

# Request for Proposal LiDAR Inspection of BVES Overhead Distribution System

February 23, 2024

**Final Design:** Final construction drawings and construction plans from which the Contractor shall execute the Construction Scope of Work.

**Jobsite:** Describes the immediate area in which the Contractor is performing the requested services and work and includes any safety stand-off, barrier, equipment, laydown, and other areas used by the Contractor.

**Notice to Proceed:** Formal written notification from BVES to Contractor specifying the date on which the Contractor may commence project Work.

**Scope of Work:** Describes the specific deliverables and services required of the Contractor to be provided for the project to be completed.

**Services or Work:** All or any portion of activities and/or tasks required to be performed by the Contractor to accomplish the Scope of Work.

**Subcontractor:** Company(ies) that are contractually engaged by the Contractor to perform portions of the project Work. Contractor is always fully responsible and liable for its Subcontractor.

**Work Complete:** Project milestone in which all deliverables and services as described in the Scope of Work are complete in accordance with specifications and performance standards of the project. Minor punch list items may remain to be completed with BVES' approval.

The BVES Authorized Representative for this project is the BVES Wildfire Mitigation and Reliability Engineer.

BVES intends to proceed with this project using the following schedule, which is subject to change:

| <b><u>RFP Event</u></b>                         | <b><u>Date</u></b>                    |
|---|---------------------------------------|
| Issue RFP in PlanetBids                         | February 23, 2024                     |
| Receive Bidder questions                        | March 1, 2024 by 5:00 pm<br>PDT       |
| Respond to Bidder questions                     | March 8, 2024 by close of<br>business |
| Receive Bids in PlanetBids                      | March 15, 2024 by 3:30 pm<br>PDT      |
| Award Contract subject                          | April 5, 2024                         |
| Execute Contract & Notice to<br>Proceed Issued* | April 19, 2024                        |

\*If BVES and Contractor are unable to execute contract by target date, BVES reserves the right to cease negotiations with Contractor and proceed with negotiating with the next best value Bidder.

## 5. Scope of Work.

5.1. **Notice to Proceed:** Upon award and execution of the contract and BVES' verification of Contractor's insurance, BVES shall issue a written Notice to Proceed for Contractor to commence the scope of work.

5.2. **Qualification and Level of Effort:** Contractor shall furnish all the necessary project management, supervision, engineering, planning, design services, labor, transportation, materials, equipment, and all tools to safely, properly and promptly achieve the required scope of work.

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5.2.1. Contractor shall at all times be fully qualified and capable of performing or causing to be performed every phase of the requested services and work. Contractor shall employ sufficient personnel qualified by reason of education, training, and experience to discharge the services agreed to be performed by Contractor.

## Minimum Qualifications for Key Positions:

### **Geospatial Project Manager Qualifications:**

- 8 years of GIS and Remote Sensing Experience
- 5 years or more in a Supervisory Role Advanced Knowledge of LiDAR Sensors and Data
- Advanced GIS Skills and Problem Solving
- Geospatial Information Systems Professional (GISP)
- ASPRS Certified Mapping Scientist, LiDAR

### **Geospatial Lead Analyst Qualifications:**

- 8 years of GIS and Remote Sensing Experience
- Strong Quality Control and Detail Advanced Knowledge of LiDAR Sensors and Data
- Advanced GIS Skills and Problem Solving
- ASPRS Certified Remote Sensing Technologist

5.2.2. Contractor shall ensure all personnel employed at the jobsite or in support of the work are properly trained, skilled, qualified, certified, and/or licensed as required by applicable laws, codes, and/or regulations to perform assigned tasks.

5.2.3. Contractor shall ensure all employees and subcontractors performing overhead and/or underground transmission and distribution line work are qualified to perform the work per California Code of Regulations, Title 8 Chapter 4, Subchapter 5, Electrical Safety Orders and comply with the requirements of such orders as well as other applicable Title 8 requirements.

5.2.4. Contractor shall ensure that each work crew has a designated foreman with the authority to direct and stop the work as requested. Contractor's foreman shall provide his personal supervision to the scope of work at all times with authority to act for the Contractor. Insofar as practical, the Contractor's foreman shall so act, and follow without delay, instructions of the BVES Authorized Representative in the completion of the requested services and work.

5.2.5. Contractor shall be responsible for providing all required equipment including appropriate test equipment properly calibrated to achieve the scope of work. Contractor shall be responsible for security of its equipment and/or equipment issued to Contractor by BVES.

