

PUC Unmanned Aerial Vehicle - Drone Annual Surveillance Report 2023

Fields marked with an asterisk (*) are required.

Change In Authorized Use Cases



1.1 In the last year, did your department have use cases which differed from your “approved use cases” in your BOS-approved policy?

No

Change in Authorized Job Titles



2.1 Does the list of “authorized job titles” in your BOS-approved policy need to change? (i.e. Do you need additional job titles to be authorized to access the data, or do you need to remove any current job titles?)

Yes

2.2 Please provide an updated list of authorized job titles.

SFPUC Infrastructure: 1770 Photographer, 1774 Head Photographer; Water Supply and Treatment Division: 5312 Survey Assistant II, 5314 Survey Associate, and 5216 Chief Surveyor; Water Natural Resources: 2483 Biologist; Water Infrastructure: 5207 Associate Engineer; Wastewater Engineering/Project Management: 5241 Engineer, 5203 Assistant Engineer, 5211 Senior Engineer, 5212 Principal Engineer, 5508 Project Manager IV, 5201 Jr. Engineer, 5130 Sewage Treatment Plant Superintendent, 0943 Manager VIII, 1824 Principal Admin Analyst, 7252 Chief Stationary Engineer, Sewage Plant, 0942 Manager VII, 5506 Project Manager III, 0933 Manager V, 1844 Senior Management Assistant, 6319 Senior Construction Inspector, 0955 Deputy Director V, 0941 Manager VI, 0932 Manager IV, 1446 Secretary II

2.3 Why have the job titles changed?

The 1774 Head Photographer and 1770 Photographer in SFPUC's Infrastructure Division use drones to create records of documentation for infrastructure capital projects. The Survey Staff in SFPUC's Water Supply and Treatment Division use drones to support various projects regarding land detection change and imagery capture throughout PUC properties. The Water Natural Resources Biologist was overseeing a project in which a contractor used a drone to collect rare plant population data in an SFPUC watershed. The Water Infrastructure 5207 Associate Engineer was overseeing a project in which a consultant used a drone to collect data documenting the left abutment hillside geologic mapping of the Turner Dam. The remaining job titles in Wastewater Engineering/Project Management had access to data collected by contractors working on project WW-647R "Southeast Water Pollution Control Plant Biosolids Digester Facilities" and WW-628 "Southeast Plant New Headworks Facility Project ". Drone images and video help the WasteWater project teams track project progress.

Change in Number and/or Type of Technology

🔖 Replacement of Old Technology

4.1 Has any technology listed in the policy been replaced?

No

🔖 Addition of New Technology

5.1 Has any technology been added which is not listed in the policy?

Yes

5.2 Why has the technology been added?

Additional units were purchased to comply with the March 16, 2024 FAA requirement that all operators of unmanned aircraft systems (UAS) must comply with its new Remote ID rules. Old drone did not have Remote ID capability. Additionally, drones were purchased to survey SFPUC-owned watersheds to detect land detection changes. These survey drones are flown exclusively in the watersheds with no operations near any private or public right-of way.

5.3 Please list technology which was added (include manufacturer and model information).

The SFPUC currently owns five drones - two drones in SFPUC Infrastructure flown by SFPUC Photographers: DJI Phantom 4 Pro and a DJI Mavic 3 Pro. Three drones are owned by the SFPUC Water Supply and Treatment Survey Section: 2 Mavic Pros and 1 M300.

5.4 Please list how many units have been added.

4 units added since the last report.

🔖 Ceased Operation of Technology

6.1 Is any technology listed in the policy no longer in use?

No

🔖 Services or Equipment Sources

7.1 List any and all entities, companies or individuals which provide services or equipment to the department which are essential to the functioning or effectiveness of the Surveillance Technology (list "N/A" if not applicable): *

The following SFPUC contractors have operated non-SFPUC owned drones for various SFPUC projects: Sundt, Minilab Factory USA/SF Drone School for project WW-628 "Southeast Plant New Headworks Facility Project"; Multivista and WCG (Webcor Concrete Group) operated drones for SFPUC project WW-647R Biosolids Digester Facilities Project; AECOM operated a drone for a Turner Dam Improvements Project; AECOM operated a drone over an SFPUC watershed to monitor rare plants to fulfill California Dept. of Fish and Wildlife permit requirements.

Surveillance Technology Goals ▾



8.1 Has the surveillance technology been effective at achieving its identified purpose?

Yes

8.2 In 3-5 sentences, please explain how the technology has or has not been effective

The SFPUC has logged 350 flights since January 2022, of which 215 were for construction management, 107 were for environmental monitoring and documentation, 7 for disaster relief, and 21 for inspections and surveys.

Data Sharing ▾



9.1 Has data acquired through the surveillance technology been shared with entities outside of the department?

Yes

9.2 Was the data shared with city and county departments or other entities associated with city and county government?

Yes

9.3 List which departments received surveillance technology data from your department, what type of data was disclosed, under what legal standard the information was disclosed, and a justification for the disclosure.

The following SFPUC contractors working on SFPUC projects operated drones to help them fulfill their deliverables: 1) AECOM worked on contract PRO-138C Task Order 30 Turner Dam Improvements project. The ortho images from the drone flight were included in the deliverables documenting the left abutment hillside geologic mapping memo.

