



Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: Anthony Mata

SUBJECT: SEE BELOW

DATE: October 28, 2022

APPROVED

DATE

11/4/22

SUBJECT: AUTHORIZATION TO PURCHASE ADDITIONAL QUANTITIES OF APPROVED MILITARY EQUIPMENT AND AUTHORIZATION TO SEEK GRANT FUNDING FOR A BOMB IDENTIFICATION, MITIGATION, AND DISPOSAL ROBOT

RECOMMENDATION

Approve the purchase of additional quantities of approved military equipment for use by the San José Police Department (Department) and authorize the Department to seek grant funding for a bomb identification, mitigation, and disposal robot.

OUTCOME

Approval of this recommendation authorizes the purchase of additional quantities of four types of pre-approved military equipment and the purchase of one new type of military equipment.

BACKGROUND

At the City Council meeting on June 21, 2022, the Department brought forward the Military Equipment Use Policy (Policy) along with an attached Military Equipment Inventory (Inventory).¹ The City Council approved the Policy and Inventory as recommended by the Department.

In approving the Policy, the City Council also provided two additional items of direction. First, the City Council directed staff to issue an informational memorandum describing specific limitations regarding the use of the Long-Range Acoustic Device. Staff issued the memorandum

¹ Details from this meeting may be found here:

<https://sanjose.legistar.com/MeetingDetail.aspx?ID=980797&GUID=15E52BAD-B60D-4CDC-8522-CF23FA24E5FC>

on September 1, 2022.² Second, the City Council directed that when the Policy returns to City Council during the annual report on military equipment, it includes a means for the public to determine when these tools will not be used. This may be accomplished via linking references or explicit language. The annual report on the Policy is scheduled heard at the Public Safety, Finance, and Strategic Support Committee meeting on April 20, 2023. At that time, the references or language will be included.

Per the approved Policy, “the Department shall seek governing body approval for military equipment, including, but not limited to, grant purchases, soliciting or accepting private, local, state, or federal funds, in-kind donations, or other donations or transfers.” The Policy exempts the Department from seeking City Council approval for purchasing previously approved military equipment, provided that the purchases are to replace equipment due to “use, breakage, and expiration.” The Policy does not provide an exemption for purchases of previously approved equipment that would expand the total quantity of such equipment maintained by the Department.

ANALYSIS

The Department is requesting authorization to purchase additional quantities of four types of previously approved military equipment. Because these purchases will expand the total quantity of such equipment owned by the Department (as opposed to replacing equipment due to use, breakage, and expiration), City Council authorization is required for these additional purchases. The Department is requesting additional quantities of the following equipment types:

- 40mm Launchers
- Carbine Rifles
- Unmanned, Remotely Piloted Aerial Systems
- PAN Disrupter

The Department is also requesting authorization to purchase a new piece of equipment of the following type that has not been previously approved by the City Council:

- Unmanned, Remotely Piloted Ground Vehicles

At this time, the Department is not requesting approval of the military equipment use policy for this type of equipment. Rather, the authorization is to seek grant funding and purchase the item. The use policy for this item will be presented to the Public Safety, Finance, and Strategic Support Committee on April 20, 2023 as part of the military equipment annual report. At that time, the Department will know if funding is available and the purchase of the item is in process, necessitating a use policy.

² Memorandum available here:
<https://www.sanjoseca.gov/Home/Components/News/News/4414/5167>

All five types of equipment are discussed in detail below.

Authorization to Purchase Additional Quantities of Pre-Approved Military Equipment

40mm Launchers

The Inventory approved by City Council included two types of 40mm single-shot launchers: the Penn Arms L140-1 (identified in the Inventory as GL1-40) and the DefTech 1426. The Inventory authorizes a quantity of 36 for the Penn Arms L140-1 and 99 for the DefTech 1426, for a total quantity of 135 40mm launchers.



