



DATE: November 14, 2023

TO: Mayor and City Council

FROM: Acting Chief of Police

SUBJECT: Adopt a Resolution Authorizing the City Manager to Execute an Agreement With Precision Survey Supply LLC for the RTC360 3D Laser Scanner in an Amount Not to Exceed \$130,000

RECOMMENDATION

That the Council adopts a resolution (Attachment II) authorizing the City Manager to enter into an agreement with Precision Survey Supply for the RTC360 3D Laser Scanner for the Hayward Police Department Traffic and Crime Scene Technician units in an amount not to exceed \$130,000.

SUMMARY

In 2007, the Hayward Police Department purchased a Leica 3D scanner, which is typically used to capture measurements related to traffic accidents and/or other dynamic police incidents. The scanner no longer functions and cannot be repaired because it is outdated and the parts for the scanner are no longer manufactured. Additionally, the computer software is outdated and no longer workable. On occasion, Alameda County Sheriff's Department has assisted HPD's traffic division and responded to scenes of fatal collisions with their 3D scanner. However, the last two times HPD called for their assistance, the requests were denied.

The Hayward Police Department has identified a 3D laser scanner that can document a complete scene accurately and at a much higher speed than traditional, manual methods. This will greatly improve the Traffic and Crime Scene Technician (CST) Unit's ability to accurately document a scene and prepare court testimony. The scanner will also assist the City Attorney's Office when defending litigation involving traffic collisions and other officer-involved incidents.

BACKGROUND AND DISCUSSION

The RTC360 3D laser scanner creates a re-visitible Forensic Digital Twin of indoor and outdoor scenes and produces a scan at a maximum range of 130 meters in less than two minutes. It is portable, highly automated, intuitive, and incredibly fast at providing the

ability to capture a complete scene documentation, including high-dynamic range imagery. It meets the standards of a scientific instrument with a published 3D positional accuracy. A rugged design and enclosed mirror allow it to be used in any weather, and it can augment a scene with evidence photos geo-tagged into the scans in real time. This allows for evidence marking and photography via a tablet in the field, boosting REAL-TIME situational awareness and information sharing.

The RTC360 3D laser scanner includes a rugged carrying case, an optional backpack, lightweight telescoping adjustable tripod, and two (2) industrial grade 256 GB flash drives.

The RTC360 can collect an extreme amount of very clean and accurate data in a minimal amount of time. This completely transforms an investigator's approach. The RTC360 laser scanner also pre-registers the point cloud data in the field automatically (no computer required), which makes it easy to use and saves even more time back in the office. The ability to collect a dense, clean point cloud, combined with the HDR imagery and in-field registration, enables much faster data turnaround. Investigators can document all evidence at the scene with a laser scanner in far less time than what is required by traditional, manual methods. This is especially helpful when you need to clear the road, and unlike a dynamic crime or crash scene, the recorded point cloud never changes.

The technology is extremely helpful to both law enforcement agencies and the City Attorney's Office since agencies can use the 3D point cloud to create very accurate diagrams and animations to provide visually compelling testimony in court. Attorneys can then walk the judge or jury through the scene using a 3D model created from the point cloud to show exactly how it looked at the time of the incident. It is also possible to use this point cloud later to digitally take measurements, create diagrams, animate scenes, and present "walk-throughs" for courtroom and/or settlement presentations.

Once scans of the scene are collected, the next step in the process is to tie all the scan positions together in Cyclone Register 360. Cyclone Register 360 PLUS can handle many scanning file types (LAS, e57, etc.). Once all the scans are aligned and registered, the 3D Model can be exported as a point cloud project and a top-down Ortho-Slice of the project can be created. This is like performing an MRI on the 3D Data. A top-down sliced view allows the user to easily create a 2D diagram later in Map360.

Map360 Forensic Software is the last step in the workflow to document any critical incident scene. The LGS Point Cloud file that was completed in Cyclone Register 360 is imported into a project file into Map360. Map360 can be used to create the final deliverables to include basic and to-scale scene diagrams complete with evidence markers, notations, and markups. Map 360 can also be used to import 2D and 3D models into a measured crash or crime scene, show witness perspectives, perform vehicle crush analysis, bullet path reconstruction, and blood pattern analysis. Basic hand measurements can also be added to any scene or as a standalone scene into Map360, making the software relevant for every scene investigation. Furthermore, in Map 360, evidence markers can be placed within the scene where multiple files can be attached such as pictures, video, and even an audio note. From here, an evidence report can be easily created summarizing the entire

scene and can be shared as a PDF. Each marker has its own page and the additional content for the marker is embedded and viewable with a click.

FISCAL IMPACT

The agreement for the RTC360 is included in the FY 2024 CIP budget as the Leica scanner is included in the current CIP replacement schedule.

It should be noted HPD secured early 2023 pricing, including a trade-in of \$15,000 for the currently owned laser scanner that can no longer be used. It is unknown how long Precision Supply LLC can honor the pricing and trade-in as the cost has already increased and they no longer accept trade-ins of older models. It is recommended that staff expedite the execution of the agreement for the RTC360 Laser Scanner to ensure that the City can secure the best pricing. The total cost of the acquisition is anticipated to be approximately \$130,000.

STRATEGIC ROADMAP

This agenda item is a routine operational item and does not relate to any of the priorities outlined in the Council's Strategic Roadmap.

NEXT STEPS

If the Council adopts the resolution, staff will enter into an agreement with Precision Supply LLC or the RTC360 Laser Scanner in an amount not to exceed \$130,000.

Prepared by: Heather Linteo, Community Services Division Captain

Recommended by: Bryan Matthews, Acting Chief of Police

Approved by:



Kelly McAdoo, City Manager