereafter updated regularly. Hart InterCivic also utilizes an Issue Tracking Report that documents all problems and the subsequent resolution. Status reports are furnished to the County on a weekly basis.

The Project Work Plan and Schedule provides guidance for managing the project through thorough documentation of detailed activities, tasks, and a detailed work plan. The Project Work Plan and Schedule is a living document and revised regularly. A working draft of the Project Work Plan and Schedule is reviewed in the project kickoff meeting to promote refinement and mutual acceptance of the draft project plan.

- d. The vendor shall provide project progress reports.**



Hart InterCivic Response

At minimum, the Hart Project Manager holds a weekly status review meeting by telephone or in-person with the designated County contact(s). The purpose of these meetings is to review the project status and discuss and resolve any pending issues. Constant and scheduled communications specifically for the purpose of discussing issues is an important component of the Hart project management methodology. Open issues are tracked through the meeting minutes, and functional team leaders can use the minutes as a tool to resolve these items. The earlier those issues are resolved or have a plan for resolution developed, the less risk there is that a single issue causes project delays.

The Hart Project Manager provides weekly project status reports to the Boulder County Project Director. This provides senior management with project insight and allows for additional quality control in project execution and resolution of problems. The specific format, content, and depth of detail in these reports shall be discussed and decided during the initial project start-up meetings. Items on the status report include:

- Activities and deliverables scheduled to be accomplished during the preceding period - completion status and issues.
- Activities due for completion in upcoming periods.
- Hart and County resource needs.
- Schedule refinement and planning.
- Policy or procedure clarifications or modifications.
- Issues and concerns requiring top management attention.

e. The vendor shall have a quality management program.

Hart InterCivic Response

Absolute quality is at the eSlate's foundation from design to manufacturing. Hart InterCivic's Engineering and Development facility has achieved the prestigious ISO 9001 certification. The manufacturing facilities at Hart InterCivic's contract manufacturer for the eSlate hardware, Suntron, are also ISO 9001 certified, in addition to a long list of other quality certifications. Suntron's emphasis on world-class manufacturing and process engineering support from prototype to volume production has resulted in a highly scalable production line for eSlate Systems with a demonstrated product yield consistently exceeding 99.7%.

Documentation of our ISO certification is included in *Attachment 1: Documentation of System Certification*.

Hart InterCivic has also focused on continual quality improvement programs, evidenced by its process assessments to meet stringent software development and



management standards promulgated by leading organizations such as the Software Engineering Institute at Carnegie Mellon University.

Hart's approach to quality assurance and control encompasses the practices of planning and prevention, the use of senior-level experienced staff, and maintaining focus on client-based requirements. We measure quality in three broad areas: Project Management, system development, and documentation. It is the Project Directors responsibility to ensure that all project elements (hardware/software, documentation, training and support services) are developed and delivered in the most complete and professional form. A "two-man" rule is applied for all reviews and cross checks to help ensure quality. The quality control procedures for projects are described below. The procedures we have in place are as follows.

Hart Project Managers produce written status reports on a regular basis. These status reports document project accomplishments by task, expected results, and issues. On a quarterly basis at a minimum, these status reports are reviewed with the Project Corporate Liaison to determine if Project Management is adequately addressing issues, meeting client expectations, and managing to the schedule.

All project correspondence is tracked through our Correspondence Control System. This ensures that documents exchanged between the County and Hart are available in an orderly fashion. If questions arise regarding any aspect of the project, Hart and the County can reconstruct a history of events to reach a resolution in a timely manner.

On a monthly basis, Project Managers must present the status of their project to the Project Corporate Liaison. Overdue action items, unresolved client problem reports or issues, or budget variances are all indications that project activities and the project plan are not in alignment. Hart uses such detailed reporting to spot troubled projects early in the cycle. If a "red flag" is raised, the most senior Hart managers become involved immediately. IF this occurs on the Boulder Voting Project, the County will be informed immediately and brought into the resolution process.

Hart believes strongly that quality must extend to how a company does business. In 2002, Hart InterCivic was presented with The Samaritan Center Ethics in Business Award honoring "good Samaritans" who practice the highest ethical principles in their daily business. The award was based on interviews with customers, suppliers, employees, management, and community organizations. We are proud of the Samaritan Center award, because we believe it symbolizes the kind of business practices that a county should expect from its vendors.

f. Provide a risk analysis and related mitigation plan.

The project plan will include a risk identification and mitigation plan.



Hart InterCivic emphasizes risk management as a critical element of project management. Throughout all phases of the project, we employ constant communications to quickly identify risks and implement mitigation strategies to address those risks. The Project Manager tracks and reports the risks on a weekly basis, and addresses those risks using contingency plans that are defined once a risk is identified. Risks that cannot be mitigated by the Project Manager and the County Project Representative are escalated to Hart senior management to avoid negative impacts to the project. Hart is committed to quality and is looking forward to working with your staff to make this project a tremendous success for everyone.

Continual assessment of project risks is essential for success. As the project moves forward, we will assess the risks at every management meeting and milestone achievement. At this time, we can identify several tangible risks that must be addressed. Examples of risk factors are identified in *Exhibit IV-27*.



Examples of Risk Mitigation Features of the eSlate Electronic Voting System

Risk Description	Mitigation Strategy
Process Assessment	
Significant gaps are found in procedures that impact system deployment	<ul style="list-style-type: none"> ▪ First activity of the implementation plan is a comprehensive process analysis. Each process is evaluated against a standard checklist developed by Hart to ensure proper election procedures exist ▪ Early identification of potential problems during process analysis training and acceptance tests ▪ Change management efforts throughout implementation and pre-election activities (ballot creation)
Training	
Quality of the training program	<ul style="list-style-type: none"> ▪ Experienced instructor to lead classes ▪ On-site training during Acceptance Test ▪ On-site training, work flow assessment and relationship building for ▪ Self-study training material
Effectiveness of the training program	<ul style="list-style-type: none"> ▪ Training program has been proven effective as used in other jurisdictions ▪ Formal assessment of county's level of readiness; trainers evaluate participation and attendance to red-flag weak areas. ▪ Mechanism to escalate and resolve county's non-readiness; optional follow-up training, demo, and videos.
Election Preparation	
Unauthorized access to the voting system applications	<ul style="list-style-type: none"> ▪ All Hart InterCivic applications are password protected and allow access only as defined by the system administrator. ▪ All database structure and communication protocols are proprietary, protecting the system from tampering
Last minute changes to ballot	<ul style="list-style-type: none"> ▪ Process to make changes to the election database is simple and is covered in training session
Election Day	
Opening and operating polls	<ul style="list-style-type: none"> ▪ Voting devices activate instantaneously and simultaneously when power is applied to the polling place control unit ▪ No requirement for individual machine activation upon poll opening ▪ Automatic creation of triplicate original cast vote records throughout the course of the day eliminates need to collect votes from each machine upon poll closing ▪ Automatic system diagnostics, audit trails, and summary reports ensure data completeness and integrity

Exhibit IV-27, Example of Risk Mitigation Features of the eSlate System. The eSlate has been designed to mitigate many of the risks that might negatively impact a system implementation.



49.2 Proposer's Response

a. Will you meet these requirements?	Yes X	No
---	--------------	----

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Describe the type and level of support you will provide. Include your commitment of resources.