5.2.6. Contractor's employees shall fully understand and comply with CALTRANS and local requirements as well as Cal/OSHA requirements for traffic controls and working alongside and/or in roadways.

5.2.7. Contractor's employees shall be fully trained and qualified to utilize proper personal protective equipment (PPE) as required per Cal/OSHA requirements, equipment manufacturers' instructions and other applicable rules and regulations.

5.2.8. Contractor's field crews shall be dressed in clean, unaltered uniforms with suitable company identification or appropriate professional-looking attire. No portion of the uniform may be removed while working. All shirts, jackets, or safety vests shall be clearly marked with company identification. Contractor's employees shall appear neat and well-groomed at all times. Contractor's employees shall wear brightly colored safety vests while working within five hundred feet of moving traffic or such other distance required by any applicable laws.

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5.2.9. Contractor's employees shall have photo identification at all times while on the jobsite.

5.2.10. BVES shall have the authority to order removal of any Contractor employees who refuse or neglect to obey reasonable instructions, or who are deemed incompetent, unfaithful, abusive, threatening, or disorderly in conduct. Any such person shall not again be employed for the duration of this contract.

5.3. Project Management. Contractor shall designate an individual as the Project Manager for the project. Contractor's Project Manager shall be Contractor's the single point of contact for the project capable of making project decisions. The BVES Authorized Representative shall be BVES' single point of contact for the project. Contractor's Project Manager shall at a minimum:

5.3.1. Provide at least weekly progress reports of the services to BVES when the LiDAR inspections are in progress. The progress report should be conducted by in-person meeting or phone call and in all cases include a written report that includes the latest project schedule, any changes to the schedule, and a brief summary of the project progress including any issues of concern that may affect the deliverables and/or schedule.

5.3.2. Maintain the project schedule so that it is up-to-date and inform BVES when specific milestones on the schedule are completed. The schedule shall be updated and forwarded to BVES with the periodic progress report.

5.3.3. Obtain BVES Authorized Representative's permission to adjust project milestone due dates.

5.3.4. Propose Contract Change Orders as needed in writing to the BVES Authorized Representative. Change Orders must be approved in writing before starting the new work.

5.3.5. Notify BVES immediately of any of the following events (Contractor shall follow up with written notification, such as email, within 24 hours):

- Job-related accidents, injuries, incidents, property damage (>\$5,000) or other near misses.
- All safety violations noted by Contractor, external agencies, or others.
- All environmental violations noted by Contractor, external agencies, or others.
- Any citations or formal violations such as "Notice of Violation" issued by federal, state, or local government and/or agencies.
- Work stoppage events.
- Any other notable events that may receive local media or local government interest.

5.4. Subcontractors: Contractor shall inform BVES Authorized Representative of any Subcontractors engaged to accomplish the requested services and work. The intent to utilize subcontractors should be part of the Contractor's bid proposal.

5.4.1. Contractor shall select Subcontractors as applicable of good capability and reputation that are properly skilled, trained, qualified, certified, and/or licensed.

5.4.2. Contractor is always responsible and liable for the Subcontractors it engages for the Work.

5.4.3. Subcontractors shall obligate to the terms & conditions of the contract between Contractor and BVES.

5.4.4. BVES at its sole discretion, reserves the right to bar a subcontractor from working on the project if BVES evaluates the Subcontractor as not suitable for the Work.

5.5. Project Objectives: The principal objectives of the project are:

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- To comprehensively inspect BVES' overhead sub-transmission (34.5 kilovolt) and distribution (4 kilovolt) lines and facilities to a high level of accuracy in order to identify and document any line-clearance violations or potential line-clearance issues that may occur within the current vegetation management cycle, which is 3 years.
- To evaluate the effectiveness of vegetation line-clearance efforts.

5.6. Inspection Requirements and Specifications: Contractor shall provide LiDAR inspection services at BVES' direction as follows:

5.6.1. Conduct LiDAR system inspection of the entire BVES overhead sub-transmission (34.5 kilovolt) and distribution (4 kilovolt) lines and facilities (approximately 206 linear circuit miles) specifically focused on detecting and documenting the radial distance of vegetation from bare conductor power lines.

5.6.2. Provide analysis of the inspection resulting in the form of an electronic (PDF and CSV) and written report. Input inspection results into BVES-supplied Laptop with its Partner's applications or provide BVES inspection results in a GIS file format that BVES is able to upload to its GIS system. BVES operates an ESRI ArcGIS with Milsoft Utility Solutions WindMilMap and BVES Distribution Inspection applications.

