1.0 PURPOSE

This document establishes citywide policies and procedures regarding the use of unmanned aerial systems. This policy applies to:

1. all unmanned aerial systems owned, provided and/or managed by the City of Fort Worth (City); and
2. all uses of unmanned aerial systems and services provided to the City under agreements with third-party vendors and service providers.

2.0 DEFINITIONS

2.1 **ATC:** Air Traffic Control

2.2 **Aircraft Flight Log:** UAS flight records maintained in the City’s UAS Management System.

2.3 **Certificate of Authorization (COA):** A document issued by the FAA that permits a public entity to conduct flight operations of a UAS within a specific area and altitude clearance. Although a COA is not required for operations, it can grant waivers to certain regulations if necessary to perform public safety functions with a UAS.

2.4 **Code of Federal Regulation (CFR):** General regulations published in the Federal Register by the executive departments and agencies of the United States government.

2.5 **National Airspace System (NAS):** The airspace owned and regulated by the Federal Aviation Administration (FAA).

2.6 **Notice To Airman (NOTAM):** A notice filed with the FAA to alert aircraft pilots of potential hazards along or near a flight route or at a location that could affect the safety of a flight.

2.7 **Preventive Maintenance:** Simple or minor adjustments, or the replacement of small standard parts not involving complex assembly operations.
2.8 **Public Safety Agency:** For the purposes of this administrative regulation, the Fort Worth Police Department, the Fort Worth Fire Department and the Fort Worth City Marshal’s Office are designated as public safety agencies.

2.9 **Registration:** UAS registration marking with FAA number in accordance with 14 CFR Part 45.

2.10 **Scheduled Maintenance:** Periodic maintenance on aircraft at specified intervals.

2.11 **Third-Party Provider:** A commercial provider that offers UAS services under contract usually on a per mission or group of missions basis.

2.12 **UAS Advisory Group:** A committee comprised of representatives from City Departments to help develop policy, procedures and general oversight to the City’s UAS program.

2.13 **UAS Management System:** A software application provided by the City for departments to record and manage pilot activity, UAS maintenance schedules and records, flight plans and other information pertinent to the operation of a City UAS. The system also provides weather briefings, information regarding airspace, checklists, and other information required for the preparation of an effective and safe flight.

2.14 **Unmanned Aerial System (UAS):** An aircraft without a human pilot onboard. The UAS, also called an unmanned aerial vehicle or a drone, is controlled by an operator on the ground. A UAS consists of the aircraft as well as the hardware, software and all peripherals used to control its flight.

2.15 **Unscheduled Maintenance:** Repairs to aircraft in response to mechanical deficiencies.

2.16 **Visual Observer (VO):** Responsible for assisting with the monitoring of the UAS prior to and during flight operations. The VO must maintain visual sight of UAS and maintain contact with the pilot.

3.0 **DEPARTMENTS AFFECTED**

All Departments utilizing one or more unmanned aerial systems, either directly or through a third-party provider.

4.0 **REFERENCES**

4.1 Federal Aviation Regulations, 14 CFR Part 107
4.2 Texas Government Code, Ch. 423, Use of Unmanned Aircraft
4.3 CFW Administrative Regulation D5, Information Technology Security
5.0 POLICY

Every City Department has the opportunity to use Unmanned Aerial Systems as part of its working tools needed to carry out the City’s mission. It is the responsibility of the Department Directors to ensure that the employees in their Department adhere to the City’s policies regarding the use of Unmanned Aerial Systems. Department Directors are also responsible for the application of these policies within their areas of authority.

The Federal Aviation Administration has primary oversight of UAS operations. In the event of a conflict, federal regulations and Texas state statutes take precedence over this administrative regulation.

6.0 PROCEDURES

6.1 Personnel

6.1.1 UAS Program Manager: Aviation Department Director or designated representative shall serve as the City’s primary coordinator for UAS activities in the City. Working as the chairperson of the UAS Advisory Group, the UAS Program Manager will be responsible for coordinating the development and administration of procedures, tools and other aspects of the UAS program to be applied citywide.

6.1.2 Department UAS Coordinator: In each department which utilizes or plans to utilize UAS services, one individual shall be designated as the Department UAS Coordinator. This person will be responsible for the development of department-specific operating procedures and documentation. The Coordinator will ensure operations within the Department comply with City and Department policy. The Coordinator shall serve as the Department’s representative on the UAS Advisory Group. The Coordinator will also ensure that pertinent safety information is circulated and that safety instruction is included as part of annual recurrent pilot training.