Hart InterCivic Response

Hart will provide an industry-leading package of services and support. To facilitate the transition to the eSlate System in Boulder County, Hart InterCivic will include in the purchase contract the following:

- **Project Management and System Deployment.** A designated Project Manager will work with county elections staff to plan for and execute all aspects of the transition to the new system. The Project Manager will be responsible for managing delivery of implementation services, to include:
 - Initial acceptance testing of eSlate components;
 - Initial election support/assistance for pre-election ballot preparation, polling place and County Help Desk operations, and post-election results tabulation and reporting;
 - Initial training for Elections Officials, elections office staff, and Poll Workers, and
 - Voter education and outreach initiatives (to the extent specified in the purchase contract).
- **Installation.** Hart technical specialists will configure, install, and test all computer equipment. This activity covers delivery and setup of computer equipment ordered, installation and setup of software purchased, and installation of associated hardware (i.e., printers and scanners).
- **Documentation.** Printed and electronic versions of eSlate operations and training manuals will be provided.
- **Hart InterCivic Help Desk.** Elections Officials and staff may report system operation issues and support requests, and/or request technical trouble-shooting and assistance via toll-free telephone, toll-free facsimile transmission, or electronic mail to the Hart InterCivic Help Desk. Services will be provided as specified in the eSlate Warranty, Support,



Maintenance and License Agreement. See *Attachment 12: eSlate Warranty, Support, Maintenance and License Agreement* for a sample of the basic agreement.

- **Specialized Integration/Engineering Services.** Within the scope of the contract, Hart will provide engineering services to ensure reporting meets county specifications, necessary systems are integrated, and other systems issues are addressed.
- **Voter Education and Outreach.** The best voting system and highest trained elections staff are of little use if voters fail to vote (whether due to apathy or nervousness caused by a new voting system) or, if when they do vote, they do not operate the voting system correctly. Recognizing this, Hart InterCivic will design a customized Voter Education and Outreach (VEO) Program to accompany the transition to the eSlate System, if requested to do so.

(2) Provide the name, title, qualifications and ability of the Project Manager that will be assigned to this account.

Hart InterCivic Response

The assigned Project Manager for the Boulder County implementation is Linda Herod. Ms. Herod brings over 20 years of experience as an elections professional to Boulder County. She has provided the implementation project coordination for Arapahoe County, and is currently working with Philadelphia to implement Ballot Now for absentee voting. As the Project Manager, Ms. Herod's extensive experience in facilitating the implementation of the eSlate Electronic Voting System ensures timely delivery of equipment and services, effective monitoring of staff activities, and provides for an orderly transition. Ms. Herod has also earned the elections profession's highest designation of Certified Elections/Registration Administrator (CERA).



(3) Please provide references for Project Manager you will assign to project.

Arapahoe County, Colorado

Mr. Tracy K. Baker
County Clerk and Recorder
5334 S. Prince Street
Littleton, Colorado 80166-0211
(303) 795-4245
tbaker@co.arapahoe.co.us

Tarrant County, Texas

Robert Parten
Elections Administrator
100 W. Weatherford, B90
Fort Worth, Texas 76196
(817) 838-4650
rparten@tarrantcounty.com

Philadelphia, Pennsylvania

Bob Lee
Voter Registration Administrator
520 North Delaware
Philadelphia, PA 19123
215-686-1592

Town of Superior, Colorado

Phyllis Hardin
Town Clerk
Town of Superior
124 Coal Creek Drive
Superior, CO
303-499-3675

Longmont, Colorado

Valeria Skitt
City Clerk
350 Kimbark
Longmont, CO 80501
303-651-8650



(4) Describe the main elements that you will include in a project implementation plan and delivery date of the plan. Make sure to include steps to mitigate risk.

The Project is managed in three overlapping phases described below:

- Phase I: Plan/Design
- Phase II: Build/Deploy
- Phase III: Manage/Support

The Plan/Design phase begins during proposal/negotiation activities where the scope and approach are planned and described. At contract award, the County Project Manager and Hart Project Manager review the final proposal/agreement and begin scheduling project setup/initiation activities. The Project Manager coordinates a Project Kickoff meeting with the County's designated Project Director. At this meeting the project team refines and establishes the baseline project schedule.

The Project Director and Project Manager begin compiling the following components of the Project Work Plan and Schedule based on templates and best practices.

- **Scope Definition** - summary of the scope of the project as defined in the final proposal/agreement documents and identifies all of the components necessary to meet the County's requirements
- **Project Team** - establishment of functional divisions within the project team (hardware, warehouse, training, etc.), identification of key individuals including their roles/responsibilities
- **Communication Plan** - contract information for project team members and management, proposed schedule/format for standing Project Management meetings, escalation protocol for critical communications, proposed schedule/format of written communications, such as meeting minutes, and required reports
- **Issue Management Plan** - procedures for identification, tracking, and resolution of project issues including escalation protocol as well as identification of known open issues
- **Risk Management Plan** - initial identification of known risks, risk mitigation strategies, and contingency plans
- **Integration Plan** - identification of "work/processes" necessary based on defined scope and any related requirements/expectations; key assumptions, limitations, or constraints; key dependencies; and approach, typically including at least the following components:
 - contracts/agreement



- procurement/leasing
- data migration/legacy interface
- order processing/tracking
- production
- shipping/delivery
- asset management
- installation/acceptance
- polling place site surveys
- deployment planning
- polling place set up
- on-site support
- equipment retrieval (post election)
- equipment preparation for storage
- maintenance/ongoing support
- **Schedule** - identification of known timeframes and key milestones
- **Test Plan** - procedures for ensuring that the software integration operates successfully in the Boulder County environment
- **Quality Management Plan** - identification of performance standards, triggers, remedies, and escalation protocol
- **Change Control Plan** - procedures for identification, review, and approval of changes to the project plan

The Work Process Analysis would begin as soon as possible after the contract execution. Within two weeks of the analysis, Hart InterCivic will provide an updated project plan for Boulder County to review. Initial development of the Plan for Boulder County is shown in Attachment 13: Sample Project Implementation Plan and Delivery Timeline.

Risk Mitigation

Hart InterCivic emphasizes risk management as a critical element of project management. Throughout all phases of the project, we employ constant communications to quickly identify risks and implement mitigation strategies to address those risks. The Project Manager tracks and reports the risks on a weekly basis, and addresses those risks using contingency plans that are defined once a risk is identified. Risks that cannot be mitigated by the Project Manager and the client-side Project Manager representative are escalated to Hart senior management to avoid negative impacts to the project. Hart is committed to quality and is looking forward to working with your staff to make this project a tremendous success for everyone.



Continual assessment of project risks is essential to be successful. As the project moves forward, we will assess the risks at every management meeting and milestone achievement. Additional details regarding Hart's risk mitigation policies are included in response to the requirement in 49.1.f.

(5) Describe the elements that you will include in progress reports and the timeframe for submittal of these reports.