5.6.3. Immediately alert the BVES Authorized Representative of any Level 1 potential violation of GO 95 or a Safety Hazard per Rule 18 of CPUC General Order (GO) 95 (May 2018). Per GO 95 Rule 18, Level 1 potential violations of GO 95 or Safety Hazards are those that pose an immediate risk of high potential impact on safety or reliability. GO 95 Appendix I, Examples of Rule 18 Priority Levels and Safety Hazards, provides guidance on what constitutes a Level 1 potential violation of GO 95 or a Safety Hazard.

5.6.4. Weekly provide the BVES Authorized Representative with a list of Level 2 potential violations of GO 95 or Safety Hazards per Rule 18 of CPUC General Order (GO) 95 (May 2018). Per GO 95 Rule 18, Level 2 potential violations of GO 95 or Safety Hazards are any other risk of at least moderate potential impact on safety or reliability. GO 95 Appendix I, Examples of Rule 18 Priority Levels and Safety Hazards, provides guidance on what constitutes a Level 2 potential violation of GO 95 or a Safety Hazard.

5.6.5. In evaluating the results of LiDAR inspections, Contractor shall identify any vegetation clearance violations. All vegetation clearance specifications are per GO 95, Rules for Overhead Electric Line Construction, Rule 35 Vegetation Management, and Appendix E Guidelines to Rule 35. Additionally, BVES has unique local conditions that require it to go beyond the regulated vegetation clearance standards. These specifications include:

- A minimum radial clearance of 72 inches between bare conductors and vegetation.
- No vertical coverage allowed above BVES sub-transmission lines (34.5 kilovolt).
- All vegetation within the drip line of primary conductors that has the potential of growing into the secondary system or within 12 feet of the energized primary conductors within the 2-year vegetation management program cycle will be removed.
- Exceptions for tree trunks or major limbs that meet the following criteria: at the primary conductor level, mature tree trunks that are greater than 18 inches in diameter and major limbs that are greater than 10 inches in diameter with sufficient strength and rigidity may encroach within the minimum safe distance (72-inches) but not within 18 inches of the bare line conductors. The rigidity of the tree trunk or major limb must be such that it would be impossible for it to encroach within 12 inches of the bare conductor at any time during high wind, heavy icing and snow, or other conditions.

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5.6.6. In evaluating the results of LiDAR inspections, Contractor shall identify any vegetation clearance potential violations that may pose a problem before the next vegetation cycle due to growth in the next 3 years. Therefore, Contractor shall also identify any instances where the radial clearance is less than 96 inches between bare conductors and vegetation.

5.7. Inspection Process: The LiDAR inspection requires close coordination between Contractor and BVES. Therefore, the following process shall be followed:

5.7.1. **Preliminary Meeting.** Once Notice to Proceed is issued, Contractor shall meet with key BVES staff technical experts to discuss Contractor's LiDAR inspection plan and schedule and to identify contacts, roles, and responsibilities for the project. This meeting may be conducted in person or by tele-conference.

5.7.2. **Overall Plan.** BVES intends to conduct one LiDAR survey per year for the next 3 years according to the following schedule:

| Year | Survey Period |
|------|---------------|
| 2025 | March-May     |
| 2026 | March-May     |
| 2027 | March-May     |

Contractor shall only perform LiDAR surveys when and as specifically directed by the BVES Authorized Representative. BVES may elect to not perform the intended surveys at its sole discretion.

5.7.3. **Inspection Kick-off Meeting.** Prior to each LiDAR inspection Contractor shall meet with BVES Authorized Representative prior to commencing the services in order to:

- Coordinate how the work will be conducted.
- Exchange contact information.
- Coordinate how often, when and where Contractor and BVES Authorized Representative will meet.
- Provide Contractor with letters of authorization for the Contractor to access BVES systems (lines) and easements.
- Provide Contractor with circuit maps.
- Provide Contractor specific instructions on entering inspection results on BVES-provided device.
- Provide Contractor magnetic signs stating "Contractor for BVES."
- Answer questions that Contractor may have in performing the work.

5.7.4. **Post-Inspection Analysis and Report.** Within 2 weeks of completing the LiDAR survey, Contractor shall provide BVES its full LiDAR inspection report of results.

5.8. Safety. **Contractor shall make public and employee safety its top priority** and ensure full compliance with all Cal/OHSA and other applicable safety rules, regulations, laws, ordinances and other requirements such as from manufacturer instruction manuals for equipment. Specific requirements include but are not limited to:

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5.8.1. Contractor shall be solely responsible for the safety of all persons and property in connection with the performance of the work.

