



**Washington State
Department of Transportation**

sUAS User's Manual

M 3134.05

December 2022

Aviation Division

ENGLISH

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It is the Washington State Department of Transportation's (WSDOT) policy to assure that no person shall, on the grounds of race, color, national origin, as provided by Title VI of the Civil Rights Act of 1964, be excluded from participation in, be denied the benefits of, or be otherwise discriminated against under any of its programs and activities. Any person who believes his/her Title VI protection has been violated, may file a complaint with WSDOT's Office of Equity and Civil Rights (OECR). For additional information regarding Title VI complaint procedures and/or information regarding our non-discrimination obligations, please contact OECR's Title VI Coordinator at 360-705-7090.

Americans with Disabilities Act (ADA) Information

This material can be made available in an alternate format by emailing the Office of Equity and Civil Rights at wsdotada@wsdot.wa.gov or by calling toll free, 855-362-4ADA(4232). Persons who are deaf or hard of hearing may make a request by calling the Washington State Relay at 711.

ESPAÑOL

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한국어 - KOREAN

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미국 장애인법(ADA) 정보

본 자료는 또한 평등 및 민권 사무국에 이메일 wsdotada@wsdot.wa.gov 을 보내시거나 무료 전화 855-362-4ADA(4232)로 연락하셔서 대체 형식으로 받아보실 수 있습니다. 청각 장애인은 워싱턴주 중계 711로 전화하여 요청하실 수 있습니다.

русский - RUSSIAN

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Эту информацию можно получить в альтернативном формате, отправив электронное письмо в Ведомство по вопросам равенства и гражданских прав по адресу wsdotada@wsdot.wa.gov или позвонив по бесплатному телефону 855-362-4ADA(4232). Глухие и слабослышащие лица могут сделать запрос, позвонив в специальную диспетчерскую службу штата Вашингтон по номеру 711.(4232). Глухие и слабослышащие лица могут сделать запрос, позвонив в специальную диспетчерскую службу штата Вашингтон по номеру 711.

tiếng Việt - VIETNAMESE

Thông báo Khoản VI dành cho công chúng

Chính sách của Sở Giao Thông Vận Tải Tiểu Bang Washington (WSDOT) là bảo đảm không để cho ai bị loại khỏi sự tham gia, bị từ khước quyền lợi, hoặc bị kỳ thị trong bất cứ chương trình hay hoạt động nào vì lý do chủng tộc, màu da, hoặc nguồn gốc quốc gia, theo như quy định trong Mục VI của Đạo Luật Dân Quyền năm 1964. Bất cứ ai tin rằng quyền bảo vệ trong Mục VI của họ bị vi phạm, đều có thể nộp đơn khiếu nại cho Văn Phòng Bảo Vệ Dân Quyền và Bình Đẳng (OECR) của WSDOT. Muốn biết thêm chi tiết liên quan đến thủ tục khiếu nại Mục VI và/hoặc chi tiết liên quan đến trách nhiệm không kỳ thị của chúng tôi, xin liên lạc với Phó Trí Viên Mục VI của OEER số 360-705-7090.

Thông tin về Đạo luật Người Mỹ tàn tật (Americans with Disabilities Act, ADA)

Tài liệu này có thể thực hiện bằng một hình thức khác bằng cách email cho Văn Phòng Bảo Vệ Dân Quyền và Bình Đẳng wsdotada@wsdot.wa.gov hoặc gọi điện thoại miễn phí số, 855-362-4ADA(4232). Người điếc hoặc khiếm thính có thể yêu cầu bằng cách gọi cho Dịch vụ Tiếp âm Tiểu bang Washington theo số 711.

العربية - ARABIC

العنوان 6 إشعار للجمهور

تتمثل سياسة وزارة النقل في ولاية واشنطن (WSDOT) في ضمان عدم استبعاد أي شخص، على أساس العرق أو اللون أو الأصل القومي من المشاركة في أي من برامجها وأنشطتها أو الحرمان من الفوائد المتاحة بموجبها أو التعرض للتمييز فيها بخلاف ذلك، كما هو منصوص عليه في الباب السادس من قانون الحقوق المدنية لعام 1964. ويمكن لأي شخص يعتقد أنه تم انتهاك حقوقه التي يكفلها الباب السادس تقديم شكوى إلى مكتب المساواة والحقوق المدنية (OEER) التابع لوزارة النقل في ولاية واشنطن. للحصول على معلومات إضافية بشأن إجراءات الشكاوى وأو بشأن التزاماتنا بعدم التمييز بموجب الباب السادس، يرجى الاتصال بمنسق الباب السادس في مكتب المساواة والحقوق المدنية على الرقم 360-705-7090.

معلومات قانون الأمريكيين ذوي الإعاقة (ADA)

يمكن توفير هذه المواد في تنسيق بديل عن طريق إرسال رسالة بريد إلكتروني إلى مكتب المساواة والحقوق المدنية على wsdotada@wsdot.wa.gov أو عن طريق الاتصال بالرقم المجاني: 855-362-4ADA (4232). يمكن للأشخاص الصم أو ضعاف السمع تقديم طلب عن طريق الاتصال بخدمة Washington State Relay على الرقم 711.

中文 - CHINESE

《权利法案》Title VI公告

<華盛頓州交通部(WSDOT)政策規定，按照《1964年民權法案》第六篇規定，確保無人因種族、膚色或國籍而被排除在WSDOT任何計畫和活動之外，被剝奪相關權益或以其他方式遭到歧視。如任何人認為其第六篇保護權益遭到侵犯，則可向WSDOT的公平和民權辦公室(OEER)提交投訴。如需關於第六篇投訴程式的更多資訊和/或關於我們非歧視義務的資訊，請聯絡OEER的第六篇協調員，電話360-705-7090。

《美国残疾人法案》(ADA)信息

可向公平和民權辦公室發送電子郵件wsdotada@wsdot.wa.gov或撥打免費電話 855-362-4ADA(4232)，以其他格式獲取此資料。听力丧失或听觉障碍人士可拨打711联系Washington州转接站。

Af-soomaaliga - SOMALI

Ciwaanka VI Ogeysiiska Dadweynaha

Waa siyaasada Waaxda Gaadiidka Gobolka Washington (WSDOT) in la xaqiijiy in aan qofna, ayadoo la cuskanaayo sababo la xariira isir, midab, ama wadanku kasoo jeedo, sida ku qoran Title VI (Qodobka VI) ee Sharciga Xaquuqda Madaniga ah ah oo soo baxay 1964, laga saarin ka qaybgalka, loo diidin faa'iidooyinka, ama si kale loogu takoorin barnaamijyadeeda iyo shaqooyinkeeda. Qof kasta oo aaminsan in difaaciisa Title VI la jebiyay, ayaa cabasho u gudbin kara Xafiiska Sinaanta iyo Xaquuqda Madaniga ah (OEER) ee WSDOT. Si aad u hesho xog dheeraad ah oo ku saabsan hanaannada cabashada Title VI iyo/ama xogta la xariirta waajibbaadkeena ka caagan takoorka, fadlan la xariir Iskuduwaha Title VI ee OEER oo aad ka wacayso 360-705-7090.

