City and County of San Francisco

Request for Proposals for

Preparing a Business Case for Developing an Accessible, Open Source Voting System

REG RFP #2017-01

Schedule	
Proposal Phase	**Date**
RFP is advertised and issued by the Office of Contract Administration	May 22, 2017
Deadline for submission of written questions or requests for clarification	June 5, 2017
Proposals due	July 12, 2017

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Appendices:

A. Contracts Monitoring Division (CMD) Attachment 2: Requirements of Architecture, Engineering and Professional Service Contracts, for contracts $50,000 and over document (separate document).

Proposers must submit the following Forms 2A, 3, and 5. Proposers must submit Form 4 only if applicable.
   1.   Form 2A: CMD Contract Participation form
   2.   Form 3: CMD Non-discrimination Affidavit
   3.   Form 5: CMD Employment form
   4.   Form 4: Joint Venture Participation Schedule, only if applicable
   5.   Form 5: CMD Employment Form

B. Standard Forms: Listing and Internet addresses of Forms related to B-1 Taxpayer Identification Number and Certification, to Business Tax Declaration, and to Chapters 12B and 12C, and 14B of the S.F. Administrative Code.

C. Agreement for Professional Services (Form P-600), separate document

D. Fee Worksheet (Appendix E), separate document

E. Minimum Qualifications Worksheet

Request for Proposals for Contractor to Prepare a Business Case for Developing an Accessible, Open Source Voting System

I.   Introduction and Schedule
A.   General

The City and County of San Francisco (City) is considering the feasibility of its options for developing a highly accessible, open source voting system (System), and the costs and time frames associated with those options. A System must support the City in conducting ranked-choice voting elections in multiple languages: English, Chinese, Spanish, and Filipino.

To identify the options available to the City in developing the System, the City's Department of Elections (Department) is issuing this request for proposals (RFP) from individuals or firms (Contractors) who are qualified to prepare a business case to inform the City of its options and the associated costs and timelines. Further, the business case must consider post-development matters as well.

The Contractor must complete the business case by January 26, 2018, for review by the Mayor's Office and the Committee on Information Technology (COIT), which will inform the City's next steps regarding possibly developing a System.

As described in greater detail in Section II, "Scope of Work," the City is seeking proposals intended to provide the City with strategic, financial, technical, and transactional advisory services that analyze the City's options for developing, certifying, and implementing an accessible, open source voting system which also incorporates the highest possible levels of accuracy, transparency, security, and auditability.

The Contractor's assessment will extend beyond the City's options to develop a System, but also will assess the requirements associated with maintaining the System after an initial implementation. For instance, the business case must contemplate that the System will require ongoing development due to changes in law, election processes, or other factors such as voters' user preferences. Additionally, the business case must also provide an assessment and options for reviewing the System's functions after initial implementation occurs, including the testing and maintenance of the System during non-election periods.

The City is seeking a Contractor with a record of success in advising public entities on large, multi-phase, multi-year, technical development projects. Respondents must demonstrate whether they have successfully advised agencies previously on various project options of the size, type, and level of complexity similar to those associated with this System.

The City desires that the Contractor has experience in developing, implementing, or supporting the use of voting systems and voting equipment, including their maintenance, testing, and upgrading, as well as having experience in software development. Such experience will inform the Contractor's preparation of the business case for providing detail on the costs and timelines associated with the City possibly developing its own accessible, open source voting system.

The City anticipates that any project to develop an accessible open source voting system will require several phases. The City considers Phase 1 to be the preparation and completion of the business case, and expects the business case to inform the City on possible additional phases necessary to develop an open source voting system.

Any Contractor who prepares or assists in preparing the business case described in this RFP will not be eligible to perform subsequent services for the City in relation to the possible development of an accessible, open source voting system.

B.   Principles
The City expects the business case to apply the following principles associated with the possible development of a System while assessing the City's options. The Contractor may consider and apply additional principles while preparing the business case.