5.8.2. Contractor shall assume full responsibility for the observance of all applicable safety and occupational health rules and regulations.

5.8.3. Contractor shall put up and maintain as many barriers as shall effectively prevent accidents. Contractor shall provide safety and warning signs and barriers to ensure the jobsite is adequately marked and segregated and access is restricted to only those authorized to perform and/or inspect the work.

5.8.4. Jobsite activities shall at all times be conducted in accordance with applicable federal, state and local requirements including but not limited to the National Electric Safety Code (NESC), Cal/OSHA, and CALTRANS requirements.

5.8.5. Contractor shall conduct and document daily job briefings and tail boards. Documentation shall be provided to the BVES Authorized Representative as requested.

5.8.6. Contractor shall have a safety plan and document that employees have been trained on said plan.

5.8.7. Due to the remote location of some overhead facilities, steep slopes and challenging vehicle access terrain, Contractor shall carefully consider how to safely and efficiently access these areas to conduct LiDAR surveys.

5.8.8. Contractor shall furnish or cause employees to have all required personal protective equipment (PPE) as required per Cal/OSHA requirements, equipment manufacturers' instructions and other applicable rules and regulations. Such equipment shall be fully utilized when required.

5.8.9. Safety practices shall include, but are not limited to, the following requirements:

- California Occupational Safety and Health Regulations (Cal/OHSA).
- Occupational Safety and Health Act.
- Accident Prevention Manual for Industrial Operations, National Safety Council.
- Applicable state and local safety operating procedures.
- ANSI/NFPA 70E, Electrical Safety Requirements for Employee Workplaces.

5.8.10. Contractor shall maintain any required safety training records and certification for personnel working on the project and make those records available to BVES upon request.

5.8.11. In the event of any emergency endangering life or property or any work-related injury, Contractor may take such action as may be reasonable to prevent, avoid, or mitigate injury, damage, or loss. Contractor shall immediately notify BVES Authorized Representative verbally and follow up on such oral notice with written notice within 24 hours.

5.8.12. Contractor shall have a designated safety representative assigned to the project to supervise operations with respect to safety. Contractor shall immediately notify BVES Authorized Representative of any accidents, incidents, near misses, and unsafe conditions including but not limited to fatalities, injuries, electrocutions, underground service alert (USA Dig Alert) violations or problems, fires and other noteworthy safety issues or procedural violations.

5.8.13. Violations of the above safety requirements or other safety requirements of this contract or applicable federal, state and local requirements including but not limited to the National Electric Safety Code (NESC), Cal/OSHA, CALTRANS and equipment manufacturer requirements shall be considered a serious safety violation and breach of Contract that may result in Contract termination.

5.9. Work in or Along Roadways and Traffic Controls: Contractor shall follow federal, state, Cal/OSHA, CALTRANS, City of Big Bear Lake, County of San Bernardino, and other applicable requirements for working in roadways including:

5.9.1. Obtaining and complying with applicable permits for road and/or lane closures. BVES has a blanket permit for certain CALTRANS roads and Contractor may utilize this permit as needed. Use of BVES permits must be coordinated with the BVES Authorized Representative in advance of use.

5.9.2. Notifying BVES Authorized Representative of any road and/or lane closures at least 72 hours in advance. BVES shall make public notifications.

5.9.3. The governing factor in the execution and staging of work is to provide the motoring public with the safest possible travel conditions along the roadway through the construction zone. The Contractor shall arrange its operations to keep the closing of any lane of the roadway to a minimum.

5.9.4. Contractor shall be responsible for the proper location, installation, and arrangement of all traffic control devices per federal, state, and local city and county regulations and laws. Special attention shall be given to advance warning signs in order to keep lane assignment consistent with barricade placement at all times.

5.9.5. Contractor shall ensure that all traffic control devices installed are operational, functional, and effective during the course of the services and work.

5.9.6. Contractor shall provide properly qualified and trained traffic control flaggers as needed.

5.9.7. Contractor shall remove, cover, or turn from the view of the motorists all traffic control devices, which are inconsistent with detour or lane assignment patterns during the transition from one state of work to the other.

5.9.8. Traffic control devices include signs and their supports, signals, pavement markings, barricades with sand bags, channelizing devices, warning lights, arrow boards, flaggers, or any other device used for the purpose of regulating, detouring, warning, or guiding traffic through or around the construction zone.

