



# Board Agenda Item 25

DATE: April 11, 2023

TO: Board of Supervisors

SUBMITTED BY: John Zanoni, Sheriff-Coroner-Public Administrator

SUBJECT: Sheriff's Office UAS Zenmuse P1 Drone Camera Purchase and Fresno County Main Jail Upgrades

RECOMMENDED ACTION(S):

- 1. Adopt Budget Resolution increasing FY 2022-23 appropriations and estimated revenues for the Sheriff-Coroner-Public Administrator's Org 31113200 in the amount of \$7,500 for the purchase of a UAS Zenmuse P1 drone camera (4/5 vote); and**
- 2. Adopt Budget Resolution increasing FY 2022-23 appropriations and estimated revenues for the Sheriff-Coroner-Public Administration's Org 31114000 in the amount of \$500,000 for Fresno County Main Jail Upgrades (4/5 vote).**

There is no increase in Net County Cost associated with the recommended actions. Approval of the first recommended action will allow the Sheriff's Office to purchase a UAS Zenmuse P1 drone camera for aerial mapping and photogrammetry flight missions. Approval of the second recommended action will allow the Sheriff's Office to make upgrades to the Fresno County Main Jail. This item is Countywide.

ALTERNATIVE ACTION(S):

If the first recommended actions are not approved, the Sheriff's Office will not be able to purchase the drone camera and will not have the capacity for large-area mapping, resulting in the continued use of outdated maps drafted with older technology. If the second recommended action is not approved the Sheriff's Office will not be able to complete the Fresno County Main Jail upgrades.

FISCAL IMPACT:

There is no additional Net County Cost associated with the recommended actions. The first recommended action costs will be fully offset with the County Public Works and Planning funds. County Public Works and Planning have enough appropriations in their budget for this purchase, Approval of the first recommended action will increase appropriations and estimated revenues for Sheriff-Coroner-Public Administrator Org 31113200 in the amount of \$7,500 to purchase drone camera through the County Public Works and Planning funds. Approval of the second recommended action will increase appropriations and estimated revenues for Sheriff-Coroner-Public Administrator Org 31114000 in the amount of \$500,000 to upgrade technology requests using additional Prop 172 funds.

DISCUSSION:

The Fresno Sheriff's Office UAS (Unmanned Aircraft Systems) team also known as the "drone team", has seen a drastic increase in requests for large-area mapping. Drone mapping is the process of taking vast amounts of drone photographs and merging them together using sophisticated software to render a

high-quality map. This mapping is very accurate and creates 3D maps complete with GPS coordinates and accurate measurements.

The Sheriff's Office is in need of replacing old county maps as aerial surveying maps are requested to plot all major crime scenes, record the contrast of "before and after" at homeless encampments and other large areas cleanups, document infrastructure such as bridges and dams, and record damage from natural disasters. These maps are very time consuming to produce and often require multiple flights from a drone due to the lower quality camera systems that have historically been available which were not designed specifically for aerial mapping.

The Zenmuse P1 was designed for aerial mapping and photogrammetry flight missions. It integrates a full frame sensor with interchangeable fixed focus lenses on a 3-axis stabilized gimbal. This camera system is designed to attach directly onto drones that we already have in our inventory. The Zenmuse P1 camera takes a photograph every .7 seconds without requiring the drone to stop and stabilize for the photograph. This allows the drone to map over 3 square miles in a single flight. The camera is so accurate that users can capture "centimeter-accurate" data as well as real-time position and orientation compensation technology.

The second recommended action will allow for the acquisition of new and upgraded jail technology. These upgrades include chassis switches, Hirsch lobby upgrades and Microsoft Licensing. The chassis switches for the Fresno County Main Jail will replace aging HP network switches in the main jail, for Fresno Sheriff Office and non-Fresno Sheriff Office devices. Hirsch Main Jail upgrades will increase lobby security for vendors and visitors. Lastly, the Microsoft Licensing will increase security and functionality specifically in April, May, and June 2023.

ATTACHMENTS INCLUDED AND/OR ON FILE:

On file with Clerk - Resolution Org 31113200

On file with Clerk - Resolution Org 31114000

CAO ANALYST:

Samantha Buck