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If you have difficulty understanding English, you may, free of charge, request language assistance services by calling 564-999-3337 or email us at: henslee@wsdot.wa.gov

ESPAÑOL – SPANISH

Servicios de traducción

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한국어 – KOREAN

번역 서비스

영어로 소통하는 것이 불편하시다면 564-999-3337, 으로 전화하시거나 다음 이메일로 연락하셔서 무료 언어 지원 서비스를 요청하실 수 있습니다: henslee@wsdot.wa.gov

русский – RUSSIAN

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Если вам трудно понимать английский язык, вы можете запросить бесплатные языковые услуги, позвонив по телефону 564-999-3337, или написав нам на электронную почту: henslee@wsdot.wa.gov

tiếng Việt – VIETNAMESE

các dịch vụ dịch thuật

Nếu quý vị không hiểu tiếng Anh, quý vị có thể yêu cầu dịch vụ trợ giúp ngôn ngữ, miễn phí, bằng cách gọi số 564-999-3337, hoặc email cho chúng tôi tại: henslee@wsdot.wa.gov

العَرَبِيَّةُ – ARABIC

خدمات الترجمة

إذا كنت تجد صعوبة في فهم اللغة الإنجليزية، فيمكنك مجاناً طلب خدمات المساعدة اللغوية عن طريق الاتصال بالرقم 564-999-3337 أو مراسلتنا عبر البريد الإلكتروني : henslee@wsdot.wa.gov

中文 – CHINESE

翻译服务

如果您难以理解英文，则请致电：564-999-3337，或给我们发送电子邮件：henslee@wsdot.wa.gov，请求获取免费语言援助服务。

Af-soomaaliga – SOMALI

Adeegyada Turjumaada

Haddii ay kugu adag tahay inaad fahamtid Ingiriisida, waxaad, bilaash, ku codsan kartaa adeegyada caawimada luuqada adoo wacaaya 564-999-3337 ama iimayl noogu soo dir: henslee@wsdot.wa.gov

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Section 1 Introduction

The Washington State Department of Transportation (WSDOT) has implemented the use of Small Uncrewed Aircraft Systems (sUAS) throughout several of its departments in support of its mission “to provide safe, reliable and cost-effective transportation options to improve communities and economic vitality for people and businesses.” In order to promote safe operations, ensure public and employee safety, and regulatory compliance while carrying out sUAS activities, WSDOT has developed and instituted this *sUAS User’s Manual* as a departmental guide. Secretary’s Executive Order Number E 1097.02 outlines Washington State Department of Transportation (WSDOT) policy for procurement and use of Uncrewed Aircraft Systems (UAS), also known as “Drones” for WSDOT purposes.

Under the Federal Aviation Administration (FAA) Notice of Proposed Rulemaking (June 28, 2016, titled Operation and Certification of Small Unmanned Aircraft Systems), and continual application of evolving drone regulations, the FAA has established operating and certification requirements for drone operations. Part 107 to Title 14 of the Code of Federal Regulations creates the necessary framework for public and commercial operation of sUAS in the National Airspace System and provides safety rules for such operations.

1-1 Use of This Manual

This manual provides the basic framework necessary to maintain, mission plan and operate Uncrewed Aircraft Systems within WSDOT. Guidance contained in this user’s manual is intended to comply with FAA regulations, Washington Administrative Codes, Revised Code of Washington, and departmental directives for the use of sUAS weighing less than 55 pounds (25 kilograms). If conflict between the content of this manual and any federal or state regulations exists, the most stringent directive will be applied to ensure safe operations and compliance with regulatory guidance. sUAS Coordinators with direct supervisory roles may prescribe additional (add-to) requirements as needed to ensure safety and operational goals are met.

If regulations referenced in this manual change or safer and more effective operational methods are developed, it is the responsibility of all sUAS crew members to notify and provide input to their supervisory staff to effect changes to this document. The contents of this manual will at a minimum be reviewed annually for accuracy and relevance with current policies and regulations. WSDOT’s Aviation Division will be responsible for the coordination of the annual review of sUAS policy and this manual.

A copy of this manual and all forms specified herein shall be available at every location where sUAS operations are conducted. WSDOT sUAS team members shall study this manual and have a working knowledge of the policies and procedures contained herein.

Safety is the primary consideration for all WSDOT activities, therefore, sUAS operations are to be conducted in a manner that provides an accident free workplace. Planning should eliminate or mitigate the risk of injury to WSDOT personnel and bystanders, damage to equipment, the environment, and private and/or public property.

Ultimately, each sUAS crew member is responsible for their own safety and should assess their own limitations, notifying their supervisor immediately when a task or conditions are beyond their capability, training, or if they believe a situation is unsafe.

1-2 Operations During Periods of Emergency

Nothing in this manual shall be construed as to restrict the safe, rapid deployment of agency-owned or contracted sUAS in response to emergencies or exigent situations to protect life and limb, critical transportation infrastructure, and/or the environment.

Section 2 sUAS Purpose and Program Objectives

2-1 Purpose

WSDOT recognizes the following activities for which sUAS could be used in support of its daily operations. This list includes but is not limited to the following:

Project Operations and Management

- Planning
- Aerial mapping and surveying
- Project documentation
- Design
- Photogrammetry
- Construction
- Monitoring

Facilities/Maintenance Operations

- Planning
- Surveying
- Inspections

Emergency Operations

- Flooding
- Earthquakes
- Landslides
- Rock fall

Public Affairs

- Media relations
- Public outreach
- Operations and maintenance monitoring
- Visual analysis
- 3D reality mesh modeling
- Avalanche detection, monitoring, control
- Landslide/rock fall/debris flow investigation, monitoring, control
- Security
- Monitoring
- Debris flows
- Drought
- Damage to State facilities
- Education – (videography or photography) of facilities

To help meet these activity requirements, select WSDOT personnel shall be trained to provide the necessary expertise in a safe and professional manner. WSDOT sUAS activities are carried out by authorized teams of trained employees.

2-2 Objectives

Objectives of this user's guide include:

- Ensure the safety of WSDOT sUAS team members and the public when conducting sUAS activities.
- Establish minimum guidelines for qualifications, safety, training, security, and operational procedures when conducting sUAS operations/projects.
- Identify policy to ensure sUAS operations do not intrude upon the privacy and civil rights of citizens and the general public.
- Facilitate the administration of sUAS activities within WSDOT.

Section 3 Definitions, Roles and Responsibilities

This section defines applicable terms and outlines the roles and responsibilities of each WSDOT employee directly involved in sUAS activities. For requirements related to using outside contracting services or coordinating missions/projects with other agencies and organizations, refer to [Section 5](#).

3-1 Definitions

3-1.1 sUAS

sUAS – A Small Uncrewed Aircraft Systems consists of an uncrewed aircraft (defined by statute, as an uncrewed aircraft weighing less than 55 pounds) and the equipment necessary for the safe and efficient remote operation of that aircraft (digital cameras, sensors and associated hardware and post-processing software).

3-1.2 Commonly Used Acronyms

AGL	Above Ground Level
COA	Certificate of Waiver or Authorization (issued by the FAA)
FAA	Federal Aviation Administration
HATS	Highway Activity Tracking System
BVLOS	Beyond Visual Line of Sight
NAS	National Air Space
RTH	Return to Home
RTL	Return to Landing
sUAS	Small Uncrewed Aircraft System
VO	Visual Observer
PIC	Pilot in Command

3-2 Roles and Responsibilities

sUAS related duties to the extent applicable, will be included in the Classified Position Description (CPD) for many positions, including but not limited to: Engineers, Technicians, Inspectors, Environmental Scientists, Photographers, Videographers, Geologists, Geotechnical Specialists.

sUAS Personnel – consists of an approving authority for sUAS operations (or delegate), a Region/HQ Division level sUAS Coordinator, a region/HQ Division sUAS Remote Pilot, and may include a Visual Observer, Camera Operator, and Support Personnel.

sUAS Crew – sUAS crew members include the Pilot in Command (sUAS Remote Pilot), and at the discretion of the PIC or sUAS Coordinator may include a Visual Observer, Camera Operator, and Support Personnel.

sUAS Approving Authority – The Approving Authority will assign the duties of sUAS Remote Pilot and sUAS Coordinator to qualified WSDOT employees. Procurement of sUAS systems resides with the approving authority as referenced in paragraph 5.4 (Procurement of sUAS for Agency Use and Use of Privately Owned UAS) of this publication.

sUAS Coordinator – Is the administrator of the sUAS Program at a Region or HQ Division level. The sUAS Coordinator oversees and speaks to all sUAS activity within a Region or HQ Division including, but not limited to, contracting, procurement, planning, community engagement and outreach, mission execution, sUAS maintenance needs, incident response, training management, and records retention.