5.9.9. Contractor shall provide a telephone number where a responsible individual can be contacted to receive notification of any deficiencies regarding traffic control protection. The Contractor shall dispatch workers, materials, and equipment to correct any such deficiencies if requested by the BVES Authorized Representative. The Contractor shall respond to any call from the BVES Authorized Representative concerning any request for improving or correcting traffic control devices and begin making the requested repairs as soon as possible and in any case within two hours from the time of notification.

5.10. Customer Relations: BVES values “Excellence in Customer Service” and expects its Contractors to carry that high standard in the course of their services on behalf of BVES. Specific requirements:

5.10.1. Contractor shall maintain with each crew a copy of BVES letter of authorization for the Contractor to access BVES systems (lines) and easements.

5.10.2. Contractor shall display “Contractor for BVES” magnetic signs (or similar signs) on its vehicles engaged in work for BVES. BVES shall provide the signs.

5.10.3. Contractor’s employees must at all times present themselves in a professional manner and ensure that any interaction with customers is professional and courteous.

5.10.4. Contractor shall refer any customer concerns or disputes without delay to the BVES Authorized Representative for resolution. It is best that Contractor not engage directly with customers over disputes but rather refer the matter to the BVES Authorized Representative. It is understood that the Contractor does not represent BVES and has no authority to obligate BVES for any payment or benefit of any kind to any person.

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5.11. Quality Control: Contractor's work shall be subject to inspection and acceptance by BVES. BVES Authorized Representative shall assign a Quality Inspector to work closely with Contractor throughout the project.

5.12. Change Orders: If a modification is determined to be necessary to the agreed upon project scope of work, Contractor shall promptly evaluate the modification, determine if additional cost shall be incurred to accommodate the modification as well as impact on project schedule, and propose a Change Order per this section.

5.12.1. Contractor shall not commence any work outside the existing scope of work until formally approved by written Change Order by both BVES and Contractor. BVES shall not be liable to reimburse Contractor for any work not approved in writing by the approved contract or approved Change Order.

5.12.2. The Contractor Project Manager and the BVES Authorized Representative shall be responsible for drafting the scope of the Change Order and obtaining appropriate respective internal approval on the Change Order.

5.12.3. Change Order price shall be determined on a Time and Material basis per the Contractor's rates submitted with its bid proposal. Contractor shall provide in the Change Order a "not to exceed" value. Alternatively, Contractor may propose a fixed price with BVES Authorized Representative's agreement.

5.12.4. Contractor or BVES may determine in its sole discretion not to undertake the Change Order, in which case no Change Order shall be issued. If Contractor decides to not undertake the Change Order, BVES may perform the Change Order work itself or hire another Contractor to perform the Change Order work. BVES will make its best effort to not impede or interfere with the Contractor's activities in performing the project work.

5.13. Deliverables: Contractor shall be responsible for providing the following deliverables to BVES per the project schedule:

5.13.1. Completing the LiDAR surveys as described in this Section and directed by BVES Authorized Representative.

5.13.2. Providing analysis of the LiDAR inspections in the form of an electronic (PDF and CSV) and written report. Analysis shall identify the specific location and the extent of any vegetation clearance from bare conductor violations as described in this section. Similarly, Contractor shall identify the specific location and the extent of any potential violations as described in this section.

5.13.3. Providing BVES inspection results in a GIS file format that BVES is able to upload to its GIS system. BVES operates an ESRI ArcGIS with Milsoft Utility Solutions WindMilMap, BVES Distribution Inspection application, and BVES Vegetation Management applications as applicable.

5.13.4. Immediately alerting the BVES Authorized Representative of any Level 1 potential violation of GO 95 or a Safety Hazard per Rule 18 of CPUC General Order (GO) 95 (May 2018). Per GO 95 Rule 18, Level 1 potential violations of GO 95 or Safety Hazards are those that pose an immediate risk of high potential impact on safety or reliability. GO 95 Appendix I, Examples of Rule 18 Priority Levels and Safety Hazards, provides guidance on what constitutes a Level 1 potential violation of GO 95 or a Safety Hazard.

5.13.5. Providing the BVES Authorized Representative weekly with a list of Level 2 potential violations of GO 95 or Safety Hazards per Rule 18 of CPUC General Order (GO) 95 (May 2018). Per GO 95 Rule 18, Level 2 potential violations of GO 95 or Safety Hazards or any other risk of at least moderate potential impact on safety or reliability. GO 95 Appendix I, Examples of Rule 18 Priority Levels and Safety Hazards, provides guidance on what constitutes a Level 2 potential violation of GO 95 or a Safety Hazard.

5.13.6.