



City of Palo Alto

City Council Staff Report

(ID # 6946)

Report Type: Consent Calendar

Meeting Date: 6/27/2016

Summary Title: Purchase Order for Intrusion Detection System

Title: Approval and Authorization of the City Manager to Execute a Purchase Order with CSC Integrations in an Amount Not-to-Exceed \$207,025 for an Intrusion Detection System (IDS) to Improve Safety along the Caltrain Right of Way in the City of Palo Alto and Adoption of a Related Budget Amendment in the General Fund

From: City Manager

Lead Department: Office of Emergency Services

RECOMMENDATION

Staff recommends that the City Council:

1. Approve a sole source purchase order with CSC Integrations for \$207,025 for the purchase of an Intrusion Detection System consistent with Project Safety Net's means restriction strategy for suicide prevention; and
2. Amend the Fiscal Year 2016 Budget Appropriation Ordinance for the General Fund by:
 - a. Increasing the Police Department appropriation by \$207,025; and
 - b. Decreasing the General Fund Budget Stabilization Reserve by \$207,025

BACKGROUND AND DISCUSSION

Since 2009, the City has retained contracted, private security guards to staff the Track Watch program at various locations on the Caltrain right-of-way. In response to a second teen suicide cluster that began in 2014, the City is now contracting with a security firm to provide Track Watch guard coverage at five intersection locations, as well as a roving supervisor, 24 hours a day. The current cost is approximately \$800,000 per year, which the City has been solely funding.

In addition to the ongoing expense, there are numerous limitations to human guards stationed along the tracks. It is very difficult, for example, for a guard to see very far down the rail corridor, particularly at night, and the logistics of stationing guard coverage over three, eight hour shifts at five locations on an around-the-clock basis has been challenging. According to a report by the Mineta Transportation Institute on preventing suicides on commuter and metro

rail systems, a best practice is the installation of camera intrusion detection systems to be installed along rail corridors.

The City of Palo Alto and Caltrain were approached by a vendor, CSC Integrations of Santa Clara, CA, offering a free trial of a new technology called the Suicide and Accident Intervention System (SAAIS). Unlike a traditional Intrusion Detection System (IDS), the SAAIS developed by CSC Integrations utilizes automated algorithms (i.e. analytics) to evaluate images and sensor data to generate alarms and warnings. Further, the SAAIS includes thermal night vision cameras, microwave and infrared "virtual trip wires," and other sensors designed to automatically alert authorities when unsafe conditions are present. The system could potentially make the distinction between a human or other object on the tracks. The company's technology is experimental, having rarely been utilized in a rail right-of-way deployment previously.

In June 2015, the City and the Peninsula Corridor Joint Powers Board (JPB) (a.k.a. Caltrain) agreed to partner with CSC Integrations to evaluate the SAAIS. This was presented to the City Council as part of the approval of the Memorandum of Understanding between the City of Palo Alto and the JPB in late August 2015 (CMR #6043).

The SAAIS build-out involved designing, obtaining permits, complying with Caltrain and other regulations, and installing equipment on Caltrain's right-of-way and at City Hall. Performing work in this Caltrain corridor area required extensive coordination among the involved agencies and departments. The installation and configuration is nearly complete. Once the system is mutually agreed by the company and the City to be functioning and stable, a formal 60-day test and evaluation period will commence.

The test installation is only at the East Meadow crossing, but covers approximately 1000' in both North and South directions through a combination of 1) color video cameras, 2) thermal cameras, and 3) sensors. The input from such cameras and sensors is processed by algorithms known as video analytics, a form of artificial intelligence designed to minimize the need for human monitoring of such data.

However, because the SAAIS is experimental, the City will be separately paying CSC Integrations to provide human monitoring of the video feed during the 60-day evaluation period. The active monitoring will occur between 6pm and 2am, but CSC and City staff will be separately testing the system at various times as well. .

While experimental, the City wishes to commence a one-time sole source purchase of the system immediately to evaluate its effectiveness as a long term solution for monitoring the rail corridor. The City is hopeful that this technology will ultimately provide a much more effective method of monitoring the tracks with enhanced line-of-site capabilities and eventual fixed costs. The City would utilize the cameras and sensors in the future as part of an expanded IDS on the entire Caltrain right-of-way segment in the City. In addition, based on staff's research, there are no other existing technologies that would meet the City's requirements.

Next Steps:

The deployment of an Intrusion Detection System (with or without full automation) could eventually subsume the use of contracted, private security guards on the right-of-way. However, regardless of the success of the IDS pilot, there will need to be some overlap to ensure that Track Watch guards remain at the crossings until we have fully evaluated the effectiveness and implemented an IDS system.