1. **Accessible:** A System must comply with all accessibility standards applicable to the use of voting equipment and election processes specifically, and technical equipment generally. Any System the City develops must provide all voters with access to voting in an independent and private manner in accordance with sections 504 and 508 of the Rehabilitation Act of 1973, the Help America Vote Act, and the most recent version of the Voluntary Voting System Guidelines (VVSG).
2. **Accurate:** A System will incorporate methods to verify the accuracy of the System's transactions, including the counting of votes cast, and include methods that verify the System's accuracy that the public can easily access and understand.
3. **Auditable:** A System must have the capability to provide information on each of its transactions so that each transaction can be evaluated and that all transactions are verifiable. The System must also allow for the highest levels of after-election auditing of vote tabulation.
4. **Commercial off-the-shelf (COTS) hardware**: The design of a System would allow for the City to utilize COTS hardware components rather than build System-specific hardware.
5. **Cost Efficient:** The design of a System will purposely minimize the City's costs and risks to develop, certify, implement, maintain, and improve a System and its individual components, not only in comparison to other certified voting systems but also in comparison to other large technical projects.
6. **Modular:** A System's preferred design will be based on discrete, integrated components that are individually whole and functioning. This design approach will facilitate a System being more easily adaptable to new functionalities due to changes in law, voter requests for new features, etc.
7. **Multiple Languages:** A System must support the formatting, production, and tabulation of ballots in multiple languages: English, Chinese, Spanish, and Filipino, and seamlessly support additional languages.
8. **Ranked-Choice Voting:** A System must support conducting ranked-choice voting elections as stipulated in City Charter section 13.102.
9. **Secure:** A System must incorporate methods to protect it from security threats and provide indications when possible attacks have occurred.

10. **System Software Accessibility:**
    a. **Open Source Software:** The City intends to use software that would be open source and would be placed onto an accessible Internet site for anyone in the public to review, beginning with the earliest instances of development and continuing until development is completed.
    b. **Version 3, GNU General Public License:** The City prefers that a System utilize software using the GNU Public License, version 3. When considering existing software to incorporate into the System, the City would select software that provides other users the greatest access to view, modify, and use a System's software code.
    c. **Copyleft:** The City prefers that any potential System's open source software would apply copyleft characteristics so that anyone would be permitted to freely use and change the System's software but on the condition that all subsequent uses and changes would also apply copyleft permissions.
11. **Transparent:** A System will provide the public with the information and tools necessary to verify that the System operates as expected and in a manner free from defects or manipulation. System software will be posted in a manner that allows members of the public or other jurisdictions to build or reconstruct the System, and to enable a non-City entity to provide services to support the System.
12. **Usable:** A System must anticipate how users will interact with the equipment and election processes and determine designs and procedures that will establish best practices and strategies that facilitate the System's users to effectively interact with the System.

C.   **Additional Information:**

1.   San Francisco Board of Supervisors, Resolution #460-14.

   http://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/resolutions14/r0460-14.pdf

2.   San Francisco Elections Commission, Resolution from November 18, 2015.

   http://sfgov.org/electionscommission/sites/default/files/Documents/Miscellaneous/Elections_Comm_Open_Source_Voting_Res.pdf

3.   San Francisco Department of Elections, Request for Information and Associated Responses.

   http://sfgov.org/elections/request-information-rfi-new-voting-system

4.   San Francisco Department of Elections, Presentation to the Committee on Information Technology, pages 43 – 48.

   http://sfcoit.org/sites/default/files/Subcommittee%20Presentation%2004_01_2016.pdf

5. San Francisco Voting Systems Task Force, Recommendations, 2011.

   http://sfgov.org/ccsfgsa/voting-systems-task-force

6. San Francisco Local Agency Formation Commission, Report from October 23, 2015.

   http://sfgov.org/electionscommission/sites/default/files/Documents/Miscellaneous/Elections_Comm_Open_Source_Voting_Res.pdf