6.1.3 Department Maintenance Officer: One person will be designated to coordinate the maintenance for the Department’s UAS aircraft. The individual will be responsible for maintaining each UAS’s maintenance records. The Maintenance Officer may provide input into annual budgeting processes in order to plan for life-limited parts that need to be replaced and for periodic certification and safety inspections. The duties of Maintenance Officer may be assigned to the Department UAS Coordinator.
6.2 Pilots

6.2.1 Qualifications: To be considered for selection as a pilot, applicants must be in good standing with their Departments, and agree to comply with City and Department policy related to UAS operations.

6.2.2 Initial and Recurrent Training: Departments will develop training plans for new and existing pilots and air crew members.

At minimum, initial training should include:

- City and Department policy and standard operating procedures
- UAS Management System
- Emergency procedures and reporting
- Citizen privacy
- Factory authorized training, if available, for the Department’s specific UAS

Pilots must participate in recurrent training at least once annually. Recurrent training must include, at a minimum:

- Emergency procedures
- Updates to federal and/or state regulation
- Updates to City and Department policy
- Citizen privacy
- Lessons learned in previous deployments

Recurrent training will include a meeting in which the Department’s air crew members assemble to review safety procedures and programs. During the meeting, crew members will be solicited for changes to policy, identify potential hazards, update emergency procedures and reporting, and any other aspects of the Department’s UAS safety program.

6.2.3 Certification: Pilots must obtain, possess and maintain a valid FAA Remote Pilot License (UAS) under 14 CFR Part 107. The pilot must also be approved or “certified” by the pilot’s Department in accordance with the Department’s SOP. The entry of the pilot’s data into the UAS Management System will complete the pilot certification process.

6.2.4 Currency Requirements: In order to help maintain proficiency, a pilot operating a UAS on a city mission must have flown three (3) city missions within the previous ninety (90) days. These flights must have been logged in the UAS Management System.
If a pilot does not meet the currency requirement, the pilot may not operate a UAS on a city mission until completing a practice flight consisting of at least:

- Three (3) takeoffs to an altitude of at least fifty (50) feet
- Three (3) landings
- Flight time of ten (10) minutes

Flights to reestablish a pilot’s currency must not exceed an altitude of 150 feet. They must not include overflights of structures or personnel. Practice flights must be logged in the UAS Management System.

6.2.5 **Flight Reviews:** Departments may require each pilot to perform a flight review, or check flight, on an annual basis. Departments with multiple pilots may designate one as check pilot who would be responsible for conducting flight reviews. Reviews should include examination of the pilot’s certificate to ensure currency, review of the pilot’s flight logs as well as observation of a flight including operation of all controls and systems. Check pilots should observe at least three takeoffs and landings as well as basic flight maneuvers. If a Department does not have more than one pilot, a flight review may be conducted by another Department’s check pilot.

6.2.6 **Documentation:** Pilots are responsible for ensuring all flight logs, training records, and other pertinent information is entered, stored and updated in the City’s UAS Management System. Logs will be reviewed periodically by the Department UAS Coordinator to ensure accuracy.

6.2.7 **Disqualification:** Pilots may have their flying privileges revoked by their Department Directors, or their designees, if deemed appropriate. Pilots will be notified in writing or via email. A pilot must be disqualified if the Part 107 certification is not maintained. In addition, a pilot’s privileges of flying City missions may be suspended or revoked if, in the sole opinion of the Department Director or her/his designee, the pilot is unwilling or unable to conduct flight operations in a safe and legal manner due to past performance, lack of currency, medical conditions or any other reasonable cause. A pilot’s refusal to fly for safety reasons may not be cited as cause to remove the pilot’s flying privileges. In addition, any person disqualified under this section may also be subject to discipline in accordance with the City’s Personnel Rules and Regulations.

6.3 **Equipment**

6.3.1 **Type:** Each Department is responsible for the development of its requirements, and for the selection and acquisition of an appropriate UAS to meet those requirements.
6.3.2 **Maintenance**: A properly maintained UAS is essential to safe operations. Compliance with manufacturer’s scheduled maintenance, preflight inspections and immediate repair of mechanical problems will ensure the availability and safety of unmanned aircraft.

6.3.2.1 The Department Maintenance Officer, or Department UAS Coordinator if a Maintenance Officer has not been designated, will ensure that scheduled maintenance is entered into the UAS Management System. All scheduled and unscheduled maintenance must be recorded along with any discrepancy.