The City intends to issue Request for Proposals (RFPs) for:

- an engineering study to provide guidance to the City as to how to expand IDS coverage for the entire right-of-way in the City
- a project manager (contractor) to manage the eventual build out of such an expanded system and/or a general contractor to do so as part of a new contract to acquire and install the equipment
- a contractor to monitor the system (remove video and sensor monitoring), as is commonly done with alarm systems

Staff intends to return to Council when the engineering study is completed by the consultant to explore options. The ongoing maintenance of the SAAIS installation may be rolled into a larger deployment or remain stand-alone, depending on cost and efficiency factors.

RESOURCE IMPACT

Adoption of the proposed amendment to the Fiscal Year 2016 Budget Appropriation Ordinance will appropriate \$207,025 to the Police Department and decrease the General Fund Budget Stabilization Reserve by \$207,025.

POLICY IMPLICATIONS

Approval of this purchase is consistent with current City policies and regulations regarding homeland security and emergency management. The development of new City guidance and protocols regarding Video Management Systems (VMS) and surveillance (CMR #6876) will be considered as this project is implemented and maintained.

ENVIRONMENTAL REVIEW

This staff report does not represent a project under the California Environmental Quality Act (CEQA).

Attachments:

- ATTACHMENT A - CSC QUOTE May202016 (PDF)

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City of Palo Alto 275 Forest Avenue Palo Alto, California 94301

ESTIMATE #	DATE	EXPIRATION DATE
20140001029	05/20/2016	08/31/2016

SHIP VIA Not Applicable	TRACKING NO. Not Applicable	P.O. NUMBER 2016131001	SALES REP J. Jenkins
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ACTIVITY	QTY	RATE	AMOUNT
SAAIS VMS - Pelco SM5200-04-US SAAIS VMS - Enterprise Video Management System, 4TB, US Power The SM5200 is a network appliance that serves as the system management component of the Endura system. The SM5200 manages the discovery and registration of all Endura components and cameras on the network.	1	8,210.00	8,210.00T
SAAIS - NSM PELCO NSM5200-06-US SAAIS - NSM PELCO NSM5200-06-US, 6TB The combination of high performance, scalable hardware design and advanced software capabilities enables the NSM5200 to meet the unique storage needs of physical security and video surveillance applications.	1	13,791.67	13,791.67T
SAAIS - WORKSTATION PELCO W55080 US SAAIS - WORKSTATION PELCO W55080 US The Endura Workstation WS5080 is a high-end personal computer running Windows Vista® Business edition that is optimized for the WS5000 advanced system management software. The Endura workstation can simultaneously decode and display up to 16 HD, full frame-rate video streams. The Endura workstation includes the WS5200 software package.	3	5,327.73	15,983.19T

ACTIVITY	QTY	RATE	AMOUNT
SAAIS - PMCL524BL SAAIS - PMCL524BL, 24 Inch 1080P Industrial LED M Full High Definition 1920 x 1080 Resolution, 3D Digital Comb Filter with Deinterlacing for High Quality Video, High Contrast Ratio, Lightweight Design, Built for 24/7 Applications, VGA, DVI, S-Video, BNC, and HDMI, Deinterlace Motion, Picture-in-Picture (PIP), On-Screen, Anti-Glare Panel Surface, 3-Year Warranty	2	1,588.24	3,176.48T
SAAIS - PMCL-WM SAAIS - PMCL-WM, VESA Wall Mount, 50lbs Max The Pelco PMCL-WM is a two-piece wall mount for use with Pelco PMCL 200/300/400/500 series LCD monitors or with any VESA compliant monitor. The PMCL-WM is designed for simple sturdy wall mounting and does not offer tilt or swivel adjustments. The bracket comes in two pieces, one attaching to the wall and the other one to the monitor. The monitor slides into the V-shaped piece on the wall and is then secured to the wall piece via set screws.	1	460.51	460.51T
SAAIS - ME319-1EP SAAIS - ME319-1EP, Sarix Enhanced Range Environmental Pendant Mount	2	1,045.00	2,090.00T
SAAIS - WMVE-SR SAAIS - WMVE-SR, Wall Mount Vandal Resistant for Sarix SER IE, IM-V, IM-E The light gray WMVE-SR Vandal Wall Mount features side impact resistance, and feedthrough cabling. It is compatible with Sarix Vandal and Environmental Mini Domes - IM-V/E Series and Sarix Environmental Domes - IE Series. The wall mount can be used along with PA101 pole mount adapters.	2	52.50	105.00T
SAAIS - PA101 SAAIS - PA101, Pole Mount Adapter for EM1400 and EM2400 Mounts	2	59.95	119.90T
SAAIS - 56230-EG1 SAAIS - 56230-EG1, SP ENH 1080P 30X ENV PND GRY CLR	2	3,415.95	6,831.90T
SAAIS - SWM-GY SAAIS - SWM-GY Mount I/O for Spectra and DFS Pendant Dome Housings, Gray in Color	2	59.95	119.90T
SAAIS - SWM-PA-GY SAAIS - SWM-PA-GY, Mount Pole Adapter for SWM Series Pendant Mount	2	29.95	59.90T
SAAIS - SP01-002 SAAIS - SP01-002 Spectra III Anti-Vibration Mount	4	223.99	895.96T
SAAIS - TI650 SAAIS - TI650 Sarix TI Thermal Camera, 640x480 Res, 50mm Lens	2	13,157.95	26,315.90T
SAAIS - WCS1-4 SAAIS - WCS1-4, Power Supply Outdoor 24/26/28 VAC TAPS at 100VA / 4 AMPS	2	343.36	686.72T
SAAIS - Pelco - UDI5000-MTRX Endura UDI5000-MTRX Universal Device Interface	2	1,663.00	3,326.00T