Figure 1: Penn Arms L140-1

(identified in the Inventory as GL1-40)



Figure 2: DefTech 1426

The Department is seeking to purchase 14 additional launchers within the Penn Arms L140 series. The 14 additional launchers will be a newer model within this series, the L140-4. Like the L140-1, the L140-4 is a single-shot, break-open frame launcher with a rifled barrel. The main difference between the two is the multi-rail mounting system and the collapsible stock on the L140-4.



Figure 3: Penn Arms 40mm Launcher L140-4

With the addition of 14 new launchers, the Department's total stock of 40mm launchers will increase from 135 to 149. These additional launchers will be deployed within the Special Operations Division to ensure every team is equipped with at least one less-lethal option. As listed in the Inventory, these launchers fall under military equipment category 14 – *the following projectile launch platforms and their associated munitions: 40mm projectile launchers, "bean bag," rubber bullet, and specialty impact munition (SIM) weapons.*

Carbine Rifles

The Inventory approved by City Council included the Colt Manufacturing M4 Carbine LE 6933 Series rifles. The Department currently has 79 in its possession. The Department is seeking an additional 18 carbine rifles, which will increase the total quantity in the Department's possession

from 79 to 97. The additional 18 rifles will be divided into two variants: nine in the basic 6933 format and nine in the 6933 Enhanced Patrol Rifle (EPR) format. The main difference between the two models is the sight system. The basic 6933 has a fixed sight, while the 6933 EPR has a collapsible sight.



Figure 4: Colt M4 LE 6933



Figure 5: Colt M4 LE 6933 EPR

The nine basic format rifles will be deployed with the Traffic Enforcement Unit to provide them with the ability to respond to in-progress critical incidents. The nine EPR format rifles will be deployed with the Downtown Services Unit and School Liaison Unit, also providing them with the ability to respond to in-progress critical incidents. As listed in the Inventory, these carbine rifles fall under military equipment category 10 – *specialized firearms and ammunition of less than .50 caliber, including assault weapons as defined in Sections 30510 and 30515 of the Penal Code, with the exception of standard issue service weapons and ammunition of less than .50 caliber that are issued to officers, agents, or employees of a law enforcement agency or a state agency.*

Unmanned, Remotely Piloted Aerial Systems

The Inventory approved by City Council includes the Autel EVO II Dual V2 640T unmanned aerial system (UAS). The Department currently has 13 in its possession. The Department is seeking one additional unit, bringing the total in the Department's possession to 14. The UAS will be deployed with the Internet Crimes Against Children Task Force and will assist in the service of search warrants. As listed in the Inventory, this UAS falls under military equipment category 1 – *unmanned, remotely piloted, powered aerial or ground vehicles.*



Figure 6: Autel EVO II Dual V2 640T UAS

The Inventory also includes the Brinc Lemur S, another model of UAS. The Department currently has one UAS of this model in its possession. The Department is seeking an additional one, bringing the total to two. The additional Brinc Lemur UAS will be deployed with the MERGE Unit and will assist in the response to critical incidents. This item will be an upgrade by the manufacturer under the current device's warranty and will have no cost. The new model will have an upgrade to the cellular microchip. The manufacturer is not requesting the return of the original device. It is still functional and will remain in the Department's inventory. As listed

in the Inventory, this UAS falls under military equipment category 1 – *unmanned, remotely piloted, powered aerial or ground vehicles*.



Figure 7: Brinc Lemur S UAS

PAN Disrupter

The Inventory approved by City Council includes the Ideal Products Percussion Actuated Non-electric (PAN) Disrupter.³ The Department currently has one in its possession. The Department is seeking an additional one, bringing the total to two. The additional PAN Disrupter will be deployed with the Bomb Unit and will meet the requirements of maintaining the Bomb Unit's status with Department of Homeland Security as a type-1 squad. A type-1 squad must be able to handle multiple incidents simultaneously. As listed in the Inventory, the PAN Disrupter falls under military equipment category 10 – *specialized firearms and ammunition of less than .50 caliber, including assault weapons as defined in Sections 30510 and 30515 of the Penal Code, with the exception of standard issue service weapons and ammunition of less than .50 caliber that are issued to officers, agents, or employees of a law enforcement agency or a state agency*.