Progress Reports

At minimum, the Hart Project Manager holds a weekly status review meeting by telephone or in-person with the designated County contact(s). The purpose of these meetings is to review the project status and discuss and resolve any pending issues. Constant and scheduled communications specifically for the purpose of discussing issues is an important component of the Hart project management methodology. Open issues are tracked through the meeting minutes, and functional team leaders can use the minutes as a tool to resolve these items. The earlier those issues are resolved or have a plan for resolution developed, the less risk there is that a single issue causes project delays.

The Hart Project Manager provides weekly project status reports to the Boulder County Project Director. This provides senior management with project insight and allows for additional quality control in project execution and resolution of problems. The specific format, content, and depth of detail in these reports shall be discussed and decided during the initial project start-up meetings. Items on the status report include:

- Activities and deliverables scheduled to be accomplished during the preceding period - completion status and issues.
- Activities due for completion in upcoming periods.
- Hart and County resource needs.
- Schedule refinement and planning.
- Policy or procedure clarifications or modifications.
- Issues and concerns requiring top management attention.

(6) Describe your quality management program.

Quality is one of the fundamental principles of the Hart business model. However, the only way to ensure quality is to design it into the project plan for the lifecycle of a project.

Hart InterCivic has focused on continual quality improvement programs, evidenced by in process assessments to meet stringent software development and management standards promulgated by leading organizations such as



International Standards Organization (ISO) and Institute of Electrical and Electronics Engineers (IEEE).

The Hart approach to quality assurance and control encompasses the practices of planning and prevention, the use of senior-level experienced staff, and maintaining focus on client-based requirements. We measure quality in three broad areas: Project Management, system development, and documentation. It is the Project Manager's responsibility to ensure that all project elements (hardware/software, documentation, training and support services) are developed and delivered in the most complete and professional form. The quality control procedures for projects are described below. The procedures we have in place are as follows.

Project Managers produce written status reports on a regular basis. These status reports document project accomplishments by task, expected results, and issues. These status reports are reviewed with the Professional Services Manager to determine if the Project Manager is adequately addressing issues, meeting client expectations, and managing to the schedule.

Overdue action items, unresolved client problem reports or issues, or budget variances are all indications that project activities and the project plan are not in alignment. Hart InterCivic uses such detailed reporting to spot troubled projects early in the cycle. If a "red flag" is raised, the appropriate Hart staff resources are brought into the project immediately. If this occurs during Boulder County implementation, the County will be immediately informed and brought into the resolution process.

50.0 MODIFICATIONS AND UPGRADES

50.1 Requirements

a. The vendor shall provide at no additional charge to the County for the life of the maintenance contract:

(1) All software modifications and upgrades that are necessary to comply with changes to local, State and Federal election laws; and

Hart InterCivic Response

Hart will provide upgrades and modifications according the terms of the eSlate Warranty, Support, Maintenance and License Agreement, provided as *Attachment 12: eSlate Warranty, Support, Maintenance and License Agreement*.

(2) All hardware and software modifications necessary to correct defects in the system.



Hart InterCivic Response

Hart InterCivic will provide necessary modifications and upgrades as requested by the Boulder County Clerk and Recorder. For requests not within the scope of warranty and standard service agreements, we will provide a detailed assessment of cost and resources required prior to beginning the effort. The approval of the Boulder County Clerk and Recorder will be required prior to the commitment of any resources.

(3) All new source code will be provided to the County at no additional cost.

Hart InterCivic Response

As part of the certification process, Hart InterCivic files the eSlate System source code with the Colorado Secretary of State. Per Addendum 1, this meets the requirement to provide the source code to the County.

(4) The vendor shall provide to the County for a period of two years all software modifications and upgrades required by the Boulder County Clerk & Recorder that will add features or enhance the proposed system.

Hart InterCivic Response

Hart will provide necessary modifications and upgrades as requested by the Boulder County Clerks Recorder. For requests not within the scope of warranty and standard service agreements, we will provide a detailed assessment of cost and resources required prior to beginning the effort. The approval of the Boulder County Clerk and Recorder’s Office will be required prior to the commitment of any resources.

50.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:

(1) Describe any new enhancements that are being planned and will be available for your system in the near future.

Hart InterCivic Response

As part of its ongoing research and development program, Hart InterCivic maintains a continuing agenda of product and process related innovation. These activities are captured in a continually updated eSlate solution product program.



A detailed briefing on the eSlate System product roadmap can be provided to Boulder County upon the execution of a nondisclosure agreement that protects trade secret information.

An example of Hart InterCivic's ongoing involvement in emerging standards activities is participation in the Secure Electronic Registration and Voting Experiment, including Internet voting, being conducted by the Federal Voting Assistance Project (FVAP). Hart InterCivic is the only certified election systems vendor on the team selected to implement this important initiative. SERVE will develop and implement new technology that will permit U.S. citizens who live overseas, military and nonmilitary, to exercise their right to vote. In addition, the SERVE project may potentially represent a significant driver of future voting technology for the broader population. Hart InterCivic's involvement in the SERVE project will assure that we are at the forefront as the use of this technology develops.

At a general level, Hart InterCivic is pursuing hardware and software projects that include:

- completion of a comprehensive usability analysis in order to identify system changes that would further enhance ease-of-use for voters, election staff, and poll workers;
- increased integration with multiple voter registration systems in order to ensure rapid processing of voters at the polling place;
- completion of a version of the eSlate architecture to support a voter verifiable paper ballot;
- alternative mechanisms for delivering ballots to remote voters, including the appropriate and secure use of the Internet, this project relates to the activity sponsored by the Federal Voting Assistance Program described in more detailed in 54.2(2);
- expansion of the eSlate System's capability to manage data formatted in the XML Standard Interchange Format;
- opportunities to achieve hardware cost reductions;
- ongoing assessments of systemic implications from IEEE standards development projects; and
- fully integrated custom report design capability.

This list provides a partial agenda of the items currently in the R&D pipeline for the eSlate electronic voting solution. Several of these items have resulted in specific features and functionality being added to the eSlate System's current product roadmap.



51.0 ASSET EQUITY

51.1 Requirement

The County is looking for a commitment from the vendor to offer a trade-in value for the original component costs, if the County chooses to procure a newer model of the vendor’s voting system at a later date.

Hart InterCivic Response

Hart InterCivic commits to offer a trade-in value for the original component costs, if the County chooses to procure a newer model of the eSlate voting system at a later date. The trade-in value would be based on market pricing less depreciation at the time of the procurement.

51.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How would you propose to meet this requirement?

Hart InterCivic Response

Hart InterCivic commits to offer a trade-in value for the original component costs, if the County chooses to procure a newer model of the eSlate voting system at a later date. The trade-in value would be based on market pricing less depreciation at the time of the procurement.

52.0 COMPLAINT RESOLUTION AND MALFUNCTION IDENTIFICATION/REPORTING

52.1 Requirements

a. Provide and coordinate identification and resolution of system problems (e.g., system malfunctions – including hardware, firmware, and software malfunctions; performance problems; and data corruption) in a timeframe that allows elections to be conducted in a reasonable and timely fashion.

Hart InterCivic Response

Hart InterCivic deploys a methodical approach to problem management and uses an Issues and Risk Tracking tool to enforce the tracking and reporting of problems. This system is described below.

b. Provide trend analysis to identify recurring or related problems.



