Legal Aspects in Photogrammetric Curricula: Navigating Property Rights and Airspace Boundaries

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Abstract

The importance of integrating legal aspects into UAS mapping courses and related curricula is presented in terms of providing a framework for the integration of legal aspects in an introductory photogrammetric course. Curricula focus is placed on two interrelated issues: first, the extent to which property owners maintain a reasonable expectation of privacy from UAS intrusion within the “immediate reaches” of their airspace; and second, the potential for UAS-mounted sensors to inadvertently capture imagery or point cloud of neighboring properties while operating in compliance with Federal Aviation Administration (FAA) regulations. The discussion concludes by identifying strategies to mitigate these legal and operational challenges, giving students the knowledge and tools to address similar situations in real-life scenarios, and ensuring that aerial surveying practices respect both regulatory compliance and property rights and special care taken for flights conducted on behalf of law enforcement agencies.

1. Introduction

Uncrewed Aerial Systems (UASs), or simply drones, have become valuable tools in the geospatial profession for conducting mapping, topographic, and cadastral surveys. UASs reduce considerably the need for field crews to be in the field and collect data using conventional tools such as total stations, offering an efficient and convenient approach for mapping. Equipped with high-resolution sensors and cameras, these systems enable rapid data capture to generate point clouds, orthomosaics, and digital terrain models. From these data products, key property information, such as boundary evidence, topographic features, and land-use, can be inferred to support cadastral mapping and decisions. UASs have also become key component of geospatial education with traditional photogrammetry courses being transformed to include the use of UASs and newer structures from motion methods (Bolick, 2022). In photogrammetry courses students learn about theoretical concepts and the mathematics behind photogrammetry and structure from motion, how to design flight plans and collect data using UASs, and how to process data to generate point clouds and other product deliverables based on project needs. Photogrammetry courses may also have content related to flying restrictions and regulations. For example, in the USA commercial UAS flights are regulated by the Federal Aviation Administration (FAA) and surveyors must obtain FAA’s PART 107 certification prior to conducting any flight for commercial purposes. However, little attention is given to the legal aspect and the right of entry of a UAS to someone’s property. Statutes can vary from country to country, and from State to State, and it is important for students learning how to conduct UAS surveys to understand legal risks. Modern photogrammetry courses must provide specific course content to this matter, so students can build the knowledge and skills to investigate local statutory rights of entry and reduce their legal risk. This will be the main topic of this paper.

2. Motivation

UAS surveys conducted without a statutory right of entry may give rise to concerns of aerial trespass when flight paths extend over private property to maintain image overlap and coverage requirements. Statutory rights of entry can vary from country to country, but in the USA can also vary from State to State. It is important for modern photogrammetric curricula to include legal aspects in photogrammetric courses, so students can understand the statutory restrictions before any flight takes place that could expose them and their firm to unwanted legal risks (Shadiev, 2022). The modern curricula should increase awareness on this topic, but most importantly should develop skills that students can use in real cases. Such skills include the ability to understand basic legal terminology, the knowledge of conducing legal and statutory research related to trespassing, and the ability to evaluate and interpret statutory information to understanding limitations and evaluate the potential risk.

3. Objectives

This paper discusses the importance of integrating legal aspects into UAS mapping courses and related curricula providing a framework for integration in an introductory photogrammetric course with sample questions and assignments. Curricula focus is placed on two interrelated issues: first, the extent to which property owners maintain a reasonable expectation of privacy from UAS intrusion within the “immediate reaches” of their airspace; and second, the potential for UAS-mounted sensors to inadvertently capture imagery or point cloud of neighboring properties while operating in compliance with Federal Aviation Administration (FAA) regulations. The discussion concludes by identifying strategies to mitigate these legal and operational challenges, giving students the knowledge and tools to address similar situations in real-life scenarios, and ensuring that aerial surveying practices respect both regulatory compliance and property rights and special care must be taken if flights are on behalf of law enforcement agencies which may give rise to warrantless searches (California v. Ciraolo, 1986). Furthermore, FAA Part 107 is silent on training pilots to respect property owner rights to be free from drone flights trespassing the boundaries of adjoiners.