The Aviation Division is responsible for training sUAS Coordinators. The sUAS Coordinator responsibilities include, but are not limited to:

- Assigning a sUAS Remote Pilot and crew members, as necessary, for each sUAS mission.
- Scheduling and planning sUAS activities in a safe manner and in accordance with this manual and WSDOT policy.
- Reviewing the sUAS Mission Plan and Risk Assessment prior to the assigned sUAS activity (emergency responses excepted).
- Contact with the appropriate WSDOT staff for coordination of any nearby facilities, landowners or communities that may be affected by operating the sUAS in their vicinity.
- Serving as the point of contact for any concerns about the safety of sUAS activities.
- Terminating organic or contracted sUAS activities at any time due to unsafe or changing/unanticipated conditions encountered prior to or during flight.
- Ensuring a flight/project log record of all sUAS activities is kept on file in accordance with WSDOT record retention policy.

3-2.1 sUAS Remote Pilot and Pilot In Command Designation

sUAS Remote Pilot – Is a Part 107 certificated sUAS operator which performs flight control duties for the sUAS. A Pilot In Command is an assigned position of responsibility within the sUAS crew, and must be designated for every mission flown in accordance with [14 CFR Part 107.19](#). The PIC is the remote pilot responsible for the flight planning of assigned sUAS missions, obtaining mission approval, pre/during/post flight activities, and is ultimately responsible for the safe operation of the sUAS and compliance with all applicable regulations (14 CFR Part 107.19). Multiple remote pilots may participate in one flight operation under the supervision of a certificated PIC, such as when conducting operator training. Drone pilots must maintain all Remote Pilot certificate requirements outlined in [14 CFR Part 107.12](#) and this manual.

The sUAS PIC responsibilities include, but are not limited to:

- Conducting and documenting pre-flight assessments using the mission plan and risk assessment processes for review and approval.
- Performing thorough pre-flight inspections of the aircraft transmitter, and ensuring that all equipment and settings are in order prior to initiating flight.
- Conducting pre and post-mission briefings with the sUAS crew addressing crew readiness, environmental conditions, aircraft status, individual duties, emergency procedures, anticipated hazards and specific mission considerations for the sUAS.
- Ensure compliance with Pre-Activity Safety Plan, FAA remote pilot license certificate is on hand, any authorized Certificate of Waivers or related FAA documents, and the specific sUAS applicable manuals are available on-site.
- Operating the sUAS in a safe and effective manner in accordance with the manufacturer's user manual.
- If required, designating a location where the visual observer (VO) and support personnel shall be positioned.

- Ensuring the sUAS is flown within [14 CFR Part 107](#) requirements.
- Coordinate for prior authorization of flights conducted in controlled airspace through governing agency (FAA/LAANC).
- Terminating sUAS activities at any time unsafe or unanticipated conditions occur prior to, during flight, or when non-participating manned aircraft enters flight operations area.
- Overseeing all onsite sUAS activities and ensuring that all activities are being carried out in a safe manner.
- Ensuring a copy of the sUAS Flight log is filed in Highway Activity Tracking System (HATS) for all missions flown.

3-2.2 sUAS Visual Observer (VO)

sUAS Visual Observer – A designated crewmember who has been provided with sufficient training to be able to clearly communicate and act as a second set of eyes for the sUAS Remote Pilot. The Visual Observer is assigned by the Pilot in Command and supports the sUAS Remote Pilot in identification of hazards that provides the Remote Pilot with sufficient time to ensure safe operation of sUAS or termination of flight prior to an incident or accident. The Visual Observer may also assist with any emergency response procedures in the event of an emergency, incident, or accident.

The sUAS Visual Observer responsibilities include, but are not limited to:

- Assisting the Remote Pilot in maintaining visual contact on the sUAS vehicle.
- Scanning the airspace where the sUAS is operating for any potential aircraft or collision hazards and maintaining a see-and-avoid awareness of the position of the aircraft and the surrounding airspace through direct visual observation.
- Assisting the Remote Pilot in identifying any potential hazards or changing conditions that may affect the mission or the safety of persons or property.
- Communicating to the Remote Pilot the active flight status of the sUAS and any hazards which may enter the area of operation so that the Remote Pilot can take appropriate action.
- Watching and listening for any abnormal sounds or flight characteristics being exhibited by the sUAS.
- Being prepared to carry out emergency plans and procedures in the event of an emergency incident or accident.

3-2.3 Support Personnel

sUAS Support Personnel – Employees designated at the discretion of the sUAS Coordinator as a crewmember during sUAS operations to assist the Pilot in Command and Visual Observer in the safe operation and accomplishment of the mission. The support personnel's duties may resemble that of the Visual Observer, but specific duties should be assigned during the pre-mission planning and performed in the support role identified by the Remote Pilot. A support member may perform duties of camera operator. The camera operator may use an optional radio control transmitter to operate only the onboard camera.

The support personnel responsibilities include, but are not limited to:

- Following the instructions of the sUAS PIC.
- Monitoring airspace and site conditions that may adversely affect sUAS flight operations.
- Carry out emergency plans in the event of an emergency incident or accident.

Section 4 *Airspace Standards and Rules*

4-1 **Federal Aviation Administration**

FAA Certificated remote pilots with a properly registered aircraft, are authorized flight in Class G airspace if all operating requirements in the sUAS Rule (Part 107) are followed.

Flight in controlled airspace (Classes B, C, D, or E) or deviations from existing restrictions, contained in 14 CFR Part 107 rulemaking must be prior-approved through an FAA issued Certificate of Waiver, UAS Service Supplier Low Altitude Authorization and Notification Capability (LAANC), or directly through an authorization request on the FAA.gov web portal. The Small UAS Rule (14 CFR part 107) is only applicable to uncrewed aircraft (drones) that weigh less than 55 pounds at takeoff. To fly an uncrewed aircraft that weighs 55 pounds or more, operators must apply for an exemption under the Special Authority for Certain Unmanned Systems (49 U.S.C. §44807) or apply for certification.

The Operations Over People rule became effective on April 21, 2021. Drone pilots operating under Part 107 may fly at night, over people and moving vehicles without a waiver as long as they meet the requirements defined in the rule. Airspace authorizations are still required for night operations in controlled airspace under 400 feet.

The Remote Identification (RID) rule was enacted by the FAA in April of 2022 with an operator compliance date of September 2023. All systems employed by WSDOT personnel (or their contracted representatives) after the mandatory compliance date must conform with the requirements of the RID rule before operating the UAS. No deviations are allowed without prior authorization issued by the FAA and appropriate risk-approval authority designated by the regional administrator.

4-2 **Airspace Categories**

There are two categories of airspace or airspace areas:

- a. sUAS operators must keep the aircraft in sight (visual line-of-sight) or have prior approval from the FAA allowing Beyond Visual Line of Sight operations (COA or Waiver).
- b. Must fly below 400 feet AGL or within 400 feet of a structure whose height exceeds the 400 foot AGL limitation (e.g. communications towers).
- c. Can fly during the civil daylight hours or during the period of civil twilight only when the operator has completed the appropriate FAA prescribed training and has equipped the UAS with anti-collision lighting visible for at least 3 statute miles.
- d. Must fly at or below 100 mph.
- e. Must yield right of way to manned aircraft.
- f. sUAS operators should avoid flight over people. Flight over people is permissive only when operator and sUAS system meet the training and equipment requirements (propeller guards and kinetic energy impact thresholds) defined within the FAA's "Operations Over People" rule (AC 107-2A).
- g. Must NOT fly from a moving land or water-borne vehicle unless the small uncrewed aircraft is flown over a sparsely populated area
- h. Must NOT fly over stadiums or sports events.
- i. Never fly near airports without prior FAA authorization.
- j. Never fly near emergency response efforts such as fires.

4-3 sUAS Specific Airspace Rules

FAA Certificated remote pilots with a properly registered aircraft, are authorized flight in Class G airspace as long as all operating requirements in the sUAS Rule (Part 107) are followed.

