Construction Engineering Services Bureau UAS Standard Operating Procedures 8-18-17 Updated

Purpose: To define the use of Unmanned Aircraft Systems (UAS) operated by the Construction Engineering Services Bureau (CES)

Policy: UAS may be used to conduct MDT business when it provides cost efficiency, improved data quality, improved personnel safety over an existing method or process, or to test new technologies. Applications include but are not limited to construction documentation, photogrammetry, infrastructure, geotechnical or environmental inspections, incident management, disaster response and training exercises.

- Operation of the UAS must comply with all laws.
- Employees are required to follow the MDT UAS procedures listed below.
- UAS operators will limit operations to the specific approved purpose of the project and employ reasonable precautions to avoid capturing images of private property and the public except those that are incidental to the project.
- Aspects of this policy will not be construed as to restrict the safe, rapid deployment of an agency owned or contracted UAS in response to an emergency or exigent situation to protect life and limb, critical transportation infrastructure, and/or the environment.

Procedures:

- Training
    - Meet FAA UAS certification requirements.
    - Establish a minimum flight frequency and use periodic training flights in order to maintain proficiency.
- Maintenance
    - Register aircraft with FAA.
    - Perform maintenance to aircraft, controller, batteries, other equipment and firmware upgrades according to the manufacturer's recommended schedule or MDT established schedule. Maintain a log of all maintenance. Refer to FAA Advisory Circular 107-2 (AC107-2), chapter 7.
- Safety
    - Do not use equipment that is not in a safe operating condition.
    - Employ Aeronautical Decision Making, Crew Resource Management and Risk Assessments as outlined in AC107-2, chapter 5 and Appendix A.
    - Employ preflight safety meeting and post flight debriefing to identify potential hazards, plan for contingencies and note any lessons learned.
- Operation
    - Operations must comply with all Federal, State and Local regulations. Refer to the FAA Small Unmanned Aircraft Rule Part 107 (Part 107).
        - Pilot in Command (PIC) must be Federal Aviation Administration (FAA) certified for UAV operation.
        - Maintain documentation of FAA compliance for the UAS and PIC, including flight and maintenance logs, certificate, aircraft registration, training, notifications, Air Traffic Control Tower

(ATC) permissions, and any Certificates of Waiver or Authorization (Waivers). PIC must have registration, certificate, waivers and ATC/landowner permissions in possession during flights.

  - Obtain permission from CES Bureau Chief for each site where the UAV will be operated.
  - Do not operate a UAV over private estate without written permission from the landowner and tenant.
  - Meet all FAA requirements for preflight and flight operations. (Refer to AC 107-2, chapter 5 and Appendix A).
  - Use a Visual Observer for all flights. (Refer to Part 107, 107.33)
- Flight Data
  - Download the flight log and save it if there is any potential need for it in the future. Save those flight log files on the construction share drive. Use filenames that include date and time. Keep all other files for 3 months and then delete the files.
  - Video files are very large. Only store video files on the share drive when necessary.
  - When possible use portable storage devices for storage of video files of low importance.