6.3.2.2 If scheduled maintenance is not performed when scheduled, the aircraft will be grounded until maintenance is completed.
6.3.2.3 For minor problems not requiring grounding of the aircraft, the problem will be entered in the aircraft maintenance log in the UAS Management System.

6.3.2.4 For major problems requiring aircraft grounding, the problem will be entered in the aircraft maintenance log. A placard will be affixed to the system case indicating the aircraft is not airworthy.

6.3.2.5 Updates to UAS hardware and software will be entered into the aircraft maintenance log.

6.3.2.6 Following maintenance or repairs, a test flight must be conducted prior to placing the UAS back in service.

6.3.3 **Inspections**: Prior to every flight, the pilot shall conduct a thorough inspection of the UAS in accordance with instructions contained in the unmanned aircraft flight checklist provided by the UAS manufacturer. Checklists may be modified with additional items if necessary to ensure the UAS can perform its designated mission. Checklists will be maintained by the Department in the UAS Management System. If a discrepancy is identified during the preflight inspection, procedures outlined in “6.3.2 Maintenance” must be invoked.

6.4 **Operations**

6.4.1 **Flight Crew**: The minimum flight crew for every mission will be the Pilot and the Visual Observer (VO). Concerns on the part of either crew member must be communicated immediately. Pilots and VO’s must question the other crew member whenever there is ambiguity in communications or if conditions exist that could potentially contribute to an unsafe flight.
6.4.1.1 The pilot is directly responsible for and is the final authority over the operation of the unmanned aircraft.

The pilot has absolute authority to reject a flight based on weather, aircraft limitations, physical condition, or any other factor affecting the safety of the flight. No other individual, regardless of management level, may require a pilot to conduct a flight when, in the opinion of the pilot, the flight cannot be conducted safely.
The pilot is responsible for compliance with federal regulations, State laws, COA conditions, City policy and Department SOPs. The pilot will report any non-compliant occurrence to the immediate supervisor and the Department UAS Coordinator as soon as practicable.

6.4.1.2 The VO helps ensure the objectives of the flight mission are accomplished and that the flight is conducted in a safe manner.

The VO will assist the pilot in maintaining visual awareness of the airspace, and will advise the pilot of imminent hazards including other aircraft, terrain, obstructions and adverse weather conditions.

The VO will avoid unnecessary communications with the pilot during takeoff and landing, but will help ensure that areas are clear during those flight segments.

6.4.2 **Flight Plans:** Before each flight, the pilot will become familiar with all available information concerning the flight, and will plan the flight accordingly.

6.4.2.1 The plan must be entered into the UAS Management System prior to the flight. Information should include, but is not limited to:

- Pilot name
- UAS
- Mission purpose
- Area of flight
- Estimated time and duration of flight

6.4.2.2 Exceptions to this requirement may include certain flights related to public safety and incident response if the response time precludes entry into the UAS management system. This exception applies only to the requirement to enter the flight plan into the UAS Management System prior to the flight. All other flight preparation and planning is required. All relevant information regarding the flight must be entered as soon as practicable after termination of the flight.
6.4.3 **Police Communications:** With the exception of missions flown by public safety agencies, the pilot must send an email no later than thirty (30) minutes prior to scheduled commencement of the flight to Fort Worth Police Communications (zz_CPD_Communications Supv) prior to the flight. Information should include, but is not limited to:

- Department
- Pilot name
- VO name
- VO mobile telephone number
- Mission purpose
- Area of flight
- Estimated time and duration of flight

6.4.4 **Weather Briefing:** Prior to initiating a flight, the pilot will obtain a weather briefing. Subsequent to the initial briefing, the pilot will obtain additional weather information as required to continue the flight safely.

6.4.5 **Airspace Awareness:** The pilot and the VO will be aware of airspace classifications of the flight area, including proximity to restricted areas or areas requiring ATC clearance prior to entry.

6.4.6 **Ground Handling:** The pilot is responsible for operation of the UAS both in the air and on the ground. The pilot, with assistance of the VO, will ensure that adequate clearance is maintained prior to takeoffs and landings. The pilot will also ensure that no unauthorized items are attached to the aircraft.

6.4.7 **Post Flight:** The pilot will conduct a thorough inspection of the UAS immediately after completion of the mission to detect any damage sustained during operation. If necessary, the aircraft will be serviced to ensure its availability for the next flight. Batteries will be placed on charge.

