



Office of the City Manager

October 15, 2015

To: Honorable Mayor and Members of the City Council

From: *Dee* Dee Williams-Ridley, Interim City Manager

Subject: Revenue Grant: Urban Areas Security Initiative Grant Program to Fund Acquisition of a 3D Laser Scanner Measurement Device for 3D Forensic Documentation

On November 12, 2013, Council adopted Resolution No. 66,370-N.S., which authorized the City Manager to apply for and accept a grant, and any amendments, from the Department of Homeland Bay Area Security Urban Areas Security Initiative Grant Program in the amount of \$85,793, to fund the purchase of a Laser Scanner 3D crime scene mapping device for use in forensic investigation and operational planning. Based on the Council's previous authorization the Berkeley Police Department is reapplying for the same grant in the same amount. Grant applications are due October 16, 2015.

The total cost of the 3D Laser Scanner measurement device, including warranty, maintenance and training for a 10-year period, is \$85,793. The department is requesting grant funding for the total amount. Substantial improvements to efficiency are anticipated as use of the new technology requires fewer personnel, requires less time on scene to gather data, and can more quickly produce diagramming information and 3D views than current surveying equipment and associated software and staffing costs.

The Police Department currently uses aging survey equipment and software to capture precise measurement points and produce two-dimensional diagrams for major crime scenes and injury collision locations. This equipment requires a minimum of three officers to spend several hours per scene capturing dozens of measurement points. Officers later convert the data collected into graphical form as a two-dimensional diagram. Preparation of the diagram alone is a time-consuming task, typically taking an officer at least 10 hours to complete. The resulting diagram is used to support the investigation and subsequent prosecution. Some incidents may involve more than one scene, or an extended diagram, and the amount of staff time required increases accordingly.

A highly specialized 80 (eighty) hour training class is required for each operator to use the current equipment. Because this system was primarily intended for use in traffic collision investigations, Berkeley Police Traffic Officers are trained on using the legacy equipment

and software. When needed for other types of investigations, Traffic officers use the same equipment to produce two-dimensional crime scene diagrams.

The FARO 3D Laser Scanner is a highly portable, extremely precise laser measuring device which police crime scene technicians and collision investigators can use to document incident scenes. The device uses a laser to capture millions of data points with each scan. Scans take a few minutes each to perform, rather than hours using surveying equipment. Only one operator is required, rather than three or more. Multiple scans, taken from different vantage points, are processed together to create three-dimensional image files. The device also photographs the scene. The resultant digital files combine extremely accurate measurements with photographs, allowing users to view the scene from different vantage points, and to dynamically move through the three dimensional, photo-realistic scene. The Laser Scanner will allow for more rapid, more accurate, and more useful documentation for crime scene examination and analysis, and accident scene investigation.

A thirty-two hour training class is required for each operator. The device's user interface is relatively simple to understand and easy to use. With the overall ease of use, the Department anticipates training more operators, including members of the Crime Scene Unit. Scene capture will become more convenient, less time-consuming, and is likely to be deployed on a more frequent basis.

If awarded, the City will be able to acquire the desired equipment without additional cost to the City, as well as increase the effectiveness of the police department and benefit neighboring agencies. Acquisition and use of the FARO Laser Scanner will greatly enhance Police Department forensic and investigative capabilities, while decreasing related staffing costs, saving staff time, and allowing for greater ease in documenting crime and collision scenes.

There are no other known funding opportunities to acquire this equipment. Funding from neighboring police departments or other City of Berkeley departments is unlikely due to current fiscal realities.

If this grant is awarded, the City Manager will bring the item to Council for adoption.

If you have any questions, please contact David Frankel, Investigations Captain, Police Department, 981-5810.

cc: Gil Dong, Interim Deputy City Manager
Mark Numainville, City Clerk
Ann-Marie Hogan, City Auditor
Michael Meehan, Chief of Police
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