Flight in controlled airspace (Classes B, C, D, or E) or deviations from existing restrictions, contained in 14 CFR Part 107 rulemaking must be prior-approved through the Certificate of Waiver, UAS Service Supplier Low Altitude Authorization and Notification Capability (LAANC), or directly through an authorization request on the FAA.gov web portal. The Small UAS Rule (14 CFR part 107) is only applicable to uncrewed aircraft (drones) that weigh less than 55 pounds at takeoff. To fly an uncrewed aircraft that weighs 55 pounds or more, operators must apply for an exemption under the Special Authority for Certain Unmanned Systems (49 U.S.C. §44807) or apply for [certification](#).

The [Operations Over People rule](#) became effective on April 21, 2021. Drone pilots operating under [Part 107](#) may fly at night, over people and moving vehicles without a waiver as long as they meet the requirements defined in the rule. [Airspace authorizations](#) are still required for night operations in controlled airspace under 400 feet.

Listed below are sUAS specific operational limitations:

- a. sUAS operators must keep the aircraft in sight (visual line-of-sight) or have prior approval from the FAA allowing Beyond Visual Line of Sight operations (COA or Waiver).
- b. Must fly below 400 feet AGL or within 400 feet of a structure whose height exceeds the 400 foot AGL limitation (e.g. communications towers).
- c. Can fly during the civil daylight hours or during the period of civil twilight only when the operator has completed the appropriate FAA prescribed training and has equipped the UAS with anti-collision lighting visible for at least 3 statute miles.
- d. Must fly at or below 100 mph.
- e. Must yield right of way to manned aircraft.
- f. sUAS operators should avoid flight over people. Flight over people is permissive only when operator and sUAS system meet the training and equipment requirements defined within the FAA's "[Operations Over People](#)" rule.
- g. Must NOT fly from a moving land or water-borne vehicle unless the small uncrewed aircraft is flown over a sparsely populated area
- h. Must NOT fly over stadiums or sports events.
- i. Never fly near airports without prior FAA authorization.
- j. Never fly near emergency response efforts such as fires.

The FAA may issue a certificate of waiver (see [Appendix A](#) and [Appendix B](#) for examples of waiver authorizations) to authorize a deviation from any restrictions specified in Part 107 if it finds the proposed sUAS operation can be safely conducted under the terms of the certificate of waiver. A request for a certificate of waiver or authorization must contain a complete description of the proposed operation and justification which outlines the necessity and the safeguards adopted for the operation. The FAA Administrator may prescribe additional limitations which may be considered necessary.

A person who receives a certificate of waiver issued under this section must comply with any conditions or limitations that are specified in the issued certificate of waiver.

4-4 Washington State Department of Enterprise Services Uncrewed Aircraft System Rules for State Capital Campus

The sUAS rules prohibit launching, landing or operating sUAS on the Capitol Campus. This includes sUAS as well as remote-control model aircraft flown for recreational and business purposes ([Chapter 200-250](#) Washington Administrative Code).

Section 5 **Special Considerations and sUAS Contract Services**

5-1 **Protection of Individual and Personal Information**

UAS operators, whether WSDOT employees or contracted service vendors in support of WSDOT projects, will limit operations to the specific approved purpose of the project and shall employ reasonable precautions to avoid capturing images of the public except those that are incidental to the project. UAS operations shall be in accordance with the Washington State Policy Guidelines for Uncrewed Aircraft Systems, WSDOT privacy policies, and the provisions of Revised Code of Washington ([RCW 9.73](#)).

5-2 **Communications and Community Engagement**

Recorded aerial video, when applicable, shall be made available in a timely manner for communications staff to use for public outreach/communication purposes. Regional or programmatic communications staff can request aerial footage for public outreach purposes if it is necessary to facilitate successful project communications.

Public outreach/notification strategies shall be discussed and/or developed for each project utilizing an UAS that could reasonably be viewed by the public when it is in flight, in coordination with regional/program communication staff and WSDOT emergency operation centers as appropriate.

The Intergovernmental and Tribal Relations Office of WSDOT shall provide timely updates on WSDOT UAS usage to the Governor's Office, the Legislature, the Washington congressional delegation, and tribes, as necessary. A consultation and communication plan shall be developed for each project within the boundaries of an Indian Reservation or off-reservation trust lands.

5-3 **Contracting for UAS Services**

Contracting for UAS services requires approval of the appropriate appointing authority as defined by Secretary's Executive Order E 1012 "Delegation of Authority", sub. V. The contracting agent must require vendors demonstrate compliance with all FAA, state, and local regulations, policies, and procedures prior to operations in support of any WSDOT projects.

Deliverables such as data, video capture and still pictures, and products provided through contracted personnel in support of WSDOT projects shall be the responsibility of the contracting or supervisory agent within the WSDOT agency. It is the responsibility of WSDOT personnel to ensure the proper handling and archiving of deliverables by contracted entities flying drones in support of WSDOT activities.

The provisions of the WSDOT [Consultant Services Manual](#) M 27-50, Chapter 600 may be used for emergency employment of UAS resources. Contact the Agreement Manager listed on the Consultant Services website for On-Call UAS Services to coordinate use.

5-4 **Procurement of UAS for Agency Use and Use of Privately Owned UAS**

The procurement of an agency-owned UAS requires the approval of a WSDOT executive as defined in Secretary's Executive Order E 1012 Delegation of Authority, subsection III .B .1. Approvals beyond procurement may be delegated, consistent with Agency delegation of authority.

WSDOT employees are prohibited from using personally owned sUAS in the performance of their WSDOT work-related daily activities.

Section 6 *Qualifications and Training*

Employees engaged in sUAS activities shall possess the necessary training and experience and will maintain the appropriate level of competency and proficiency to safely perform their assigned work.

WSDOT Remote Pilots must obtain a FAA “Small UAS Remote Pilot Certificate” by successfully completing the Initial Aeronautics Knowledge Test from an FAA approved testing facility. Operators must also complete a basic flight proficiency training program administered by an approved WSDOT sUAS Remote Pilot/Instructor or at a facility approved by WSDOT for flight training (See [Appendix C](#) for an example training plan).

WSDOT Aviation Division is responsible for the training of Regional Coordinators. sUAS operators can coordinate for assistance in developing and executing training programs from WSDOT’s Aviation Division through their Regional Coordinators.

6-1 Initial Training

Initial training is the cornerstone of building an effective sUAS program. Basic sUAS airmanship is obtained through the required FAA training for Part 107 certification. Regional sUAS coordinators should assess their organizational specific needs and develop a hands-on training program that ensures new UAS operators have the necessary skills to safely and successfully integrate into their department’s scope of work requirements and equipment. Each sUAS remote pilot should record official training conducted and tracked in LMS.

It is the appointed trainer’s responsibility to ensure new drone operators have met the basic Airman Certification Standards for a sUAS Remote Pilot. Upon successful completion of initial training, Remote Pilots shall be issued a locally produced sUAS Operators Training Certificate for their records.

- FAA Small UAS Remote Pilot Certificate.
- Basic flight proficiency training documentation (see [Appendix C](#)).
- WSDOT sUAS Operators Training Certificate.

6-1.1 Recurrent Training

WSDOT sUAS Remote Pilots will have a training plan on file that outlines training objectives for the upcoming year. This training plan will be held in conjunction with the operator’s normal training file per department policy. The approved training plan will be developed jointly by the Region sUAS Coordinator and the Headquarters sUAS training unit. All mission deployments, including practice or training flights, will be documented and counted towards an operator’s sUAS flight experience. The FAA Small UAS Remote Pilot Certificate must be renewed every 24 months.

6-1.2 Good Judgment

WSDOT sUAS Remote Pilots are prohibited from operating aircraft in a careless or reckless manner that could endanger the life or property of another. Remote Pilots are expected to exercise good judgment and conduct themselves in an ethical, responsible, lawful, and safe manner with respect to other sUAS crew members, personnel onsite, and the general public.

Section 7 *sUAS Safety Procedures and Mission Planning*

Steps outlined in the mission planning, risk assessment, pre and post UAS mission procedures are to be applied to operations conducted by WSDOT personnel, and to the extent possible when contracted services are required. It is the responsibility of the contracting agent or the WSDOT supervisor of the contracted sUAS activity to ensure appropriate mission planning, risk assessment, and risk mitigation steps are performed by the contracted agent prior to any flight activity. It is the duty of every member involved in sUAS activities to contribute to the goal of continued safe operations. This contribution may come in many forms and includes always operating in the safest manner practicable while avoiding taking unnecessary risks. Any safety hazard, whether procedural, operational, or maintenance related should be identified as soon as possible after, if not before, an incident occurs.