Figure 8: Ideal Products T3 12-gauge PAN Disrupter

³ Explosive ordinance disposal Disrupters are used by hazardous device technicians as bomb mitigation devices. The primary purpose of a Disrupter is to remotely open or render safe a suspect item or improvised explosive device. To “remotely open” is to open a suspect item to expose the contents, while “render safe” means to penetrate, cut, or remove the fusing system components to disable an explosive. A secondary purpose for a Disrupter is to create a means of access in a window, door, trunk, etc.

Request for Authorization to Purchase a New Type of Military Equipment

Unmanned, Remotely Piloted Ground Vehicle

The Department is requesting authorization to obtain a new type of equipment not previously approved: the Boston Dynamics Spot.⁴ This device is an unmanned, remotely piloted robot with the ability to remotely view in 360°. It includes sound and thermal capabilities. This item will allow the Bomb Unit to approach devices on uneven or difficult terrains to inspect them and their immediate surroundings. In addition, this item will assist in critical incidents by providing the opportunity to enter locations inaccessible to the currently authorized wheeled and tracked robots. The Department is requesting one device of this type.

The Department does not currently have funding available through its Non-Personal/Equipment appropriation and as such will seek available grant opportunities to fund this purchase. However, the Department is seeking authorization to purchase one Boston Dynamics Spot once funding is made available and secured through grants. The Boston Dynamics Spot will be deployed with the Bomb Unit and will assist in the response to bomb calls and critical incidents. Similar to the other bomb disposal robots, the Boston Dynamics Spot is a remotely powered ground vehicle that will fall under military equipment category 1 – *unmanned, remotely piloted, powered aerial or ground vehicles*.



Figure 9: Boston Dynamics Spot

Pursuant to the requirements of the Policy, the items above are: a) necessary because there is no reasonable alternative that can achieve the same objective of officer and civilian safety; b) reasonably cost effective compared to available alternatives that can achieve the same objective of officer and civilian safety; and c) shall only be used by a Department employee only after applicable training, including any course required by the Commission on Peace Officer Standards and Training, has been completed, unless exigent circumstances arise.

⁴ <https://www.bostondynamics.com/products/spot>

CONCLUSION

The Department is requesting authorization to purchase additional quantities of four types of pre-approved military equipment and authorization to purchase of one new type of military equipment, as detailed above.

EVALUATION AND FOLLOW-UP

Upon approval and acquisition of the above items, they will be added to the Department's Military Equipment Inventory. These items will be included in the Military Equipment Annual Report to the Public Safety, Finance, and Strategic Support Committee meeting on April 20, 2023. The annual report will include the additional requested information from City Council regarding a means for the public to determine when these tools will not be used.

In addition, within 30 days of submitting and publicly releasing Military Equipment Annual Report, the Department will hold at least one well-publicized and conveniently located community engagement meeting, at which the general public may discuss and ask questions regarding the annual report and the Police Department's funding, acquisition, or use of military equipment.

CLIMATE SMART SAN JOSÉ

The recommendation in this memo has no effect on Climate Smart San José energy, water, or mobility goals.

PUBLIC OUTREACH

This memorandum and the attached documents will be posted on the City's Council agenda website for the November 15, 2022 City Council meeting.

COORDINATION

This memorandum has been coordinated with the City Attorney's Office and the City Manager's Budget Office.

COMMISSION RECOMMENDATION/INPUT

No commission recommendation or input is associated with this action.

COST SUMMARY/IMPLICATIONS

The following table outlines the items that will be funded by the Police Department's Non-Personal/Equipment appropriation in 2022-2023. No additional funds are being requested or sought for these items at this time.