Necessary entries will be made into the aircraft and pilot flight logs in the UAS Management System.

6.4.8 **Flight Restrictions:** Certain limitations apply to the use of UAS by City Departments.

6.4.8.1 Any flight operated by a City Department must be limited to the permissible use by the FAA, State law, City Policy, and Department SOPs.

6.4.8.2 Personal use of City-owned UAS is prohibited. The use of personally-owned UAS for City missions is prohibited.
6.4.8.3 Flight into instrument meteorological conditions, thunderstorms or other severe weather is prohibited. No aircraft operations, with the exception of extreme emergencies, will be conducted under Visual Flight Rules (VFR) when flight visibility is less than three (3) statute miles. No aircraft operations will be conducted when the ceiling is less than 1000 feet above ground level (AGL).

6.4.8.4 Maximum operating altitude must comply with the applicable federal regulations or COA. The minimum altitude is one at which operations can be conducted without undue risk to persons or property on the ground.

6.4.8.5 If the pilot or VO develop fatigue or a sudden illness, the flight shall be terminated as soon as practicable. If the UAS has auto-landing capability, then auto-landing procedures should be initiated as soon as practicable as long as the landing can be made safely.

6.5 **Safety**

6.5.1 **Ground Safety:** The pilot, assisted by the VO, is responsible for ensuring ground operations are conducted safely.

6.5.1.1 The pilot and VO will maintain constant awareness of dangers to ground personnel from moving propeller or rotor blades.

6.5.1.2 The pilot will not under any circumstances leave any unauthorized person in charge of the UAS controls while the motor is running. If it is necessary for the pilot to leave the UAS, the motor will be shut down, and the controls deactivated.

6.5.1.3 Only mission-essential personnel will be in proximity to UAS launch and recovery activities.

6.5.1.4 When operating over populated areas, the pilot will ensure that a defined flight perimeter is established to limit the potential of persons being present beneath the UAS flight path.

6.5.2 **Accident Response:** Following an accident, the primary concern will be the prevention of injury to persons on the ground and to other users of the NAS. Secondary concerns include protection of property. Following a UAS accident involving personal injury and/or significant property damage, the aircrew will perform the following actions:
6.5.2.1 Immediately notify law enforcement, providing as much information as possible about the extent of injuries or damage.

6.5.2.2 Request first aid to the injured.

6.5.2.3 Notify the Department UAS Coordinator, who will notify the Department Director, or her/his designee, and the Department Safety Liaison.

6.5.2.4 Request law enforcement to notify the FAA and NTSB, if applicable.

6.5.2.5 Survey the damage to the aircraft and other property. Document the situation and take photographs of the accident and surrounding environment.

6.5.2.6 Prior to the arrival of the FAA or the National Transportation Safety Board (NTSB), ensure the aircraft and its contents are moved only to the extent necessary to remove injured persons, protect the public from injury, or protect the wreckage from further damage.

6.5.2.7 Comply with all applicable federal regulations.

6.5.2.8 Submit a detailed report to the Department UAS Coordinator.

6.5.3 **Hazards Reporting:** All aircrew members must monitor and report any safety hazard, whether procedural, operational or maintenance related, to the Department UAS Coordinator.

6.5.3.1 The Coordinator will take appropriate action within the Department, if applicable.

6.5.3.2 If the hazard applies citywide, the Coordinator will forward the finding to the UAS Manager for presentation and consideration by the UAS Advisory Group.

6.5.4 **Aircrew Condition:** Each aircrew member is responsible for ensuring she/he is rested and emotionally prepared for each flight.

6.5.4.1 A self-assessment of physical condition will be made by all aircrew members as part of the preflight activity. Physical illness, exhaustion, or emotional concerns can seriously impair judgment, memory and alertness. Aircrew members will ground themselves when these problems could affect their ability to perform flight duties.
6.5.4.2 No UAS aircrew member may participate in flight activities after consumption of any alcoholic beverage within the previous eight (8) hours.

6.6 Use of Third-Party Providers

6.6.1 Qualifications: Departments must exercise due diligence to ensure external service providers are adequately qualified to perform the mission for which they are contracted, particularly regarding their ability to conduct operations in a safe manner.

6.6.2 Compliance with Administrative Regulation: Although Third-Party Providers are expected to maintain their own internal policies and regulations, compliance by the third party with this administrative regulation is not required, such as provisions for use of the UAS Management System for flight, pilot and aircraft logs. However, the Department is required to comply with applicable provisions of this Administrative Regulation, such as protection of data and information.