Hart InterCivic Response

The Issue and Risk Tracking Tool provides a detailed record of the complete history of all identified project issues and risks. This permits the Project Director to maintain an ongoing trend analysis to identify recurring or related problems.

- c. Provide appropriate repairs, adjustments, or replacements in instances where the vendor learns of problem situations that are likely to negatively affect equipment or software.**

Hart InterCivic Response

Repairs, adjustments, and replacements will be provided according the terms of the warranty and support agreement.

- d. Provide to the County on a per occurrence basis, a report of any system error in any jurisdiction outside of the County in which the system is being used. (All such errors shall be fully analyzed as to their cause and remedy.)**

Hart InterCivic Response

In addition to the standard tracking processes described above, upon installation of the eSlate System in the County, appropriate individuals will be placed on a distribution list to receive HI-GRAMS™, email reports issued by Hart InterCivic to communicate in a timely manner system software or firmware errors of operational significance experienced with any installed eSlate System, and their appropriate remedies.

HI-GRAMS will contain error descriptions and proposed remedies to the extent that the information is available when the HI-GRAM is issued. Hart InterCivic’s policy regarding delivery of software or firmware patches, fixes, or upgrades is contained in the eSlate Warranty, Support, Maintenance and License Agreement.

52.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

- b. How do you propose to meet these requirements? Address all requirements listed above, making sure to include item(s) listed below:**

- (1) Describe methods your organization will use to identify malfunctions and track recurring or related problems, report malfunctions to the County and resolve complaints. Provide a copy of your proposed issue resolution log.**



Hart InterCivic Response

Efficiencies in problem management have a direct impact on the success of a project. Throughout the life of a project, Project Managers identify root cause problems and work efficiently to resolve those problems.

Hart InterCivic tracks all problems and issues using our issue tracking tool. The tool provides a search capability that identifies all issues corresponding to the search criteria entered by the user, but is customized to support each client's needs. Recorded information includes, among other things:

- description of the problem issue, or risk;
- contact escalation information;
- priority, type, and status;
- impacts to the project (cost/schedule/other);
- personnel assigned to resolve the issue;
- history of actions taken to resolve the issue or mitigate the risk; and
- completion data.

The Sample County eSlate Issue Tracking Log in *Attachment 14: Issue Resolution Log* shows the detailed information and tracking process we follow for the eSlate System.

Hart InterCivic's eGovernment group uses the web-based Team Track application to track all defect and development issues, and support center calls. Team Track has been very well received by the eGovernment staff and customers. We anticipate Hart InterCivic's Election Solutions Group will soon adopt this same application for issue management. A sample of Team Track as used by the eGovernment group is also included in *Attachment 14: Issue Resolution Log*.

(2) Describe how your complaint resolution and malfunction identification/reporting process has worked for other customers.

Hart InterCivic Response

Once a contract is signed, Hart assigns a dedicated Project Manager to work exclusively with that jurisdiction during the duration of the initial contract. Throughout the installation process, the Project Manager serves as the primary contact for any operational matters related to the project.

The Project Manager documents the complaint from the customer in detail. The Project Manager then escalates the documentation, at which time resolution approaches are discussed, or the supervisor routes the problem to the appropriate support personnel for resolution. The solution is then forwarded to the Project Manager, who in turn communicates the details to the customer.



(3) Describe the level of expertise in your organization to address complaint resolution and malfunction identification/reporting.

Hart InterCivic Response

Project Managers are professionals, skilled in complaint resolution and elections, supported by staff skilled in elections management, system engineering, logistics, and a wide range of other skills. Technicians and developers assist in all phases of malfunction identification, resolution and reporting. Help desk staff maintain constant awareness of current system issues, and immediately escalate any issue that cannot be immediately resolved.

Hart has supported elections for its entire history. Hart's professional staff includes individuals who have decades of experience supporting elections and managing and resolving customer issues. We have lived with the corporate slogan, "Never late. Never wrong," a philosophy that, we believe, aptly presents the challenge facing all elections professionals.

(4) Describe your approach to addressing multiple failures simultaneously.

Hart InterCivic Response

Preparing for the unlikely occurrence of multiple simultaneous failures is a standard part of the overall risk mitigation program associated with installation of the eSlate Electronic Voting System. Extra MBBs are burned during ballot origination, and loaded into backup JBCs. These backup JBCs may be sent out as needed, or in some larger locations, backup JBCs are delivered to the site and remain there as a backup unit for the entire voting period.

(5) Provide examples of how you have obtained complaint resolution satisfaction.

Hart InterCivic Response

Example: The Tarrant County, Texas, Project Manager was contacted for help regarding setting up a contest in BOSS to allow for all county-wide, uncontested contests to be voted on as one bloc. The county was uncertain if BOSS could accommodate this and needed suggestions on how to proceed. The Project Manager developed and tested the procedure, then traveled to the county and worked with the programmer to determine if this would meet the county's needs. The county adopted the procedure.

Example: Harris County, Texas, became concerned about voters leaving the booth before completing voting. The Harris County Election Director suggested some visible reminder, and the Hart InterCivic Project Manager developed a set of solutions including a revision of the onscreen presentation during the Ballot Summary Page. The solutions were reviewed with the customer, concurrence



obtained, and the solution implemented. Voters have expressed approval for the visibility the new design affords.

Example: Arapahoe County, Colorado, wanted to integrate results from their eSlate DRE system and their eSlate Ballot Now absentee/mail balloting system with their legacy Election Day system (another vendor). The County described the desired reporting capability to the Project Manager who, in turn, escalated the problem for review and resolution at the corporate level. Unfortunately, output data formats for the legacy Election Day system were not available to create a stand-alone, post-tally integration utility.

Hart InterCivic development engineers, however, worked directly with County personnel to create an export from the eSlate System that could be imported into the legacy system to achieve totally integrated results reporting. The entire process was tracked and coordinated by the Project Manager to insure customer requirements were clearly understood and addressed by development engineers, while customer expectations were appropriately aligned with projected outcomes. Arapahoe County was delighted with the results achieved.

53.0 DELIVERY AND ACCEPTANCE

53.1 Requirements

- a. The vendor shall deliver to the Boulder County Clerk & Recorder a small number of system components to adequately conduct an in-house preliminary test of the hardware and software immediately upon signing of the contract. This will enable the Boulder County Clerk & Recorder to begin developing procedures and gain knowledge of the new system.**

Hart InterCivic Response

Upon contract approval, Hart InterCivic will work with the Boulder County Clerks Recorder to determine the number of units required to meet the requirements of the Boulder County Clerks Recorder for testing and early training. These units will then be delivered to the Boulder County Clerks Recorder.

- b. The remainder of the system components shall be delivered beginning no later May 1, 2004 and ending no later than June 15, 2004.**

Hart InterCivic Response

Agreed. These delivery time frames have been incorporated into the project plan. See *Attachment 13: Sample Project Implementation Plan and Delivery Timeline* for the complete project schedule.



- c. **A written and mutually approved acceptance test shall be developed by the time the contract is signed. This plan will be predicated on a minimum acceptable service level (MASL) of 99.8%.**

Hart InterCivic Response

Agreed. Hart has well defined procedures for acceptance testing. Upon contract approval, we will present these to the Boulder County Clerks Recorder for concurrence, and subsequently make revisions required to ensure the acceptance and test plans meet the Boulder County Clerks Recorder's requirements.