7. Los Angeles County Voting Systems Assessment Project.

   https://www.lavote.net/vsap/about

8. Request for Information for Voting Systems Assessment Project, RFI #17-001, County of Los Angeles, Registrar-Recorder/County Clerk – Contracts Section.

   http://vsap.lavote.net/wp-content/uploads/2017/04/RFI-ISD.pdf

9. Travis County, Texas, STAR-Vote System, Statement of Intent and Request for Proposals.

   http://sfgov.org/electionscommission/sites/default/files/Documents/meetings/2017/2017-02-15-commission/STAR-Vote%20Statement%20of%20Intent.pdf

   http://sfgov.org/electionscommission/sites/default/files/Documents/meetings/2017/2017-02-15-commission/RFP_STAR-Vote_Unofficial_Copy.pdf

10. U.S. Election Assistance Commission, Voluntary Voting System Guidelines.

    https://www.eac.gov/voting-equipment/voluntary-voting-system-guidelines/

11. California Secretary of State, Website page regarding voting systems.

    http://www.sos.ca.gov/elections/voting-systems/

12. Section 504, Rehabilitation Act of 1973.

    https://www.dol.gov/oasam/regs/statutes/sec504.htm

13. Section 508, Rehabilitation Act of 1973.

    https://www.dol.gov/oasam/regs/statutes/sec508.htm

14. 2002 Help America Vote Act (HAVA).

    https://www.eac.gov/assets/1/6/HAVA41.PDF

15. California Elections Code.

https://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=ELEC

16. San Francisco Charter Section 13.102, Ranked-Choice Voting.

http://library.amlegal.com/nxt/gateway.dll/California/charter_sf/charter?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca$anc=JD_Charter

17. San Francisco Municipal Elections Code.

http://library.amlegal.com/nxt/gateway.dll/California/elections/municipalelectionscode?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca$sync=1

D. **Schedule**
The anticipated schedule for selecting a Contractor is shown below:

Proposal Phase	Date
a. The City advertises and issues this RFP.	May 22, 2017
b. Deadline for submission of written questions or requests for clarification.	June 5, 2017 5 p.m., PDT
c. Proposals due.	July 12, 2017 5 p.m., PDT
d. Oral interview with proposers selected for further consideration	TBD

II. Scope of Work
A. Description of the Scope of Work

The City's current voting system is nearing end of life and the City is preparing to possibly lease a replacement system in the short term, and is considering developing its own voting system in the long term. Before possibly developing its own accessible, open source voting system, the City must understand the tasks, related costs, and timelines relevant to assessing the feasibility of any development options.

The City must also understand the tasks, costs, and time required to implement and support a System after development phases are completed. For instance, before the City could implement a System, it must be approved by the Secretary of State for use in California, which will require the development of detailed use procedures. Another example is a System's software and firmware will require modifications after implementation, which would then require again seeking approval from the Secretary of State to use the System.

Thus, the Contractor's responsibility will be to prepare a business case that evaluates the feasibility of the City's options to potentially develop an accessible, open source voting system, and which addresses post-development matters as well. The business case will consider the City's options to develop a System as one large project, or to undertake an agile approach to incrementally develop and integrate components of a System. Further, among the options assessed in the business case, the Contractor must assess the development of a System using version 3 of the GNU General Public License when possible, or similar licenses with copyleft characteristics.

A System would need to incorporate the highest possible levels of usability and accessibility features and functions, and incorporate the highest possible levels of accuracy, transparency, security, and auditability.

Not only shall the business case inform the City of its options to build a System, but also must inform subsequent steps required to develop a System or its individual components. The business case will provide an assessment of the City's options in a manner that facilitates the City using content from the business case for possibly developing and issuing subsequent Requests for Information, Requests for Qualifications, or Requests for Proposals.