Table 1: Items to be Funded by the Department's Non-Personal/Equipment appropriation in FY 2022-2023

<u>Item</u>	<u>Quantity</u>	<u>Estimated Cost</u>	<u>Estimated Total</u>
Penn Arms L140-4, 40mm Launcher	14	\$1,180	\$16,520
Colt M4 L3 6933 Carbine	9	\$989	\$8,901
Colt M4 LE 6933 EPR Carbine	9	\$1,190	\$10,710
Autel EVO II Dual V2 640T UAS	1	\$6,486	\$6,486
BRINC Lemur S (warranty upgrade)	1	\$0	\$0
Ideal Products Pan Disrupter	1	\$3,337	\$3,337
		Total	\$45,954

The following table outlines the item for which funding will be sought through grant opportunities. This item will not be funded by the Police Department's Non-Personal/Equipment appropriation in 2022-2023.

Table 2: Item to be Funded through Grant Funding

<u>Item</u>	<u>Quantity</u>	<u>Estimated Cost</u>	<u>Estimated Total</u>
Boston Dynamics Spot	1	\$250,000	\$250,000
		Total	\$250,000

BUDGET REFERENCE

The table below identifies the fund and appropriations to fund the purchase of the items recommended as part of this memorandum.

Fund #	Appn. #	Appn. Name	Current Appn.	Amt. for Equipment Purchases	2022-2023 Proposed Operating Budget Page*	Last Budget Action (Date, Ord. No.)
001	0502	Non-Personal/Equipment	\$20,269,759	\$45,954	676	10/18/2022, Ord. 30833

* The 2022-2023 Adopted Operating Budget was approved on June 14, 2022 and adopted on June 21, 2022 by the City Council.

CEQA

Not a Project, File No. PP17-008, General Procedure and Policy Making resulting in no changes to the physical environment.

/s/
ANTHONY MATA
Chief of Police

AM:SD:SL

For questions, please contact Captain Stephen Lagorio, Special Operations Division, San José Police Department, at stephen.lagorio@sanjoseca.gov.

Attachment: Boston Dynamics Spot Data Sheet

Attachment: Boston Dynamics Spot Data Sheet



Spot[®]

Transformative Mobility

Automate sensing and inspection, capture limitless data, and explore without boundaries.

Features

- 14 kg (30 lbs) Payload Limit
- 90-Minute Run time
- Object Avoidance
- Stair & Complex Terrain Navigation
- Manual & Autonomous Operation
- IP54 Rated
- Flexible API and Python SDK
- Premium Service and Support

Operate with Ease

Spot's vision system makes it easy to navigate around objects and over rough terrain. Control the robot from afar using an intuitive tablet application and built-in stereo cameras. Spot can also be teleoperated via Scout desktop software.

Automate Data Collection

Program repeatable autonomous missions to gather consistent data. Flexible autonomy allows Spot to adjust to changes on its programmed path as desired. Missions can be launched from the Spot Dock for remote operations.

Customize for Your Needs

Spot can carry up to 14 kg (30 lbs) of sensing equipment. Our diverse payload ecosystem is ready for a variety of applications, from thermal and acoustic inspections to laser scanning and site progress monitoring.

Learn with Training and Support

We make it easy to get started with Spot. Our Support Center features a comprehensive collection of knowledge articles and discussion groups, product training options are available, and in addition to our one-year limited warranty, we offer premium service and support through a Spot CARE subscription.

Industries



Manufacturing

Set Spot up to do autonomous inspection rounds or use the robot to create digital twins of a plant in advance of rework.



Construction

Inspect progress on construction sites, create digital twins, and compare as-built conditions to Building Information Modeling (BIM) autonomously with Spot.



Power & Utilities

Create autonomous routes or drive the robot to remotely perform inspections in electrified or radiation dense areas.



Mining

Create routine tunnel inspection routes and attach additional payloads to take measurements and ensure safe working conditions.



Oil and Gas

Create autonomous routes or drive the robot to remotely inspect facilities and improve site awareness of plant operations.