- d. **Acceptance testing shall be completed after installation of the system, no later than June 15, 2004.**

The acceptance test will require meeting minimum criteria developed by the County. These criteria will include, but are not limited to, the achievement of specified system availability, performance and service level commitments for a period to be, determined during contract negotiation. The vendor will be required to provide a statement indicating compliance with the installation and acceptance test.

In the event the vendor fails to complete the implementation and acceptance test within the time period agreed upon, the County reserves the right to terminate the contract and draw or claim upon any bid bond performance guarantee, letter of credit, surety or other form of guarantee provided for the benefit of the County pursuant to the terms of the contract.

Hart InterCivic Response

Acknowledged. We agree to meet this requirement.

This time frame has been incorporated into the project plan. The Acceptance Test is a test of the functionality of the equipment as the customer first receives it. In performing an Acceptance Test, the customer is verifying that the equipment is in good working order.

Upon delivery of eSlate System components, the Hart Project Manager and Boulder County will schedule acceptance testing for each component. Testing will encompass all functionality of each unit and will be documented by component serial number. To facilitate this process, Hart will provide a spreadsheet with serial numbers of each component shipped. This spreadsheet will serve as a control document for acceptance testing.

The acceptance test will involve testing of each JBC and eSlate System in addition to scanners and workstations to ensure proper loading of software. An end-to-end test (round-trip test) of the Election Management Software (BOSS, Ballot Now, Tally, and Absentee Ballot System) will also be performed to verify



the system software and to provide hands-on training on the system with county officials, which will re-enforce the training they have received.

A timeline for delivery is included in *Attachment 13: Sample Project Implementation Plan and Delivery Timeline*.

53.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet these requirements? Address all requirements listed above. Include your proposed timeline for delivery of hardware and software and acceptance testing.

Hart InterCivic Response

This time frame has been incorporated into the project plan. The Acceptance Test is a test of the functionality of the equipment as the customer first receives it. In performing an Acceptance Test, the customer is verifying that the equipment is in good working order.

Upon delivery of eSlate System components, the Hart Project Manager and Boulder County will schedule acceptance testing for each component. Testing will encompass all functionality of each unit and will be documented by component serial number. To facilitate this process, Hart will provide a spreadsheet with serial numbers of each component shipped. This spreadsheet will serve as a control document for acceptance testing.

The acceptance test will involve testing of each JBC and eSlate System in addition to scanners and workstations to ensure proper loading of software. An end-to-end test (round-trip test) of the Election Management Software (BOSS, Ballot Now, Tally, and Absentee Ballot System) will also be performed to verify the system software and to provide hands-on training on the system with county officials, which will re-enforce the training they have received.

A timeline for delivery is included in Attachment 13: Sample Project Implementation Plan and Delivery Timeline.

54.0 RESEARCH AND DEVELOPMENT

The rapid development of new computer hardware (e.g. processors, display screens, storage devices), advancements in wireless communications technology and growing wireless coverage areas, requires companies that wish to remain competitive maintain a substantial R&D program.

Hart InterCivic Response



54.1 Requirement

The vendor shall have an active R&D program.

Hart InterCivic Response

Hart InterCivic has established an aggressive research and development operation supporting the eSlate Electronic Voting System. Located in the Boulder County area (Lafayette), the R&D organization includes approximately 30 software engineers, manufacturing specialists, computer scientists and others dedicated to constant improvement and innovation in the eSlate System. The eSlate System development is documented in an eSlate Solution Roadmap, updated on a regular basis in response to customer requests, changes in laws and standards, and evolving market demands.

Hart InterCivic’s engineering staff presently includes twelve full-time individuals. An additional eight managerial and administrative staff support the engineering staff. Hart InterCivic has strategic plans for growth and expansion of the R & D staff that is sales based and Hart InterCivic’s location allows it to draw on the experience-rich Denver/Boulder employment market.

Hart InterCivic also plays an active role in the ongoing development of new standards and technologies. For example, Hart InterCivic’s Vice President in charge of Engineering and Development serves as IEEE’s project manager for its voting systems standards project.

54.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Make sure to include item(s) listed below:

(1) List all items, both hardware and software, currently in R&D.

Hart InterCivic Response

Ongoing research and development is a crucial part of Hart InterCivic's operating objectives. Our vision of future capabilities is constantly validated against our experience in actual implementation, with the ultimate goal of an election system that provides counties with maximum flexibility, absolute accuracy, and end-to-end ease-of-use.. At a general level, Hart InterCivic is pursuing hardware and software projects that include:

- completion of a comprehensive usability analysis in order to identify system changes that would further enhance ease-of-use for voters, election staff, and poll workers



- increased integration with multiple voter registration systems in order to ensure rapid processing of voters at the polling place
- completion of a version of the eSlate architecture to support a voter verifiable paper ballot
- alternative mechanisms for delivering ballots to remote voters, including the appropriate and secure use of the Internet (this project relates to the activity sponsored by the Federal Voting Assistance Program described in more detail later in this response)
- expansion of the eSlate System's capability to manage data formatted in the XML Standard Interchange Format
- opportunities to achieve hardware cost reductions
- ongoing assessments of systemic implications from IEEE standards development projects
- fully integrated custom report design capability
- incorporation of wireless technologies into the eSlate architecture

Many of our development plans are considered confidential. We will be pleased to provide Boulder County with a complete briefing on future development plans for the eSlate System under conditions of non-disclosure.

(2) List all items, both hardware and software, not yet in development but being considered as a future R&D project.

Hart InterCivic Response

Long-range research and development for the eSlate electronic voting system reflects both emerging market demands and technological evolution of information systems. The high level of integration in the eSlate System reflects Hart InterCivic's design objective of creating a flexible, scalable architecture. The eSlate architecture will accommodate new vote recording devices and other features while still maintaining the underlying Cast Vote Record structure and the polling place hardware. Updates are primarily software and firmware driven. For example, Hart InterCivic is assessing the viability of wireless technology for broad deployment in election systems, integration with electronic roster books, and continued enhancements in system security and automatic verification.

As noted previously in this response, Hart InterCivic is currently the only certified election systems vendor participating in the Secure Electronic Registration and Voting Experiment of the Federal Voting Assistance Program (SERVE). Hart InterCivic is playing a key role in the selected project team, which is chaired by Accenture. Hart's primary role focuses on integration with local election offices, a key objective of the SERVE project. SERVE is a significant example of a



program that will drive future voting systems as well as Hart InterCivic future research agenda.

Hart InterCivic is also closely monitoring developments relating to implementation of the Help America Vote Act. A technical liaison has been established with the National Institute of Standards and Technology who will oversee implementation of the technical advisory panels under provisions of the Act, as well as manage the definition of research and development projects and pilot project. Furthermore, Hart InterCivic's Vice President in charge of Engineering and Development has been named project manager for the standards development initiative sponsored by the IEEE.

(3) List all new items that will be released and available to your customers within the next six months.

Hart InterCivic Response

Hart InterCivic has begun submitting eSlate System 3.0 for NASED certification. System 3.0 will expand the multilingual capability, and provide enhancements in ballot formatting flexibility, data archiving, ballot verification, Ballot Now (by-mail balloting) imaging processes, and report formatting.