7-1 **Mission**

An UAS mission consists of a combination of actions and steps performed prior, during, and after an activity involving the flight of a drone. During pre-flight planning, the sUAS Remote Pilot shall prepare a mission plan using WSDOT's Highway Activity Tracking System (HATS). The preflight process will also include the completion of a risk assessment worksheet for review by the sUAS Coordinator. [Appendix D](#) of this publication provides an example risk assessment worksheet and shall be used as the minimum starting point for regionally developed risk assessment worksheets. Upon completion of the sUAS mission, the sUAS Remote Pilot will complete the WSDOT sUAS Mission/Flight log in HATS, summarizing the flight activities.

The general elements of the sUAS mission/flight log are:

- Project number/work order number.
- Name and contact information for sUAS Remote Pilot and Coordinator.
- HQ/Region and Org Code.
- Aircraft to be used.
- Departure/arrival date/time.
- Mission location name, description, latitudinal and longitudinal coordinates.
- Purpose and objective of the sUAS mission.
- sUAS Risk Assessment.
- Required Approval.

The sUAS Remote Pilot will provide the collected data in accordance with existing WSDOT policy and procedures.

7-1.1 **sUAS Risk Assessment**

The sUAS Risk Assessment identifies potential hazards associated with the sUAS mission and describes measures to eliminate, guard against, or avoid those hazards.

At a minimum, it shall include consideration of the following items and potential hazards and corresponding safety measures associated with each of the items:

- Mission complexity.
- Remote pilot readiness.
- Operating Environment.
- Weather considerations prior to flight thru scheduled landing time and within limitations for the specific system restrictions.

- Aircraft condition.
- Risk mitigation.

Crew members involved with sUAS activities are encouraged to visit the site location, if possible, prior to conducting the mission to assist in preparing the sUAS mission plan and risk assessment.

7-2 Pre-sUAS Mission Procedures

At a minimum, the following procedures will be used in pre-sUAS mission planning preparation for the sUAS site. The Region or HQ Division sUAS Coordinator may require additional site-specific requirements.

7-2.1 WSDOT sUAS Operations at WSDOT Facilities & Project Areas

For sUAS operations within a WSDOT controlled boundary, the Region sUAS Coordinator shall contact the appropriate WSDOT facility or project manager prior to conducting the sUAS mission and follow the facilities required methods and procedures for conducting work on their site. This coordination should also include a facility or project representative that can assist in directing the flight for proper image acquisition.

7-2.2 WSDOT sUAS Operations at Non-WSDOT Facilities & Projects

All operations outside of WSDOT Right-Of-Way or Property shall be coordinated in accordance with the Region or Division policy. Where applicable, WSDOT personnel will request consent and provide notification to land and property owners prior to operating or overflight of private property. Operations in controlled airspace should be prior coordinated with the FAA and the controlling agency. Additional precautions will be taken when operating near airports and landing strips not covered under the controlled airspace rules.

7-2.3 Equipment Inspection

In the absence of a manufacturer provided equipment logbook/record, operators are encouraged to maintain a system logbook for continuity. Equipment will be visually inspected before conducting flights as outlined by the manufacture's recommendations. The practice of using a preflight checklist can facilitate the methodical inspection of drone systems prior to flight and ensure compliance with system limitations (see [Appendix E](#) for Preflight Checklist example).

7-3 Post-sUAS Flight Procedures

Upon finishing a sUAS mission, the sUAS Remote Pilot will complete the sUAS Mission/Flight Log in HATS summarizing the flight activities with the Region sUAS Coordinator.

7-3.1 Post Mission sUAS Inspection

At a minimum, visually inspect the following components post mission:

- Condition of aircraft including drivetrain, propellers, batteries, and electrical connections.
- Aircraft Radio Control Transmitter (and camera control transmitter if used).
- Camera and gimbal and any other sensor/payload.

Include any issues in the mission/flight log. Repair any deficiencies before flying again, ensuring unserviceable parts are tagged and removed from inventory as applicable. Be especially prudent in inspecting any aerial/ground collisions or cases where loss of power caused a crash, however minor. Only fly a 100% ready sUAS.

Section 8 Crew Equipment, UAV Inspections and Battery Maintenance

8-1 General sUAS Maintenance

Although an airworthiness certification is not required, sUAS aircraft are exposed to high frequency vibrations and should be well maintained to ensure it is always in a condition for safe flight. The sUAS Remote Pilot is responsible for choosing the appropriate equipment. It is important to ensure the safety of the sUAS crew by regular inspection and maintenance of all sUAS aircraft.

8-2 Battery Management

All batteries should be charged, maintained, and stored in accordance with the battery manufacturer's recommendations.

Section 9 Accident Reporting and Review

WSDOT encourages a culture of open reporting of all safety hazards in which management will not initiate disciplinary action against any personnel who, in good faith, disclose a hazard or safety occurrence due to unintentional conduct. WSDOT encourages monitoring of sUAS regulations, technology, practices, and laws to ensure best safety practices are incorporated into the organization.

All sUAS related accidents that result in deaths, injuries, illnesses; incidents or near-misses will be reported as defined in the WSDOT Safety Procedures and Guidelines of Chapter 6 of the *Accident Reporting and Review Manual M 75-01*. WSDOT Incident/Accident Report Web address: wwwi.wsdot.wa.gov/Employee/Safety/SIIRS.htm

WSDOT Incident/Accident Report Telephone Contact: 509-577-1610

In addition to the above WSDOT requirements, the FAA requires the following:

14 CFR § 107.9 Accident Reporting – No later than 10 days after an operation that meets the criteria of either paragraph (a) or (b) of this section, a Remote Pilot in command must report to the Federal Aviation Administration in a manner acceptable to the Administrator, any operation of the small uncrewed aircraft involving at least:


- a. Serious injury to any person or any loss of consciousness; or
- b. Damage to any property, other than the small uncrewed aircraft, unless one of the following conditions is satisfied:
 1. The cost of repair (including materials and labor) does not exceed \$500; or
 2. The fair market value of the property does not exceed \$500 in the event of total loss.

Accidents or incidents that meet the FAA's reporting thresholds will be reported in accordance with FAA policy. For information regarding methods of reporting and requirements, reference FAA Advisory Circular (AC) 107-2 and the FAA portal for latest applicable guidance. (www.faa.gov/documentLibrary/media/Advisory_Circular/AC_107-2.pdf)

Appendices

- [Appendix A](#) Example FAA Expedited SGI Waiver or Authorization Request Form
- [Appendix B](#) Example FAA Certificate of Waiver Request Process (Part 107 deviations)
- [Appendix C](#) Example WSDOT sUAS Remote Pilot Certification Training Plan and Certificate
- [Appendix D](#) Example WSDOT sUAS Risk Assessment Worksheet
- [Appendix E](#) Example WSDOT sUAS Preflight Checklist

Appendix A Example FAA Expedited SGI Waiver or Authorization Request Form


FAA
 Air Traffic Organization
 System Operations Security

FAA REQUEST FORM FOR EXPEDITED SGI WAIVER OR AUTHORIZATION FOR UAS OPERATION

Basic Qualifications

- The requesting operator must possess a Certificate of Waiver or Authorization (COA) or Part 107 Pilot License
- The UAS operation must support an emergency response or other effort being conducted to address exigent circumstances and that will benefit the public good
- The requested FAA approval cannot be secured via normal processes in time to meet urgent operational needs

Operator Information
Mandatory entry

Operator Organization (e.g., agency or company)

Operator Address

Operator Point-of Contact (including name, office + mobile phone number, and email)

Pilot and Observers (including names, mobile phone numbers, and emails)

Type of UAS and Registration Number

Documentation

If the requested UAS operation will be flown under a pre-existing COA, please attach it hereto and provide the COA number below.