Public Safety

Drive Spot remotely to get eyes on dangerous situations and inspect hazardous packages from afar.

www.bostondynamics.com/products/spot



Specifications

Base Robot

DIMENSIONS

Length = 1100 mm (43.3 in)
Width = 500 mm (19.7 in)
Height (Sitting) = 191 mm (7.5 in)
Default Height (Walking) = 610 mm (24.0 in)
Max Height (Walking) = 700 mm (27.6 in)
Min Height (Walking) = 520 mm (20.5 in)
Net Mass/Weight (Spot with battery) = 31.7 kg (69.9 lbs)

LOCOMOTION

Max Speed = 1.6 m/s
Max Slope = +30°
Max Step Height = 300 mm (11.8 in)

TERRAIN SENSING

Horizontal Field of View = 360°
Range = 4 m (13 ft)
Lighting = > 2 Lux
Collision avoidance = maintains set distance from stationary obstacles

CONNECTIVITY

WiFi = 2.4GHz / 5GHz b/g/n
Ethernet

ENVIRONMENT

Ingress Protection = IP54
Operating Temp. = -20°C to 45°C

Battery

Battery Capacity = 564 Wh
Average Runtime = 90 mins
Standby Time = 180 mins
Recharge Time = 60 mins

Length = 324 mm (12.8 in)
Width = 168 mm (6.6 in)
Height = 93 mm (3.7 in)
Mass/Weight = 5.2 kg (11.5 lbs)

Charger

Input Voltage = 100-240VAC
 50/60Hz 8A Max
Output = 35-58.2 VDC, 12A Max
Length = 380 mm (15.0 in)

Width = 315 mm (12.4 in)
Height = 178 mm (7.0 in)
Mass/Weight = 7.5 kg (16.5 lbs)
Operating Temp. = 0°C to 45°C

Tablet

Height = 127 mm (5.0 in)
Width = 214 mm (8.4 in)
Depth = 10 mm (0.4 in)
Weight = 426 g (0.9 lbs)
Touch Screen Size = 8" diagonal

Resolution = 1920x1200
Ingress Protection = IP65

Joystick Add-on available for Spot Arm

Travel Cases

ROBOT CASE

Includes robot and tablet
Length = 927 mm (36.5 in)
Width = 546 mm (21.5 in)
Height = 464 mm (18.25 in)
Net Mass/Weight = 47.6 kg (105 lbs)

POWER CASE

Includes two batteries and charger
Length = 810 mm (32 in)
Width = 530 mm (21 in)
Height = 300 mm (12 in)
Net Mass/Weight (two batteries) = 28kg (61 lbs)

Payload Mounting

Max Weight = 14 kg (30.9 lbs)
Mounting Area = 850 mm (L) x 240 mm (W) x 270 mm (H)
Mounting Interface = M5 T-slot rails
Connector = DB25 (2 ports)

Power Supply = Unregulated DC 35-58.8V, 150W per port
Integration = Available software API and hardware interface control document

Spot Dock

DIMENSIONS

Length = 1140 mm (44.9 in)
Width = 414 mm (16.3 in)
Height = 403 mm (15.9 in)
Mass/Weight = 22.9 kg (50.5 lbs)

POWER

Input = 90-277 VAC
Output = 58V at 12A
Charge Time = 2-3.5 hours*

*Charge time varies based on table below

Ambient Temp.	80% charge	100% charge
25°C	50 min	2 hrs
35°C	2.5 hrs	3.5 hrs

ENVIRONMENT

Operating Temp. = 0°C to 35°C
Lighting = Ambient light required
Mounting = Bolt/tie down locations provided

CONNECTIVITY

Gigabit Ethernet passthrough to robot

CERTIFICATIONS

cTUVus Certified to UL 1564 and CSA C22.2 No. 107.2

Safety and Compliance, United States

Designed according to ISO 12100 for risk assessment and reduction methodology and IEC 60204-1 for electrical safety. See [Information for Use](#) for further details on intended uses.

EMC: FCC Part 15B

Radio equipment: Incorporates a FCC Part 68 Certified radio system
 Laser product = Class 1 eye-safe per IEC 60825-1:2007 & 2014

Contact

sales@bostondynamics.com
www.bostondynamics.com/products/spot

Boston Dynamics