6.6.3 Police Communications: Prior to a mission conducted by a Third-Party Provider, the Department’s mission/project coordinator must send an email no later than thirty (30) minutes prior to the scheduled commencement of the flight to Fort Worth Police Communications (zz_CPD_Communications Supv). Information should include, but is not limited to:

- Department
- Department contact name
- Department contact mobile telephone number
- Mission purpose
- Area of flight
- Estimated time and duration of flight

6.7 Data and Information

6.7.1 Collection of Data: A UAS may collect only the data and information necessary to achieve the authorized purpose of the mission. UAS data may not be used for personal purposes. Departments are prohibited from using a UAS to collect information on individuals or private property except for purposes specifically defined in an authorized mission.

6.7.2 Retention: Only data that meets legitimate mission objectives, including but not limited to digital photographs, digital video, infrared images and sound recordings, should be retained after the mission has been completed.
6.7.2.1 Data not required for mission objectives will be deleted within 10 business days of the conclusion of the flight.

6.7.2.1 Data collected that may contain Personally Identifiable Information (PII) will not be retained for more than 180 days unless retention of the information is determined to be necessary to an authorized mission of the Department; is maintained with safeguards specified in Administrative Regulation D5 (Information Technology Security); or is required to be retained for a longer period by applicable law or regulation.

6.7.3 Protection of Privacy: Departments must ensure that reasonable steps are taken to protect the privacy of Fort Worth residents and visitors.

6.7.3.1 In the absence of a compelling need to do otherwise, or the consent of the data subjects, operators should avoid using UAS for the specific purpose of intentionally collecting data when the operator knows the data subject has a reasonable expectation of privacy.

6.7.3.2 In the absence of a compelling need to do otherwise, or the consent of the data subjects, operators should avoid using UAS for the specific purpose of persistent and continual collection of data about individuals.

6.7.3.3 Where it will not impede the purpose for which the UAS is used or conflict with FAA regulation and guidelines, the pilot should make a reasonable effort to minimize UAS operations overs or within private property without consent of the property owner or without appropriate legal authority.

6.7.4 Data Sharing: Where multiple departments can benefit from a single UAS mission, data collected on that mission may be shared among multiple departments. Each Department will ensure that only data required for that Department’s purpose is retained by the Department. The retention of all other data will align with requirements specified elsewhere in this section.

6.8 Departments

6.8.1 Responsibilities: Each Department utilizing UAS operations, either directly or through a third-party provider, is responsible for compliance with applicable regulations and policies. Such departments will appoint a Department UAS Coordinator.

6.8.2 Standard Operating Procedure: Each Department utilizing UAS should develop a Standard Operating Procedure (SOP) to address its unique operating
environment. The SOP should be posted in the document repository in the UAS management system.

6.8.3 **Certificate of Authorization:** Each Department is responsible for ensuring its operations comply with all applicable federal regulations, state statutes and City policies. If a public safety agency requires exceptions or waivers to the federal regulations in order to fulfill its missions, that Department is responsible for applying for and maintaining a Certificate of Authorization (COA). The Department’s UAS Coordinator will notify the City’s UAS Manager of its intention to apply for the COA, and again once the COA is granted or denied. A copy of the COA should be posted in the document section of the UAS Management System.

6.9 **Governance**

6.9.1 **UAS Advisory Group:** Although each Department is responsible for managing and administering its UAS activities, the UAS Advisory Group will monitor activities and promote operations which are safe; in compliance with federal, state and local regulations; and in compliance with City policy.

6.9.1.1 The UAS Advisory Group will help ensure the City’s UAS operations are transparent to the public which it serves.

6.9.1.2 The UAS Advisory Group will meet quarterly or as required.

6.9.2 **Annual Reporting:** Each Department utilizing UAS operations or services must submit a report to the UAS Manager by February 1 of each year summarizing the previous calendar year’s UAS activity. Information will include, but is not limited to:

- Number of flights
- General purpose of flights
- List of drones
- List of pilots with number of flights
- List of third-party providers
- Brief description of incidents

6.9.3 **Compliance Audits:** The UAS Manager or her/his designee may perform audits to gauge compliance with City policy.

6.9.3.1 Departments will permit the UAS Manager to examine records, data and information relevant to the compliance audit.

6.9.3.2 Audit records must be retained by the UAS Manager for three years.
7.0 POLICY ADOPTION & REVISION HISTORY

Policy approved by City Manager: November 20, 2019