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4. Reasonable Expectation of Privacy

In photogrammetry, capturing a property or inadvertently capturing point cloud of a neighboring property is often distinct from flying over it. In addressing a property owner's reasonable expectation of privacy, one needs to look at airspace in the context of ownership and the rights flowing from that ownership. In the United States of America (USA) real property refers to land and any structures or items permanently attached to it and is distinguished from intangible property, such as airspace, which has value but no physical form (Merrill, 1998). Although airspace cannot be acquired, a property owner has certain rights over the "immediate reaches" above their land that he can "occupy or use in connection with the land .... as an incident to his ownership, has a claim to it and that invasions of it are in the same category as invasions of the surface. (United States v. Causby, 1946). The FAA controls all airspace which for UASs is zero to 400 feet AGL whereas the manned aircraft navigable space begins at 500 AGL over uncongested areas (and above 500 feet of any person, vessel, vehicle or structure) except for take-off and landing (Administration F. A., Drones, 2026). Property owners are entitled to be free from an invasion of their privacy and aircraft operators need to know the limits in which they can legally operate without risk (Katz v. United States , 1967). In 2015, a Kentucky resident used a shotgun to take down a drone that was flying above his yard (Boggs v. Merideth, 2017). The Federal District Court ruled that although the drone was operated within navigable airspace controlled by the FAA the claim for damage to the drone is controlled by state law. Additionally, the operator's claim that operating the drone in navigable airspace controlled by the FAA did not constitute and invasion of the resident's privacy. Similarly on this claim, the Federal Court dismissed the operator's claim that drone flights in navigable airspace do not constitute an invasion of privacy since "state statutes and common law will provide the only guidance for privacy causes of action (Scharf, 2019). For instance, Florida prohibits the use of a drone to capture an image of privately owned property or the owner, tenant, or occupant of such property without consent if a reasonable expectation of privacy exists (The Forida Senate, 2015-2026). Florida law provides a **presumption of privacy** (emphasis added) if a person is not observable by someone at ground level, regardless of whether they are visible from the air … It does, however, include an exception for images captured strictly for safe navigation of the drone. Furthermore, an exception is granted to licensed professionals, i.e., licensed photogrammetrist, or surveyor, provided that "the drone is used to perform reasonable tasks within the scope of practice" (The Forida Senate, 2015-2026). Additionally, some states have passed aerial trespass and invasion of privacy laws that treat persistent or low-altitude flights over private land as a violation of property rights, especially when a drone is equipped with a camera or thermal sensor (UAVCoach, 2026).

5. Immediate Reaches

Airspace and the right of travel through this space has been determined to be in the interest of the public and dedicated as common property balancing "the rights of an owner to enjoy the use of his land against the rights of the general public to take advantage of all that science now offers in the use of air space" (David-Cooper, 2016). In general, property ownership rights in the United States are expressed as a "bundle of rights" or a "bundle of sticks" describing property as a "collection of rights that set the legal relationships among people and not of the ways in which ownership can be divided" (Johnson, 2007-2008).

In general, for surveying and surveying related purposes, a landowner's bundle consists of the rights to possess, use, exclude, and alienate (King Law, 2026). Where the right to possess provides that an owner has exclusive physical control over real estate which is tangible, but "Where the thing cannot be possessed physically" because it is intangible, "possession may be understood …as the right to exclude others from the use" (Johnson D. R., 2007). As airspace is intangible, a property owner may have a right to exclude others. In answering this question of the right to use the navigable airspace over someone else's property one can be guided by the court in Causby in which an owner's right is to the "immediate reaches" which can be considered a space that is a core principle to the owner's right to enjoy the land (United States v. Causby, 1946). The Causby Court restates this principle that airspace is a public highway that "if the landowner is to have full enjoyment of the land, he must have exclusive control of the **immediate reaches** (emphasis added) of the enveloping atmosphere. Otherwise, buildings could not be erected, trees could not be planted, and even fences could not be run …. The landowner owns at least as much of the space above the ground as the can occupy or use in connection with the land" (United States v. Causby, 1946).

The flights in Causby were over a dwelling and a chicken farm near a municipal airport. The safe path of glide to one of the runways of the airport passed directly over respondents' property at 83 feet, which was 67 feet above the house, 63 feet above the barn and 18 feet above the highest tree. Thus, whether the drone operator is a student or professional, one may look to the height of 83 feet as a guide to the probable height of the "immediate reaches".

To date, the "immediate reaches" have not been defined by any court or Congress of the USA. Recently, a bill introduced in the United States Senate defines "immediate reaches" as "any area within 200 feet above ground level" (Sen. Lee, 2025). The proposed legislation requires that the FAA Administrator "shall not authorize the operation of a civil uncrewed aircraft in the immediate reaches of airspace above property without permission of the property owner." In the case of a structure that is taller than 200 feet above ground level (AGL), the Administrator shall not authorize the operation of a civil uncrewed aircraft – (i) within 50 feet of the top of such structure; or within 200 feet laterally of such structure or inside the property lie of such structure's owner, whichever is closer to such structure" (Sen. Lee, 2025).

6. Mitigation

Location, relocation, establishment, reestablishment, or retracement of any property line or boundary of a parcel of land, road right-of-way, easement, or alignment is restricted to licensed professionals (Commonwealth of Pennsylvania, 2012). Consequently, when a project involves boundary retracement, that work must be completed prior to flight planning to ensure that the mission is designed using accurate and legally defensible boundary information.