If the requested UAS operation will be flown under Part 107, please provide the Part 107 Pilot License number below.

Requested Flight Details

Enter the date(s) of the proposed UAS operation (e.g., 03/18/2018 or 03/18/2018-03/21/2018) **Mandatory entry**

Enter the times of the proposed UAS operation (be sure to confirm time zone; e.g., 1200L-1400L daily) **Mandatory entry**

Enter the location of the proposed flight (reference the nearest city or town, and state; e.g., Gulfport, MS)

Enter the distance and direction from the nearest airport, and FAA identification of the same (e.g., 6 NM W of GPT)

Identify the class(es) of airspace in which the flight will be conducted (e.g., Class G/E/D/C/B/A)

SOSC 2020/02/20 1125Z
1 | 2

Requested altitude of UAS flight: Mandatory entry	
Enter GIS details defining location of proposed flight (only one area type description needed) Mandatory entry	
For those flights remaining within a general contiguous area, which can be described as a circular polygon, provide the latitude and longitude, expressed as degrees/minutes/seconds , of the center of that area and the radius of that same area (e.g., XX:XX:XXN / XXX:XX:XXW - .25NM radius)	
For those flights remaining within a general contiguous area, which cannot be easily described as a circular polygon, provide the latitude and longitude, expressed as degrees/minutes/seconds , of the vertices of the general area starting with the most northerly point and then progressing clockwise (e.g., (XX:XX:XXN / XXX:XX:XXW; XX:XX:XXN / XXX:XX:XXW; XX:XX:XXN / XXX:XX:XXW))	
For those flights following an extended route, provide the latitude and longitude, expressed as degrees/minutes/seconds , of the key waypoints of the route, and, as appropriate provide the width of the route (e.g., XX:XX:XXN / XXX:XX:XXW; XX:XX:XXN / XXX:XX:XXW; XX:XX:XXN / XXX:XX:XXW ; XX:XX:XXN / XXX:XX:XXW ; XX:XX:XXN / XXX:XX:XXW - .25NM wide)	

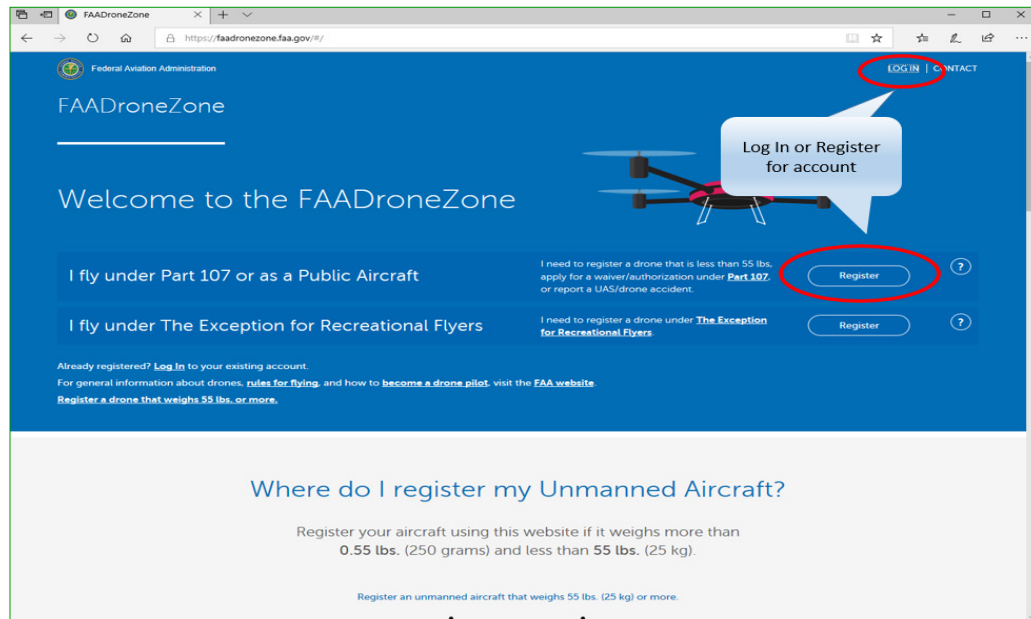
Nature and Description of Event	
Enter the type of urgent UAS operation to be flown	Description of event
<input type="checkbox"/> Firefighting <input type="checkbox"/> Law Enforcement <input type="checkbox"/> Search and Rescue	
<input type="checkbox"/> Local / National / Natural Disaster	
<input type="checkbox"/> Other (specify below)	

Additional Pilot Qualifications	
Enter additional pilot qualifications	
<input type="checkbox"/>	Sport/Recreational/Private pilot certificate
<input type="checkbox"/>	Commercial/Airline pilot certificate
<input type="checkbox"/>	Flight instructor certificate

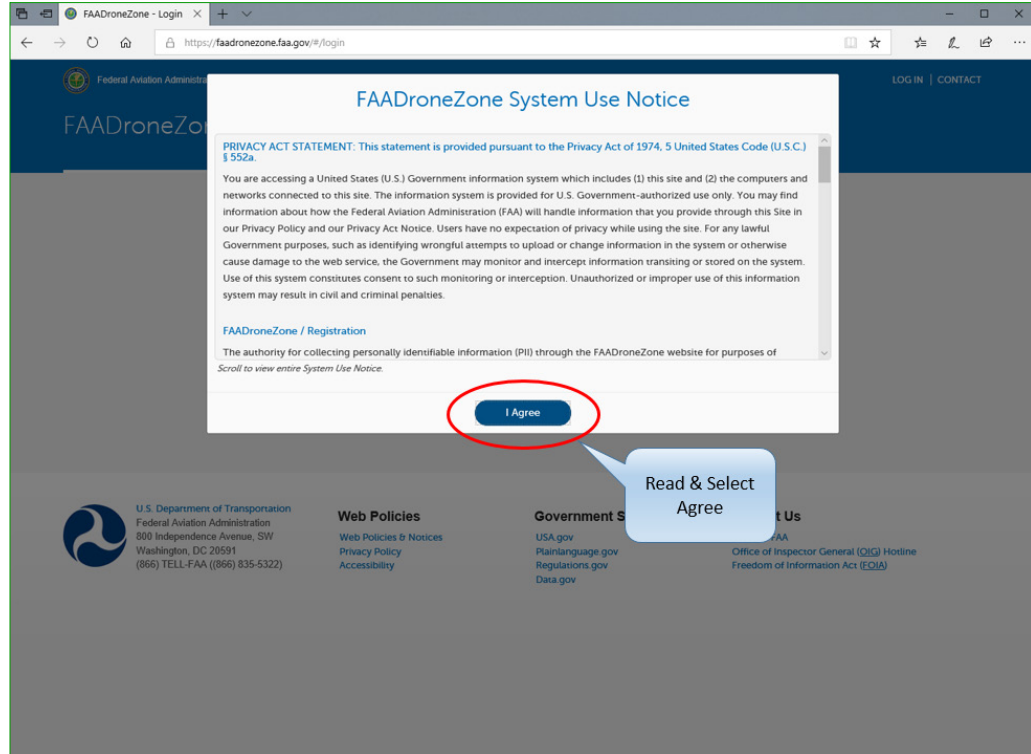
Contacting the SOSC
The SOSC office and email are staffed/monitored 0600-2400 Eastern Time. For all emergencies, please follow up any email with a phone call to 202-267-8276, which is answered 24/7 .