Version 3.1 of the eSlate System is planned for release later this year, including features that simplify the management of multi-party primaries.

(4) List all new items that will be released and available to your customers within the next 12 months.

Hart InterCivic Response

Over the next 12 months, Hart InterCivic anticipates submission of additional system upgrades for certification. System roadmaps for Versions 3.2 and 3.3 of the eSlate system include enhanced functionality in several areas, including ballot template definition, usability features based on a comprehensive usability evaluation, expanded rotation options, additional vote recording options, support for instant runoff voting, increased warehousing and system reset efficiencies, enhanced memory capabilities and enhancements to remote results transmission and reporting.

55.0 ELECTRONIC ROSTER (POLL BOOKS)

In conjunction with Provisional Balloting and emergency registration the need for an electronic poll roster is becoming more important.

55.1 Requirement

Vendor shall provide the option of a viable electronic roster solution for use at the polls on Election Day before the August 2004 Colorado Primary



Election, if not sooner. It is our preference that the DRE device used at the polls for voting also support the e-roster function. If the device is utilized as the e-roster, no ballots will be cast on this device. However, in addition to its e-roster functions, it should perform other functions necessary to operate the polls efficiently.

Per Addendum 1:

“At this time, we would require a static data file of the poll book available to each polling place on Election Day, updated with the latest information to show who had voted early or absentee. However, we will need the capability in the near future, if the election law is changed, to require access to real-time poll books from the polling places. In your RFP response, we would like to know:

- a. Is a real-time poll book feasible, either now or in the future? We would have requirements or supplying connectivity to polling place located in mountain areas, where direct-wired connection may not be available.**
- b. What is your estimate of the cost to implement a real-time poll book?**

Hart InterCivic Response

A real-time poll book is feasible.

Hart InterCivic is prepared to offer Boulder County an electronic poll book. The deployment of this solution can take many forms depending on the needs of Boulder County. In its simplest form, a Personal Digital Assistant (PDA), handheld barcode reader with onboard microprocessor or notebook computer loaded with a static data file would be deployed to each polling location. We are assuming for the purpose of this response that that the County would provide a static data file conforming to a file specification that we would provide Boulder County will provide a static data file in a format we will provide.

Real-time functionality is dependent upon networking, whether it is wired or wireless, and the limitations imposed by service availability. The mountainous terrain of Boulder County will add to the complexity but will not prohibit this capability. The continuing improvement of wireless networking may very well offer the best solution for the real-time update of voter registration data. At this time Hart InterCivic proposes \$300,000 to \$600,000 depending on the hardware that Boulder County chooses.

55.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------



b. How do you propose to meet this requirement?

Hart InterCivic Response

See response under the requirements, above.

56.0 RECOUNT

56.1 Requirement

The proposed system must be able to meet or exceed the state-mandated requirements for recounting election results, as well as:

a. provide a paper audit trail of votes cast during the original count

Hart InterCivic Response

The eSlate System can provide a paper trail for every vote cast on the system.

For early voting or Election Day voting on the eSlate DRE , when the voter selects “Cast Ballot”, a Cast Vote Record is stored on the MBB and separately on the JBC. For absentee/mail ballots, Cast Vote Records of the scanned and resolved Ballot Now ballots are also saved to an MBB. At the close of voting, the MBBs are read by the Tally application for tabulation and results reporting.

Following Election Day, data and equipment management is managed through the SERVO software component of the eSlate System. SERVO is used to back up the duplicate original Cast Vote Records and audit logs from eSlates and JBCs used in an election. If needed, the backed-up data can then be used to print the Cast Vote Records, to verify the MBB-generated tabulation results, and to provide reports on cast vote records, audit logs, and equipment used for the election.

Separately, each component of the eSlate System creates a complete audit log of all actions that affect it. At the polling place, each individual eSlate unit maintains an audit log, and an audit log for the polling place is maintained on the Judge’s Booth Controller.

b. provide an audit trail for any votes counted subsequent to the original count

Hart InterCivic Response

Any votes counted subsequent to the original count are clearly identifiable in the System’s audit trail.

A complete, electronic recount of an election is easily accomplished with the eSlate System by re-reading each MBB for the specified election into a “fresh” Tally database. This process duplicates the process as for the original tabulation, and provides the same results reports, audit trails, and back-up options.



This meets the requirements pertaining to recounts as noted in Section 1-10.5-110 of the Colorado Election Code:

- Include early voting, Election Day, and Election Day emergency voting
- Provide results reporting
- Use electronic ballot images as stored on the units' removable memory devices
- Not rely on incremental or summary records from individual DRE units
- Provide a means to archive the original results
- Not require any original election data or results to be destroyed in order to perform the recount
- Allow for the recovery of data from removable devices that may have been destroyed or lost.

56.2 Proposer's Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement?

Per Addendum 1:

Address all requirements listed above, making sure to include item(s) listed below:

(1) Describe the recount process for optical scan (absentee/mail) ballots.

Hart InterCivic Response

Optical scan ballots (Absentee/Mail/Provisional) can be recounted from their original paper ballots or through the eSlate Tally and SERVO processes described below.

(2) Describe the recount process for ballots cast using a DRE.

Hart InterCivic Response

A complete, electronic recount of an election is easily accomplished with the eSlate System by re-reading each MBB for the specified election into a "fresh" Tally database. This process duplicates the process used in the original tabulation, and provides the same results reports, audit trails, and back-up options.

This meets the requirements pertaining to recounts as noted in Section 1-10.5-110 of the Colorado Election Code:



- Include early voting, Election Day, and Election Day emergency voting
- Provide results reporting
- Use electronic ballot images as stored on the units' removable memory devices
- Not rely on incremental or summary records from individual DRE units
- Provide a means to archive the original results
- Not require any original election data or results to be destroyed in order to perform the recount
- Allow for the recovery of data from removable devices that may have been destroyed or lost.

Another option is a manual recount. To accomplish a manual recount, Cast Vote Records may be extracted from the eSlate and/or Judge's Booth Controller and viewed electronically. They also may be printed to reconstruct the election and count votes ballot-by-ballot. The random manner in which individual Cast Vote Records are recorded at the time each vote is cast allows this detailed reconstruction to be accomplished while maintaining complete voter anonymity.

Finally, the combination of the eSlate's architecture, triplicate original process, and SERVO application provide an additional, and powerful, recount alternative. SERVO uses the triple redundancy features of the eSlate Electronic Voting System to their fullest advantage. Election results are initially generated from the direct reading of MBBs into Tally. SERVO generated recount data from the JBC and eSlate memories can be used to compare against the MBB results, creating a distributed, closed-loop process that provides redundant cross verification of election results. This makes the ability to recount election results a seamless option for every election cycle, increasing system reliability and security.

(3) List any additional equipment required or recommended for a recount, e.g., stacker/feeder units to count several optical scan ballots at a time, how many additional optical scan readers could be added, etc.

Boulder County has indicated in the RFP and the Addendum that a recount situation could include the requirement to scan as many as 200,000 ballots in a 12- hour period. To meet this need, Hart's proposed solution includes a total of three Ballot Now scanning stations. Additional stations can be added if the County desires.