ACTIVITY	QTY	RATE	AMOUNT
SAAIS - Pelco - CM9760-ALM Matrix Alarm Interface Up to 64 Inputs	2	890.00	1,780.00T
Tripp Lite SU3000 UPS Tripp Lite SmartOnLine SU3000 RTXLCD2U - UPS (rack-mountable) - AC 100/110/115/120/127 V, 2700 Watt - 3000 VA - RS-232, USB - 9 output connector(s) - 2U - 19"	1	2,930.409	2,930.41T
SAAIS - Tripp Lite - N252-012 12- Port 1U Rack-Mount Cat6/Cat5 110 Patch Panel 568B, RJ45 Ethernet	3	50.00	150.00T
SAAIS - Siklu EH-600T V-Band Wireless Back Haul w/Outdoor Install Kit	1	7,000.00	7,000.00T
SAAIS - Schneider Electric - APC Smart-UPS SMT750RM2U	2	539.00	1,078.00T
SAAIS - Optex AX-TW200 6'6" Double Sided, Free Standing Photoelectric Beam Tower (Includes Thermostat, Tamper, and 1 TW-SAX kit	6	759.00	4,554.00T
SAAIS - Optex AX-TWEB Wall Mount Bracket for AX-TW200 Double Sided Photoelectric Beam Tower	6	115.00	690.00T
SAAIS - Optex SL-350QFRI 350 ft. Outdoor, iSeries Battery-Powered Wireless 4-Channel Quad Photoelectric Detector. Batteries and Inovonics EN 1941 Transmitter Included,	8	1,592.00	12,736.00T
SAAIS - Optex AX-100TFRi The iSeries Wireless AX-100TFRi Indoor/Outdoor Photobeam Detector with Inovonics EN 1941 Transmitter from Opted is a 100' battery-powered photo beam detector that features a built-in Inovonics EN 1941 transmitter, which makes it ready-to-install, wireless solution for perimeter protection. The AX-100TFRi also includes 4 lithium D cell batteries with a lifespan of up to 5 years.	2	945.00	1,890.00T
SAAIS - Optex EN-4232MR 32 Zone Inovonics Multi-Condition Receiver w/Relay Outputs for Optex iSeries Detectors	1	769.00	769.00T
SAAIS - Optex AX-TW100 3'3" Double Sided, Free Standing Photoelectric Beam Tower	2	379.00	758.00T
SAAIS - Optex AX-200TFRi 200 ft. Outdoors, iSeries Battery-Powered, 4-Channel Photoelectric Detector. Batteries and Inovonics EN1941 Transmitter included	2	1,000.00	2,000.00T
SAAIS - Avaya - VSP 4850GTS Virtual Services Platform 4850GTS-PWR+	1	5,824.99	5,824.99T
SAAIS - Avaya ERS3510GT 3510GT-PWR+ 8-Port Gigabit Ethernet Switch	2	1,000.00	2,000.00T
SAAIS - TP-Link - MC210CS Gigabit Media Converter 1000 Mbps RJ45 to 1000M single-mode SC, fiber up to 15Km, chassis mountable	2	100.00	200.00T
SAAIS - TP-Link - TL--R600VPN Safestream Gigabit Broadband VPN Router	1	85.00	85.00T
SAAIS - Safetran - Model 332L Energy standard controller cabinet	2	5,174.00	10,348.00T

ACTIVITY	QTY	RATE	AMOUNT
SAAIS - Econlite Fiber Cabinet 334L Fiber Cabinet	2	3,000.00	6,000.00T
SAAIS - Tesco - 26-100 Electric Service Pedastool	2	3,000.00	6,000.00T
Infrastructure/Additional Materials	1	1,700.00	1,700.00T
Special Equipment	1	2,000.00	2,000.00T
Labor Labor	1	41,000.00	41,000.00
Level 2 Advanced Analytics Advanced Detection Analytics for SAAIS (Cost: \$4500.00) DISCOUNTED, NO COST TO CLIENT FOR THIS QUOTE	1	0.00	0.00

The prices reflected in this estimate are good for 90 days from the date of issuance.

SUBTOTAL	193,666.43
TAX (8.75%)	13,358.31
TOTAL	\$207,024.74

Accepted By

Accepted Date