Appendix B Example FAA Certificate of Waiver Request Process (Part 107 deviations)

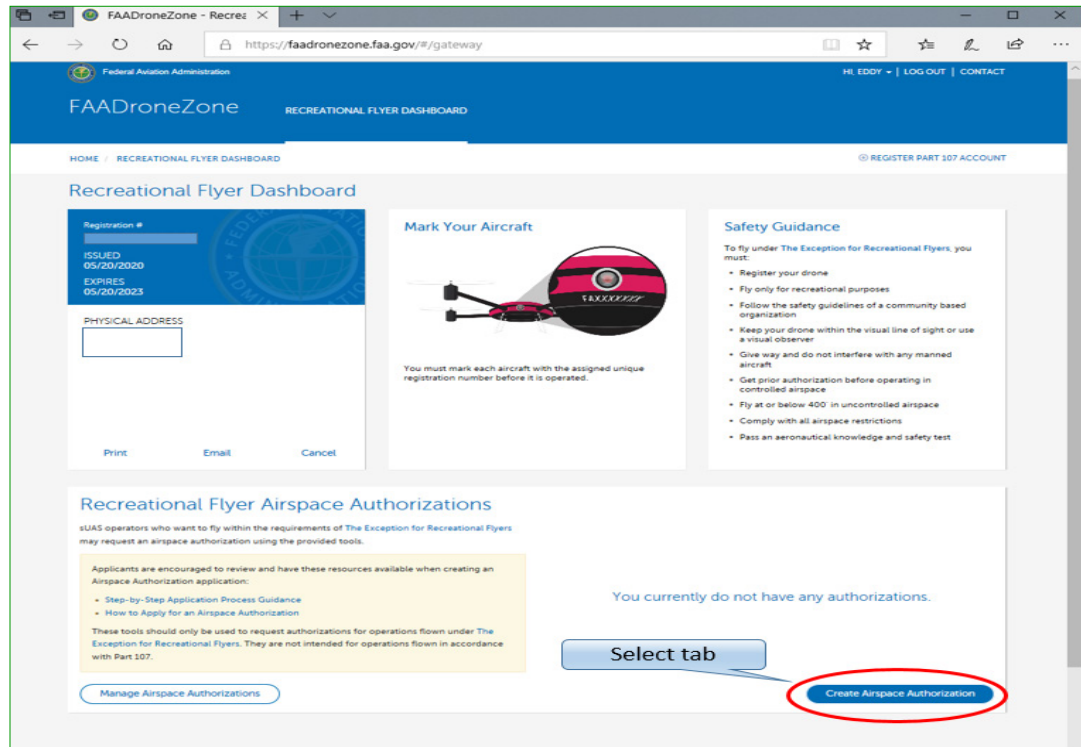
1. Must have Drone Zone account (FAA). Log in screen



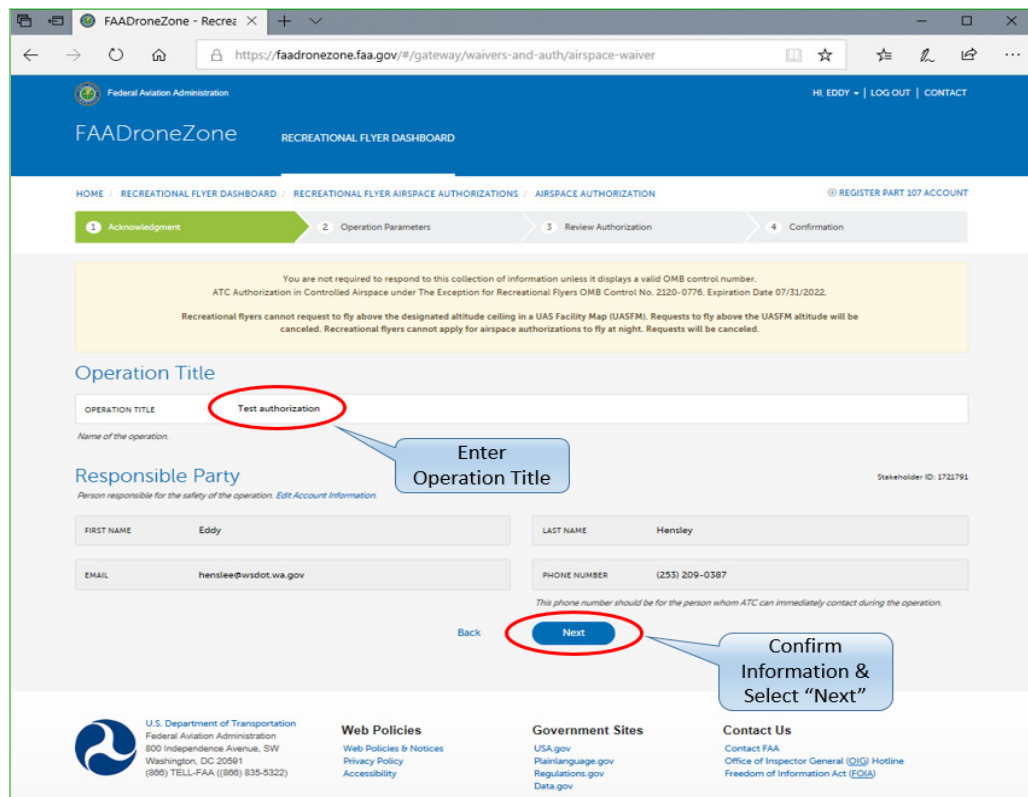
2. Select "I agree" with System Use Notice



3. Select “Create Airspace Authorization”



4. Select “Create Airspace Authorization”



5. "Complete Operation Parameters" and Select "Next"

Operation Parameters

START DATE: May 21 2020 END DATE: May 21 2020

TIMEFRAME: Sunrise to Noon Noon to 4 PM 4 PM to Sunset Night

FREQUENCY: Daily LOCAL TIME ZONE: Pacific Standard Time (PST) [UTC-8]

PROPOSED LOCATION OF OPERATION: UAS operational location detail

PROPOSED MAXIMUM FLIGHT ALTITUDE ABOVE GROUND LEVEL (AGL): 400 ft.

Latitude: DEGREES: 32 MINUTES: 15 SECONDS: 40 DIRECTION: N

Longitude: DEGREES: 107 MINUTES: 47 SECONDS: 20 DIRECTION: W

RADIUS: 1.4th NM NEAREST AIRPORT: KDMN CLASS OF AIRSPACE: Surface E

DESCRIPTION OF YOUR PROPOSED OPERATION: Test of certificate of waiver

Back Next

6. "LAANC alert message", select "OK" for Part 107 waiver requests

LAANC Enabled Airport

Operations at airports where the Low Altitude Authorization and Notification Capability (LAANC) is active that do not require an operational waiver under 14 CFR 107.205 should use the LAANC automated capability. For a list of airports available for automated authorizations under LAANC, go to <https://www.faa.gov/go/laanc/>.

OK

If you get "LAANC Enabled Airport" for operations inside controlled airspace, you can proceed with a request through an USS for authorization. Deviations from Part 107, click "OK" and proceed to next page

7. Waiver Request information review and submission

FAADroneZone RECREATIONAL FLYER DASHBOARD

HOME / RECREATIONAL FLYER DASHBOARD / RECREATIONAL FLYER AIRSPACE AUTHORIZATIONS / AIRSPACE AUTHORIZATION

1 Acknowledgment 2 Operation Parameters 3 Review Authorization 4 Confirmation

Airspace Authorization: Test authorization

Reference Number: 2020-5349-CSA-01711

Responsible Party

NAME	PHONE	PRIMARY EMAIL
Eddy Hensley	(253) 209-0387	henslee@wsdot.wa.gov

Operation Parameters

Test authorization

START DATE	END DATE	TIMES/DATE	FREQUENCY
05/21/2020	05/21/2020	Noon to 4 PM	Daily

LOCAL TIME ZONE: Pacific Standard Time (PST) [UTC-8]

PROPOSED MAXIMUM FLIGHT ALTITUDE ABOVE GROUND LEVEL (AGL): 400 ft.