(4) List any additional costs associated with conducting a recount, including the cost of additional equipment.

The only additional cost in terms of the eSlate System is for the additional Ballot Now scanning stations. Three stations are included in this proposal, providing



sufficient capacity to meet the volume specified in the RFP. All costs are included in the pricing schedules included with this response.

Any costs associated with the conduct of the recount, such as staff salary, use of facilities, utilities, etc., would be determined by the County.

57.0 QUALIFICATIONS AND EXPERIENCE

57.1 Requirement

- a. The vendor shall be qualified and capable of providing a system that will satisfactorily serve the voters in Boulder County.**

Hart InterCivic Response

Hart InterCivic's capability to meet this requirement is clearly indicated by the history of successful eSlate implementations. We encourage Boulder County to confirm the capabilities of Hart InterCivic and the eSlate System by contacting our references.

- b. The vendor shall assign qualified and capable staff in adequate numbers to ensure success of this project. &&**

Hart InterCivic Response

The Hart Team consists of highly experienced staff who have the expertise and training to ensure that the Boulder County Project is successful.

Hart InterCivic has identified an excellent team of professionals to support the Boulder County project. Resumes for key project staff are provided as *Attachment 17: Resumes of Key Personnel*. The following staff members will be engaged full or part time on the Boulder County Project during various periods of the implementation phase and in close proximity to actual elections.

The Account Manager will be Linda Funkhouser Herod. Ms. Herod came to Hart InterCivic in 2001 after more than fourteen years with Tarrant County, Texas, Elections Administration. During her tenure, she was responsible for coordinating early voting in-person and by-mail, managing Central Counting Station functions, supervising tabulation and accumulation, and assisting with voter registration and other elections administration duties.

In 1995, Ms. Herod earned the election profession's highest designation of Certified Elections/Registration Administrator (CERA). The experience of sharing in the development and writing of the *Code of Ethics for the Elections Profession*, under the direction of The Election Center in 1997, is among her proudest professional achievements.



Since joining the Hart Election Solutions team, Ms. Herod managed full installation of the eSlate Early Voting and Ballot Now Absentee Voting systems in Arapahoe County, Colorado, assisted with installation and implementation of the Tarrant County, Texas Early Voting eSlate system and provided support during the Harris County, Texas, eSlate installation. Other responsibilities were the administration of the Arapahoe County, Colorado, 2002 Primary Election, the City of Sheridan, Colorado, all by-mail election, binding elections for the Town of Superior, Colorado, and the City of Glendale, Colorado, and a joint election in Pierce County, Washington, (Tacoma) for the county transit authority, two cities, fifteen school districts and one library district. In addition she provided support for the Democratic and Republican primary elections in Tarrant and Harris Counties in Texas and Forsyth County, North Carolina.

Michelle Shafer will manage the voter education and outreach program.. Ms. Shafer has been with Hart for six years, and designed and implemented the award-winning voter education program for Harris County, Texas, and manages Hart InterCivic’s voter education staff and network of communications partners. Ms. Shafer brings extensive experience in marketing and communications.

Scott Flom will serve as the Project Corporate Liaison, responsible for executive level oversight of the project and management of issues that require escalation. Mr. Flom has more than 15 years of management experience in developing and supporting election and information technology solutions. He is currently responsible for all areas of the Hart InterCivic eSlate Electronic Voting System, including product implementation, project management, training, and customer support.

Travis Harrell will support Testing and Quality Assurance. Mr. Harrell is Manager of Professional Services for Hart InterCivic's Election Solutions Group. He manages professional services personnel supporting Hart InterCivic election customers across the U.S. He previously served as the Operations Manager and Director of Customer Service for Hart's eGovernment Solutions Group, where he directed the implementation of Hart Workflow solutions in five states. His responsibilities included project planning, project management,

57.2 Proposer’s Response

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

b. How do you propose to meet this requirement? Make sure to include item(s) listed below:

(1) Describe your qualifications and unique capabilities. Why are you better than your competitors?



Hart InterCivic Response

Hart InterCivic has extensive knowledge and experience in the elections industry and in implementing large, complex, high profile systems for county, state, and federal governments. We are aware of, and experienced in, the design and execution of highly visible and complex projects that must be successfully completed in the public view. We know that Boulder County is buying more than voting machines – you are buying the assurance that with this system and the supporting services Hart InterCivic delivers, Boulder County elections will be accurate, efficient, and secure. We know the importance of “never late, never wrong” in the conduct of the electoral process.

Hart InterCivic has provided election products and services to hundreds of counties and thousands of other government and private sector customers nationwide and has supported every major election system on the market today. Hart’s solid reputation for customer satisfaction and business integrity has been built through nearly a century of quality service to county government.

Hart has been a supplier of ballots and other election products since 1912, has sold and supported optical scan voting equipment to over 200 counties, and has provided turnkey election services in multiple states, including ballot formatting and generation, polling place set-up, pre-Election Day and Election Day equipment support (including multi-county Election Day Support Command Centers), tabulation room management, integration of multiple voting systems, and much more.

Hart InterCivic’s development organization maintains an active involvement in national standards initiatives in order to ensure a thorough understanding of changing requirements and emerging trends. Hart also monitors election law changes at the state and local levels where the eSlate Electronic Voting System is certified, as well as continuing communication with election officials at eSlate installations. Hart InterCivic’s Vice President of Engineering and Development serves as Project Manager of the IEEE Voting Systems Standards Project.

Hart InterCivic is also closely monitoring developments relating to implementation of the Help America Vote Act. A technical liaison has been established with the National Institute of Standards and Technology who will oversee implementation of the technical advisory panels under provisions of the Act, as well as manage the definition of research and development projects and pilot project.

Another example of Hart InterCivic's ongoing involvement in emerging standards activities is our participation in the Secure Electronic Registration and Voting Experiment (SERVE) being conducted by the Federal Voting Assistance Project. Hart InterCivic is the only certified election system vendor on the team selected to help implement this important initiative.



SERVE will develop and implement new technology permitting U.S. citizens who live overseas, military and nonmilitary, to exercise their right to vote. In addition, the SERVE project may potentially represent a significant driver of future voting technology for the broader population. Hart InterCivic's involvement in the SERVE project will assure that we are at the forefront as the use of this technology develops.

Hart InterCivic's commitment to the election process is evident in its efforts to provide access to **all** voters. Hart InterCivic has worked with organizations such as the National Federation of the Blind, the National Organization on Disabilities, and the American Association of People with Disabilities to obtain input and guidance regarding the accessibility features of the eSlate System. A result of this research and collaboration is the eSlate being rated as the highest ranked voting system in terms of accessibility in the November 2002 issue of *AccessWorld* Magazine, based on a review of voting systems by the American Foundation for the Blind Technology and Employment Center.

Hart InterCivic is an active participant in the leading organizations that serve the election industry, including the Election Center, the National Association of County recorders, Elections Officials and Clerks (NACRC), International Association of Clerks, Recorders, Elections Officials, and Treasurers (IACREOT), the National Association of Secretaries of State, and others.

Hart InterCivic is committed to delivering the highest quality systems, evidenced by eSlate's prestigious ISO-9001 certifications. The ISO certification of quality applies to the design and development of the eSlate System's software components, BOSS, TALLY, Ballot Now, and SERVO as well as to the eSlate hardware components: eSlate 3000, DAU 5000, and JBC 1000.

