

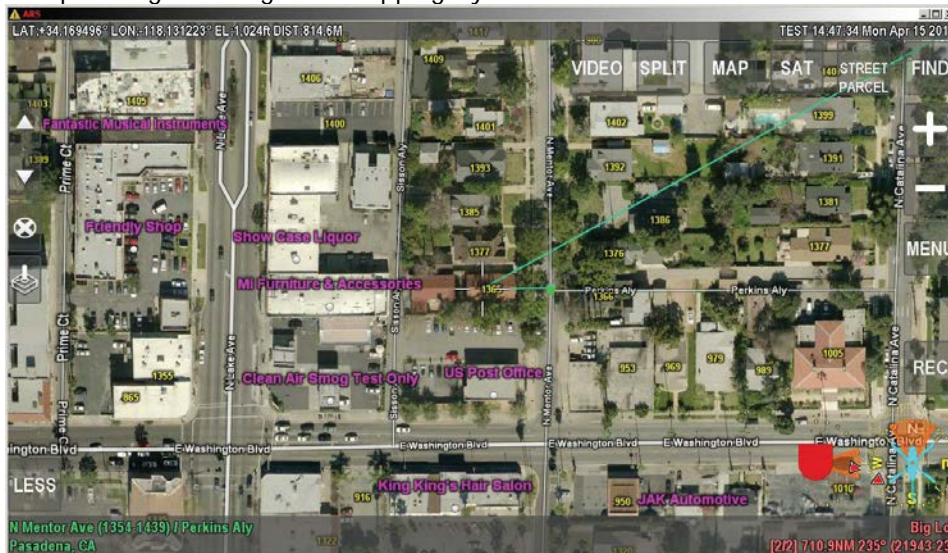
# Santa Clara County Office of the Sheriff

## Anticipated Surveillance Impact Report for the Integrated Helicopter Mapping System

### I. Information Describing the Integrated Helicopter Mapping System and How It Works

An integrated helicopter mapping system is a set of devices that link the helicopter's mapping software, a compatible camera, and GPS. An Internal Measurement Unit (IMU) is paired with the helicopter's GPS to allow synchronization of the camera's field of view with the mapping software, so that the mapping information is overlaid over real-time video images. The resulting image is similar to Google Maps which augments satellite imagery with street names and other data.

Sample Image of Integrated Mapping System



#### Mapping Software

Information available in the mapping software:

- Address
- Business Names
- Parcel Numbers
- Topographical Information (navigational hazards only, such as towers, electrical wires, etc.)

#### Camera

As with the camera currently installed in the Sheriff's Office helicopter, the camera compatible with the IMU can switch between a regular view and a Forward looking infrared (FLIR) camera. FLIR cameras use a thermographic camera that senses infrared radiation. The sensors installed in FLIR cameras—as well as those of other thermal

imaging cameras—use detection of infrared radiation, typically emitted from a heat source (thermal radiation), to create a "picture" assembled for video output.

Thermal imaging cameras detect the heat given off by an object or person. Thousands of sensors on the array convert the infrared energy into electrical signals, which create a video image. The infrared camera measures and displays a “thermal profile” of objects in relation to the temperature of surrounding objects. So a person, warmer than the surrounding air, appears “white” while the cooler surrounding air or buildings will appear in varying shades of gray. The “white” images do not always show a clear silhouette and, as such, are subject to the observer’s interpretation.

Sample Image of Vehicle Pursuit (San Diego)



Sample Image of Suspect Running through Backyard with Police in Pursuit



## II. Proposed Purpose

The integrated mapping system is primarily used as a navigational device. When flying to a specific location, the helicopter observer can enter an address, an intersection, or a grid section in the mapping system to obtain information regarding the shortest route to the location, navigational hazards, and a digital map of the destination. If paired with the camera, the observer can view the ground image along with the mapping information.

During routine patrol, the observer makes “naked eye” observations of the ground area. The camera is activated only if there is a reasonable suspicion that a crime is occurring or if a significant event is in progress, such as:

- **Vehicle Pursuit / Tracking Suspects**

Once the helicopter observer has located the fleeing vehicle or suspect, the camera can be turned on to track the vehicle or suspect. Since an integrated mapping system would allow the observer to view both real-time video images and mapping information at the same time, the observer can quickly provide pursuing ground units with information such as the vehicle or person’s precise direction of travel, potential hazards in specific areas, and other logistical information to minimize the hazards inherent in pursuits.

- **Search and Rescue**

Search and Rescue often encompass a wide area and/or remote locations. The integrated mapping system would allow the helicopter crew to quickly conduct a search and provide ground crews with the subject’s location. The FLIR camera can also be used to aid in a night time search for a missing person.