2) AECOM used a drone to collect RGB imagery to enumerate rare plant population within 200ft radius of (37.513562N, -122.350276E), 8494-8604 Skyline Blvd, Redwood City, CA, 94062. The project was rare plant monitoring to fulfill California Department of Fish and Wildlife permit requirements.

3) Sundt, contractor for WW-628 Southeast Plant New Headworks Facility Project, as well as Minilab Factory USA/ SF Drone School operated drones to collect images and video to show site progress at Southeast Plant

4) Contractor and subcontractors for WW-647R Biosolids Digester Facilities Project operated drones and viewed drone footage. These contractors and subcontractors are: MWH Constructors/Webcor Builders, Malcolm Drilling Co., WCG (Webcor Concrete Group), Multivista, Jacobs, Brown and Caldwell, ENGEO, Structus, Black and Veatch, HCLA, SRT Consultants), CM Consultants (Arcadis, ECS, Thier Group, Parsons, RDH Building Science, DCMS), HDR, Subcontractors (DN Tanks, Sachs Electric, VMA Communications, Malcolm Drilling, Smartvid, Monterey Mechanical, Terra Engineers), Russell Clough, Jim Foley, Bill Nugteren

9.4 Was the data shared with entities outside of city and county government?

Yes

9.5 List which non-city entities received surveillance technology data from your department, what type of data was disclosed, under what legal standard the information was disclosed, and a justification for the disclosure.

As noted above, SFPUC contractors working on SFPUC projects operated drones to fulfill project deliverables

Accidental Receipt of Face Recognition Data ▾



10.1 Did your department inadvertently or unintentionally receive, retain, access or use any information obtained from Face Recognition Technology?

No

Complaints



11.1 Has your department received any complaints and/or concerns from community members about this surveillance technology?

No

Violations



12.1 Were there any violations of the Surveillance Technology Policy or Surveillance Impact Report, reported through community members, non-privileged internal audits, or through other means in the last year?

No

12.4 Has your department conducted any internal audits of the technology?

Yes

12.5 Please provide general aggregate information about the result of your department's internal audits.

SFPUC requires SFPUC personnel to document planned drone flights from both contractors and SFPUC employees using a Flight Summary form that is routed to SFPUC Emergency Planning & Security (EPS). EPS ensures that the planned flight is in compliance with the SFPUC Drone Policy and then uploads the flight information into the COIT SharePoint Portal. Since EPS reviews flight information for Policy compliance before a flight occurs, there are no policy violations.

12.6 If the audits revealed violations, please list any actions taken in response to the violations.

n/a

Statistics and Information about Public Records Act Requests



13.1 Has your department received any public records act requests for this surveillance technology?

No

Total Annual Costs for the Surveillance Technology



14.1 List the number of FTE (new & existing).

It takes the 0931 Emergency Planning Director and 1824 EPS Pr. Admin Analyst about 2 hours a week collectively to review flights and upload into the COIT Portal. The Infrastructure Photographers operate drones on an as-needed basis throughout the year. For, the WST Surveyors, it is approximately 5% of a FTE.

14.2 Are there one-time costs for Fiscal Year 2023-2024?

Yes

14.3 Are there one-time Salary and Fringe costs?

No

14.5 Are there one-time Software costs?

Yes

14.6 List total one-time Software costs for FY 2023-2024.

The WST Surveyors purchased a \$6k photogrammetry add-on to Trimble Business Center that we are testing this year, but no decision has been made to make this an annual cost.

14.7 Are there one-time Hardware/ Equipment costs?

No

14.9 Are there one-time Professional Services costs?

No

14.11 Are there one-time Training costs?

No

14.13 Are there one-time "Other" costs?

No

14.15 Are there annual costs for Fiscal Year 2023-2024:

Yes

14.16 Are there annual Salary and Fringe costs?

No

14.18 Are there annual Software costs?

No

14.20 Are there annual Hardware/ Equipment costs?

No

14.22 Are there annual Professional Services costs?

Yes

14.23 List total annual Professional Services costs for FY 2023-2024:

\$7,644 for one-year of flights to document construction progress at SFPUC Southeast Treatment Plant (750 Phelps St) by vendor Minilab Factory LLC/SF Drone School. This expense may occur annually until completion of capital projects at location

14.24 Are there annual Training costs?

No

14.26 Are there annual "Other" costs?

Yes

14.27 List total annual "Other" costs for FY 2023-2024:

It costs \$175 per license to renew the FAA licenses for pilots

14.28 What source of funding will fund the Surveillance Technology for FY 2023-2024?

SFPUC Operating budget

14.29 Have there been any changes to the one-time costs from your department's approved Surveillance Impact Report?

Yes

14.30 Why have the one-time costs changed?

The Impact Report lists professional services and software as \$0. As noted above, the WST Surveyors purchased a \$6k photogrammetry add-on to Trimble Business Center that we are testing this year, but no decision has been made to make this an annual cost.

14.31 Have there been any changes to the annual costs from your department's approved Surveillance Impact Report?

No