Finally, Hart InterCivic believes that integrity and ethics are essential characteristics of an election systems partner. That's why we are proud to have been honored by the Samaritan Center with the 2002 Ethics in Business Award.

(2) Describe in detail your prior experience and past performance that is relevant to this project.

Hart InterCivic Response

Since introducing the unique eSlate electronic voting solution in 2000, Hart InterCivic has sold nearly 20,000 eSlate units to jurisdictions totaling 4,000 precincts and more than 5 million registered voters. In November 2002, more than one million voters cast ballots on the eSlate System. eSlate customers include Arapahoe (Greater Denver) County, Colorado; Brazos (Bryan/College Station) County, Texas, Travis County (Austin), Texas; Tarrant (Fort Worth) County, Texas; and Harris (Houston) County, Texas, as well as the City of Charlottesville. The City of Philadelphia recently acquired the Ballot Now application for absentee/mail voting, to supplement its existing polling place system.



Hart InterCivic's experience and expertise is evident in the company's work with all counties, most notably in Harris County (Houston), Texas, the nation's third largest county with 1,800,000 voters in 884 precincts. In the November 2002 General Election, Hart InterCivic successfully completed, on-time and on-budget, the implementation of the eSlate Electronic Voting System for Harris County, representing the largest county in the nation to fully convert to an electronic voting system. The Harris County project included:

- 8,170 eSlate and DAU units and voting booths;
- Early Voting, Election Day precincts, Ballot Now absentee ballots;
- Election Management System (BOSS and Tally software);
- Integration with the VEMACS voter registration system; and
- Design and management of a nationally recognized Voter Education and Outreach program.

This success is built on nearly a century of service to county governments throughout the nation, provide the full range of election support serves necessary to ensure election success.

(3) Submit customer references, if available.

Hart InterCivic Response

Detailed customer references and letter from Hart InterCivic customers are presented in *Attachment 15: References/Letters of References*. Exhibit IV-27, on the next page, presents some of the testimonials our customers and others have provided.



Here's what others are saying about the eSlate System...

- ✓ “We selected the eSlate System because we believed it was the best system on the market, and our experience in [the November, 2002] election confirmed our decision. We also were impressed by Hart InterCivic’s service, support and training, and throughout the months of care implementation, Hart InterCivic always met or exceeded our expectations.” Beverly Kaufman, Harris County Clerk and Chief Election Official.
- ✓ “Our election judges and poll workers were delighted with how simple the eSlate System is to set up at the polling place and manage throughout the voting process. Voters were enthusiastic, and Hart’s support throughout the process, including final count and reporting, was exceptional.” Dana DeBeauvoir, Travis County Clerk and Chief Election Official.
- ✓ “During Early Voting, the eSlate performed flawlessly. Voters and poll workers consistently expressed strong support for the new system. Visually impaired and other special needs voters were particularly vocal in their endorsement of the system.” Robert Parten, Tarrant County elections Administrator.
- ✓ “We have been very pleased with the eSlate System and the service and support provided by Hart InterCivic. We would favorably recommend the system to other counties considering such purchase.” Harris County Judge Robert Eckels.
- ✓ “...we do rate the eSlate as the best machine we looked at. It scored highest in overall usability and our testers liked the easy to use linear ballot and the fact that audio and visual voting can be used simultaneously. We also found the eSlate to have the highest level of cross-disability access.” AccessWorld Magazine, November 2002.
- ✓ “The data [from exit polls conducted during the November 2002 Harris County elections] show a very positive reaction from voters in the field, across all demographic groupings.” Dr. Richard Murray, The Center for Public Policy, The University of Houston.
- ✓ **“No troubles were reported in the nation's largest county to go all-electronic: Harris County, Texas, which includes Houston.” Associated Press, 11-05-02, in an article discussing electronic voting system use in November 2002.**

Exhibit IV-27: Comments from eSlate Customers and Others. The eSlate has received strong support and positive comments from customers and others who have worked with Hart InterCivic in eSlate installations and tests.



(4) Identify all key project staff, qualifications, their roles and time they will be committed to the project.

Hart InterCivic Response

A project organization chart is presented as *Attachment 16: Boulder County Project Team Organization Chart*. Resumes for key project staff are provided as *Attachment 17: Resumes of Key Personnel*.

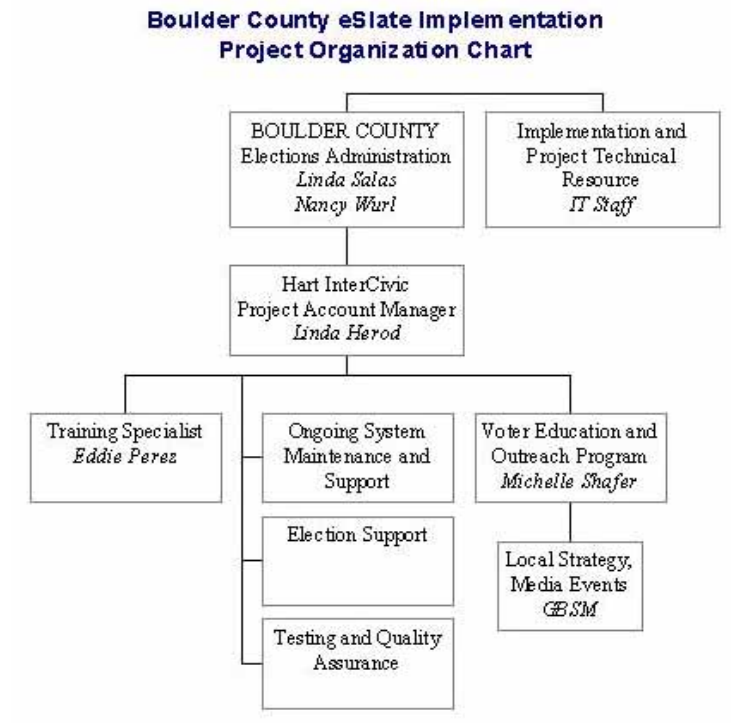


Exhibit IV-28: Boulder County Project Team Organizational Chart

(5) The vendor shall attach a copy of its most recent financial statements, with the name address and telephone of a contact within the organization.

Hart InterCivic Response

Hart InterCivic is a privately held company and does not publicly release financial statements. A copy of Hart InterCivic’s most recent financial statements is included with the original proposal in a separate envelope marked *Confidential*.



58.0 PERFORMANCE BOND AND INSURANCE

58.1 Requirement

- a. A performance bond in the amount of 100% of the contract price will be required from awarded vendor**

Hart InterCivic Response

Hart InterCivic understands, and if selected, will comply with this requirement.

- b. Minimum insurance requirements, listed in attached sample contract will be required**

Hart InterCivic Response

Hart InterCivic meets and exceeds all insurance requirements with the exception of Sample Contract item 9.f., Pollution Liability. The work performed under this contract would not involve pollution risk, so this requirement is not applicable.

58.2 Proposer's Response:

a. Will you meet these requirements?	Yes	X	No
---	------------	----------	-----------

Hart InterCivic Response

Hart InterCivic acknowledges and will meet these requirements.