- **Fire Assistance**

The integrated mapping system can be used to assist in firefighting efforts by locating hot spots and residual fires, or assist in transporting first responders to remote locations.

- **Evidence Collection**

If the observer believes that an incident needs to be recorded as evidence or is instructed by the Field Commander or Investigating Officer to record an incident as evidence, the observer can record a video footage of events or take still images of crime scenes or death investigation scenes.

## III. Locations Where Integrated Mapping System May Be Deployed

The Sheriff’s Office helicopter, and by default, the integrated mapping system is deployed over navigable airspace throughout the County of Santa Clara. “Navigable airspace” is defined under 49 USCS § 40102 (32) as:

*Above the minimum altitudes of flight prescribed by regulations...including airspace needed to ensure safety in the takeoff and landing of aircraft.*

Specifically, the Sheriff's Office helicopter normally flies at an altitude of 1,000 to 1,200 feet above ground level. For safety reasons, the minimum altitude that the helicopter can fly is 800 feet above ground level.

Because the helicopter is also considered a mutual aid asset, it may also be deployed in other Bay Area jurisdictions that request assistance. The helicopter has been utilized in the counties of Santa Cruz, San Benito, and Alameda County.

#### **IV. Potential Impact on Civil Liberties & Privacy**

The Supreme Court has held that observing and photographing people's homes and surrounding areas from a helicopter, flying at 400 feet, does not violate the Fourth Amendment. The Sheriff's Office recognizes that all people have an inalienable right to privacy and is committed to protecting and safeguarding this right by adhering to the strictest requirements of both state and federal law by operating the helicopter well above the minimum level allowed by law.

The Sheriff's Office also recognizes that the integrated helicopter mapping system could raise concerns regarding real and/or perceived threats to civil liberties and privacy. To address those issues, the Sheriff's Office conducted a privacy impact assessment using relevant sections of the Homeland Security *Privacy Impact Assessments Official Guidance* and incorporated issues raised by civil liberties and privacy advocacy groups. The assessment revealed that the integrated helicopter mapping system does not pose any significant impact on civil liberties and privacy based on the following:

- a) The integrated mapping system is primarily designed for navigational purposes. It is not designed to establish the identity of individuals. All information available through the integrated mapping system such as an address, business name, or image is considered public record/information that may be obtained by anyone through direct observation, an online search such as the Assessor's Office property records, an online search map such as Google Maps, or through the use of regular GPS navigational devices.
- b) While the helicopter observer may potentially see members of the public who are not suspected of engaging in criminal conduct, the observer would only be able to view the image for a brief period through the helicopter monitor since the focus would remain on the vehicle, suspect, or missing person being tracked. Additionally, no recording is made unless there is a reasonable suspicion that a crime is occurring or a significant event is in progress.
- c) In general, the public is concerned about police helicopters using powerful zoom lenses and FLIR cameras that may be used for discriminatory targeting or other purposes. It must be noted that:
  - The helicopter camera is not equipped with a powerful zoom lens since focusing too closely on a vehicle or a person causes the observer to lose perspective of the

surrounding area. The whole purpose of using the camera is to direct ground units to a vehicle or person's location and/or direction of travel.

- Contrary to popular belief, FLIR cameras cannot see through exterior walls, roofs, cars, clothing, or any object that would normally block a view observable by the naked eye. They also cannot see through glass because glass has its own thermal profile.

Unlike night vision cameras that have the ability to see in low light conditions, FLIR cameras can only detect an abnormal heat source which would appear "white" while the cooler surrounding air or buildings will appear in varying shades of gray. The "white" images do not always show a clear silhouette and, as such, are subject to the observer's interpretation.

- Concerns over voyeurism often stem from operators who work alone since it provides the most opportunity for abuse. The helicopter observer cannot operate the integrated mapping system without the helicopter pilot since the system can only be operated while the helicopter is in flight.

Additionally, all recordings made by the helicopter observer are subject to review by the Air Support Unit Sergeant.

## V. Fiscal Cost

### Initial Purchase Cost

Based on a quote from a prospective vendor, the cost is approximately \$620,000 plus the cost of a mandatory performance bond required by the grant providers.

### Personnel Costs

There are no additional personnel costs associated with the purchase of the integrated mapping system.

### Ongoing Costs

There are no ongoing costs associated with the purchase of the integrated mapping system. Most vendors offer free training, a three-year warranty for the equipment, and free updates of the mapping software for the life of the equipment.

The anticipated lifespan of the system is about eight (8) years. However, with proper maintenance, staff anticipates the useful operational lifespan of the system to exceed eight years.

### Potential Sources of Funding

The integrated helicopter mapping system will be fully funded with grants from UASI (Urban Areas Security Initiative) and SHSGP (State Homeland Security Grant Program).