When considering the City's options, the business case must include information and recommendations regarding which components of a System the City could develop initially, and which components could follow this initial development. When identifying components, the business case must recommend whether the City should specify in detail the design specifications for any component. Conversely, the business case must consider whether the City should instead state the purpose of the components and then allow for the development of the components according to a bidder's expertise and experiences.

The business case must evaluate the manner by which the City can ascertain whether different components will work together when developed, and methods that the City can utilize to determine that components are being developed according to specifications or a bidder's designs.

At the conclusion of Phase 1, the City will consider possible subsequent phases to develop an open source voting system.

B. Deadline for Submitting Business Case
1. A final draft of the business case must be submitted to the Department no later than January 26, 2018.
2. The final draft of the business case will consider all of the items listed in this Scope of Work, which includes sections II. D., E., F., and G. of this RFP.
3. The Contractor will provide the final draft of the business case in an electronic format.

C. Monitoring Progress
1. Monthly, the Contractor will provide the City written updates, in an electronic format, that describe the Contractor's progress in relation to the Contractor's project plan.
2. The City will evaluate these monthly updates in consideration of whether the Contractor will successfully complete the project.

D. Consideration of High Level Issues.
1. The feasibility of the City developing its own highly accessible, open source voting system, and the costs and time frames associated with each possible development option.
2. The available options, strategies, and development approaches that the City may utilize to develop a System.
3. An implementation schedule that corresponds to each option, strategy, and development approach presented in the business case.
4. A description of the potential challenges the City will encounter, including, but not limited to, the following matters:
   a. During development of the software.
   b. When identifying a System's hardware.
   c. When testing a System and its components during development and before, during, and after an election.
   d. Applying to the Secretary of State's Office for approval to use a System.
   e. Implementing a System into the Department's operations as well as implementing a System for voters to use.
   f. Maintaining a System before, during, and after an election, including during storage.
   g. Supporting a System's functioning on Election Day and during an election cycle.
5. An assessment of risk profiles associated with adopting any of the City's options or combination of options for developing a System, including the risks if set timelines for development are unmet.

6. Consideration of whether the City owning the rights to all, part, or none of the software or a combination of these approaches is best, including having a separate entity own all or part of the software.
7. The methods the City can utilize to identify and attract qualified contractors to develop a System, and the methods the City can use to monitor and evaluate any contractor developing the System.
8. A determination on whether the City would develop a System by its individual components, and, if so, determine the order by which the City would need to develop such components or if components can be developed in parallel.
9. The number of development phases that will be required for each option and whether the phases must be developed in a set order or can be developed simultaneously.
10. Whether the City would need to identify one contractor to develop a System or if multiple contractors could participate in development, and, an estimated number of firms that could contribute to developing a System.
11. Whether the City can utilize agile development methods within the City's customary procurement policies.
12. The methods the City may follow to ensure a System does not infringe on existing patents or intellectual property rights.
13. The methods the City can utilize during a subsequent planning phase to identify and collect a System's requirements.
14. Whether incorporating ranked-choice voting functionalities in accordance with City Charter section 13.102 would need to be considered as a separate component when developing a System.
15. Whether there are limits to the types and quantity of language-related services and functionalities a System can provide and whether developing functionalities associated with language services ought to be considered as a separated component of a System.
16. At what points in developing the software and identifying the hardware should a System's functionalities to provide accessible services be considered, and whether developing functionalities associated with accessibility ought to be considered as a separate component of a System.
17. A consideration of how the City can identify and evaluate potential Contractors (e.g. holding a competition, requesting the development of prototypes).
18. How and whether the City can develop a System to ensure the System is secure and able to respond to security issues if they arise.

E. **Consideration of Development Phase Issues.**
1. The manner of incorporating preventative maintenance between election cycles of both the software and hardware as a specification to apply when developing a System.
2. The steps required for the City to complete and then submit an application for review and approval by the California Secretary of State for use of a System's software and hardware and for approval related to subsequent changes to a System's software or hardware.
3. The possible challenges that may occur when applying for the Secretary of State's review of the System for approval and whether any related challenges might impact the development and implementation of a System or any of its components.