PROPOSED LOCATION OF OPERATION: UAS operational location detail

LATITUDE				LONGITUDE			
DEGREES	MINUTES	SECONDS	DIRECTION	DEGREES	MINUTES	SECONDS	DIRECTION
32	15	40	N	107	43	20	W

RADIUS: 1/4th NM

NEAREST AIRPORT: KDMN

CLASS OF AIRSPACE: Surface E

DESCRIPTION OF YOUR PROPOSED OPERATION: Test of certificate of waiver

Back Submit

Confirm Information & Select "Submit"

U.S. Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
(888) TELL-FAA (888) 835-5322

Web Policies
Web Policies & Notices
Privacy Policy
Accessibility

Government Sites
USA.gov
PlainLanguage.gov
Regulations.gov
Data.gov

Contact
Contact
Office of
Freedom

Notes:

- Certificate of Waiver process for deviation requests to Part 107 Small Drone operations
- Ensure requester has a Drone Zone (FAA) account or is able to create one
- Must have access to aviation sectional or equivalent for airspace description and location data
- Confirm request is not within the scope of LAANC approval

Link: <https://faadronezone.faa.gov/#/>

Appendix C Example WSDOT sUAS Remote Pilot Certification Training Plan and Certificate

WSDOT sUAS Pilot/Operator Certification Training

LAST, First

Initials: _____ Date Complete: _____

	Contents	Ground Instruction	Flight Instruction	Date / Initials
Lesson 01	<input type="checkbox"/> Mission Plan and Task Assignment <input type="checkbox"/> Certificate of Waiver/Authorization <input type="checkbox"/> Approving Authority <input type="checkbox"/> Regional Coordinator <input type="checkbox"/> Pilot / Operator <input type="checkbox"/> Visual Observer	WSDOT sUAS Procedures Guide	Flight Safety and Risk Management are incorporated into every flight.	Lesson 1 Completed Date: _____ Initials: _____
Lesson 02	<input type="checkbox"/> Preflight Requirements <input type="checkbox"/> Operator's Manual <input type="checkbox"/> Equipment Inspection <input type="checkbox"/> Notice to Airmen (NOTAM's) <input type="checkbox"/> Airspace Restrictions <input type="checkbox"/> Weather Forecast/Observations <input type="checkbox"/> Crew Briefing	POH, B4UFLY, 1800-WX-BRIEF, WSDOT Form XXXX	Candidate will preflight an assigned task	Lesson 2 Completed Date: _____ Initials: _____
Lesson 03	<input type="checkbox"/> Flight Operations <input type="checkbox"/> Required Documents <input type="checkbox"/> On-Site Evaluation <input type="checkbox"/> Hazards Analysis <input type="checkbox"/> Operational Limitations <input type="checkbox"/> Personal Protective Equipment	POH, PAVE WSDOT Form XXXX	Candidate will conduct flight in a safe and controlled manner.	Lesson 3 Completed Date: _____ Initials: _____
Lesson 04	<input type="checkbox"/> Post Flight <input type="checkbox"/> Equipment Check <input type="checkbox"/> Flight Log Entries <input type="checkbox"/> Crew Debrief <input type="checkbox"/> Record Keeping	POH, WSDOT Form XXXX	Candidate will incorporate the elements of this lesson plan.	Lesson 4 Completed Date: _____ Initials: _____
Exam	<input type="checkbox"/> Pass Certification Exam Course completion recorded in the Learning Management System (LMS)	Proctored Final Exam	Candidate has shown competency in flight operations	Course Completion Date: _____ Initials: _____

Washington State Department of Transportation

2017

Certificate of Completion

Is hereby granted to

To certify completion of the following training module

Unmanned Aircraft Systems Operator Initial Training

Completed on: / /



Appendix D Example sUAS Risk Assessment Worksheet

DRAFT - Risk Assessment Worksheet

as of 5/27/2020

Date of Mission: _____ Operator: _____ Coordinator: _____ MSN# _____

MISSION TYPE (Most Complex)				DEPARTURE/MISSION WEATHER (Most severe)				RISK MITIGATION			
	Day	Night*	Dusk/Dawn**	Visibility				Prior notification to stakeholders?			
Aerial Imagery/Survey	1	2	3	10+ SM	6-9 SM	3-5 SM	<3SM	Yes	No		
Emergency Response	2	3	4	0	1	2	No-Go	-1	0		
Total				Ceiling				Advisory signs used in working area			
PILOT				>4,000" AGL	2,000-3,999	1,000-1,999	<1,000	-1	0		
Last mission flown (days)				Winds				DROTAM filed?			
0-6	7-15	16-30	31+	0-4 KTS	5-6 KTS	7-9 KTS	10+ KTS	-1	0		
0	1	2	3	0	1	2	No-Go				
Total Flight Time in Specific UAS				Precipitation				WSDOT App Advisory Used?			
>250	100-249	50-99	<50	None	Light	Moderate	Heavy	-1	0		
-1	0	1	2	0	1	2	3	Second Pilot who is current			
Total				Sleet/Snow	Hail	Lightning		-1	0		
OPERATING ENVIRONMENT				2	No-Go	No-Go		Total			
Operating over People				Temperature within Aircraft Operating Range?				Mission Risk Summary			
No	Yes			Yes	No (No-Go)			Total			
0	1	1		Total				Mission Type	0.00		
Operating w/in 500 ft. near obstructions				AIRCRAFT				Pilot	0.00		
0	2			Hardware changes since last flight?				Operating Environment	0.00		
Mission Altitude (AGL) in Feet				No	Yes		Departure/Mission weather				0.00
0-400	>400*			0	1		Aircraft				0.00
0	3			Software changes since last flight?				Mitigation		0.00	
Operating airspace				0	1		Total				0.00
Uncontrolled	Controlled*			Total				<7 = Low	8-11 = Mod		
0	1							12-15 = Hi	>15 = Extreme Hi		
Total											

*Requires COA or waiver
 ** 30 minutes before sunset/30 minutes after sunrise
 Comments/Other factors to Consider:

UAS Operator Signature: _____ Date: _____ UAS Coordinator Signature: _____ Date: _____

Approving Authority Signature: _____ Date: _____

Appendix E Example sUAS Preflight Checklist

Preflight Checklist			
Pilot In Command:	FAA Reg. No.:	Date & Time:	
Observer (Optional):	Location:		
UAS Model:			
Purpose of Flight (Check 1): <input type="checkbox"/> Airport Insp. <input type="checkbox"/> Terrain Mapping <input type="checkbox"/> SAR <input type="checkbox"/>			
Training <input type="checkbox"/> Other (Describe):			
CFR Part 107 Waivers Required: <input type="checkbox"/> Night Operation <input type="checkbox"/> Controlled Airspace <input type="checkbox"/> Other _____			
A. Pre-Start Checklist			
Important: Complete all check list items in the order they are presented. If you cannot check off an item STOP! and correct the problem before continuing.			
No.	Item	Acceptable Condition	Sat
1	Airspace	Unrestricted airspace or flight authorized Potential obstructions near intended flight path identified	
2	Weather	Visibility ≥ 3 miles/500 ft., Wind \leq ___ mph, Temp $> _ \leq$ ___ °F	
3	sUAS Preflight	No structural defects visible, IAW Operations Manual	
4	sUAS Battery	Sufficient for intended flight (launch thru planned recovery)	
5	Controller Battery	Sufficient for intended flight (launch thru planned recovery)	
6	Display Device Battery	Sufficient for intended flight	
7	Memory Card	Installed, sufficient memory space available for flight	
8	Observer	Present, briefed and ready (Only if designated, otherwise NA)	
9	Confirm Flight Path	Identify mapping perimeter and high detail areas	
10	Display Device	On	
11	Controller Power	On	
12	sUAS Power	On	
13	sUAS Status Lights	Flashing GREEN	
14	Camera Check	Follow Mode, image type: JPG	
15	Compass Calibration	Compass calibrated for current location	
16	Flight Limits Set	Alt. ≤ 400 ft. AGL (higher when w/in 400 ft. of obstacle)	
17	Flight Mode Set to GPS	Controller mode switch in "P", display status GREEN - RTF	
18	Take-Off Location	Clear for ≥ 25 ft. radius, no overhead obst. w/in line of sight	
B. Motor Start Checklist			
No.	Item	Acceptable Condition	Sat
1	sUAS Motor Start	sUAS motors start and run at idle, no abnormal noise	
2	Return-to-Home Point	Home Point Set and verified on map prior to launch	
3	Hover Check	Flight and Camera Gimbal control responses normal	
4	Flight Telemetry	Telemetry normal (Bat, Alt, Dist., GPS, etc.)	
READY FOR FLIGHT			
Notes:			