4. Whether the available options allow for dividing System development into components.
5. The methods the City can implement to address public responses to the posted software code for matters such as deficiencies, incorrectness, requests to contribute, etc., and how to manage such interactions over time.
6. The possible approaches to addressing issues found during the certification process such as should the contractor responsible fix the issues or should the City have a separate contractor review the issues and cure them.
7. The areas or points in development that might cause cost overruns and delays which would result in missing established development deadlines.
8. The criteria the City must develop to identify the best hardware components to include with a System and ensure that the software development allows for providing voters with hardware that facilitates the highest levels of accessibility and usability.
9. The approaches during development to follow to ensure System integrity and security during the entirety of a System's use and whether System integrity and security would need to be developed as separate components of a System rather than developed as an element of the overall design.
10. The feasibility of collaborating with other jurisdictions or entities.
11. The feasibility of incorporating technology or software developed by another jurisdiction or entity.

F. Consideration of Post Development Phase Issues.
1. The City's responsibilities for maintaining any licenses associated with a System, including any costs associated with maintaining the original open source, copyleft license.
2. The methods or approaches to implement a System, such as implementing a System in its entirety citywide in all polling places, implementing a System or components or modules of a System in some polling places as part of a pilot program for public use of a System, pilot-testing a System, etc.
3. The storage, maintenance, transport, and upgrading of a System between and during election cycles.
4. Obtaining approval for use of a System from the Secretary of State after the City modifies or upgrades any of the System's components.
5. The level of training necessary for Department personnel, poll workers, and users relevant to a System's operation, maintenance, transport, and repair during Election Day.

G. Consideration of the following Issues regarding Costs.
1. The long-term total cost of ownership of a System under various options.
2. Assessments of the costs the City can expect in relation to the available options during the various terms of a System's lifecycle:
   a. Assessing criteria for a System and its components.
   b. Developing software and firmware.
   c. Identifying or developing a System's hardware to operate with the software developed for a System.

    d. Costs associated with applying for and obtaining the Secretary of State's approval to use the System.

    e. Manufacturing costs for any non-COTS components.

    f. Testing methods necessary for the System's software and hardware components during the development phase as required under each available option.

    g. Implementing a System into the Department's operations, including training poll workers and City personnel, preparing use procedures, changing existing processes to accommodate a new System, etc.

    h. Costs associated with updating a System's software and hardware due to changes in law, the Department's operations, and voters' preferences.

  3. Consideration of costs if the City were to partner with other jurisdictions to develop a System, which must include a review of how such partnerships could occur in practice, and the manner by which each jurisdiction would have input into the development of a System.

  4. Partnering with non-profit or commercial entities in a public-private partnership.

  5. Assess whether costs can be reduced by obtaining funding from other sources like the State of California.

  6. Assess whether other organizations or companies could contribute to the project by providing funding, resources, and technical skills.

III. Submission Requirements

A. Time and Place for Submission of Proposals

Proposals must be received by 5:00 p.m., Pacific Standard Time (PST), July 12, 2017. The Department will only accept proposals submitted electronically, as follows.

  1. Submit an electronic copy of the proposal and required CMD forms via e-mail at the following address, reg.rfp@sfgov.org, and with the following subject, "Proposal for Preparing a Business Case for Developing a Highly Accessible, Open Source Voting System."

  2. Questions regarding this RFP must be sent via e-mail to the following e-mail address no later than 5:00 p.m., PST, June 5, 2017: reg.rfp@sfgov.org

B. Content

Submit the following information, in the order specified below:

  1. Introduction and Executive Summary (up to 2 pages)

A letter of introduction and executive summary of the proposal. The letter must be signed by a person authorized to obligate the Contractor to perform the commitments contained in the proposal. Submission of the letter will constitute a representation that the Contractor is willing and able to perform the commitments contained in the proposal.