Within this framework, mitigation strategies are an essential component for the aspiring and practicing professional to comply with FAA regulations and to perform requisite scope of work considering the right of the property owner to be free from intrusion into their private space. Mitigation strategies may provide safe-harbor to a claim of trespass, invasion of privacy, or

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in the case of governmental intrusion since "liability for intrusion is not absolute but is subject to the limitation that the intrusion be highly offensive to a reasonable person" (Morton, 1999). Accordingly, A Photogrammetric Curricula should include discussions on mitigation efforts and strategies that are recorded on standardized documentation from pre-flight to post-flight.

6.1 Strategies

6.1.1 Waiver

A waiver is the voluntary and intentional relinquishment or abandonment of a known legal right, claim, or privilege. It may be express (communicated in writing or orally) or implied through conduct (United States v. Olano, 1993). Prior to conducting a UAS mission, it is prudent to respect the rights of adjoining property owners and obtain an express waiver when flight operations and data collection may extend beyond the client’s parcel. If an inadvertent or technical trespass occurs, a properly executed waiver may provide legal protection to the surveyor.

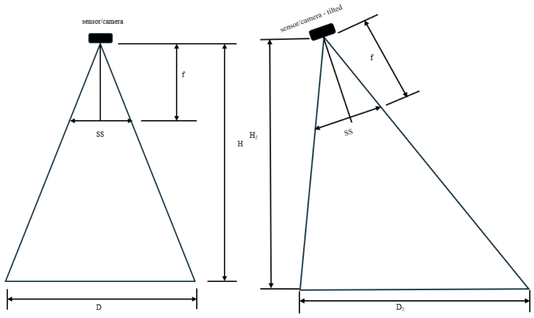
From a technical standpoint, the ground footprint of an aerial photograph is dependent upon several factors, including the height of the UAS, the field of view of the camera, as well as the complexity of the terrain, described by the equation:

$$d = 2H\tan\frac{FOV}{2} \tag{1}$$

Another useful equation is the one that connects the footprint (d), with flying height, and the sensor characteristics (sensor size and focal length)

$$d = H\frac{s}{f} \tag{2}$$

where d = ground footprint
s = sensor size
f = focal length
H = height of UAS
FOV = field of view



Note that if the sensor is a rectangle (i.e., different sensor width and height) then each sensor component should be used to derive the actual footprint. Terrain displacement and the sensor's attitude will impact the actual footprint on the ground. Figure 1 shows an example of how the footprint is changed under tilted sensor conditions.

Photogrammetric products depend on capturing common features from multiple perspectives and at varying distances to ensure adequate image overlap and reliable three-dimensional reconstruction. For this reason, extending flight lines beyond the boundaries of the subject parcel is often desirable to achieve sufficient sidelap and endlap across the project area. Accordingly, students should understand that coordinating access or securing waivers from adjoining landowners can support both legal risk management and the technical quality of the resulting photogrammetric deliverables.

6.1.2 Proper Flight Planning

UAS flights typically operate in two modes: manual and autonomous. Typically, autonomous flights provide for precise planning and automated control of all aspects of the flight. Thus, UAS project planning typically begins with the use of specialized mission software to predefine the intended flight path of the aircraft. Effective planning requires prior knowledge of the property extents to ensure that data collection is confined to the area of interest while maintaining adequate coverage for photogrammetric processing.

Modern flight-planning applications allow users to import predefined boundary datasets in common geospatial file formats, such as Keyhole Markup Language (KML) and GeoJSON (DroneDeploy, 2025). These boundary files contain explicit coordinate reference information, which govern how spatial data are interpreted, transformed, and displayed within software environments. A useful exercise is to have students translate boundary coordinates in a particular reference system and correctly apply those data within mission-planning software. It is also important for students to recognize that UAS will not precisely replicate the planned flight path in all conditions. Even when equipped with onboard positioning technologies, be that code-based Global Navigation Satellite System (GNSS), carrier-phase Real-Time Kinematic (RTK), or Real-Time Network (RTN), actual flight trajectories may deviate from the programmed mission due to environmental factors, system tolerances, and/or navigation uncertainties. A comprehensive curriculum should therefore emphasize both the capabilities and limitations of automated flight execution in the context of spatial accuracy and legal boundary considerations, making connections to Space Geodesy and Legal Aspects courses/disciplines.

6.1.3 Geofencing

Geofencing is a virtual geographic boundary around specific area of interest based on a specific coordinate system. In the context of UAS, a geofence uses GNSS positioning to keep aircraft away from sensitive or otherwise restricted locations such as airports, military areas, and nature reserves (Alamouri, 2023). When a surveyor has already established the client’s property boundaries, incorporating those georeferenced lines — together with an appropriate buffer — as a geofence is a technological measure to help mitigate the risk of inadvertent trespass.

However, the effectiveness of geofencing depends on both software implementation and hardware capabilities. Although geofencing has the potential to improve operational safety and compliance, current implementations exhibit limitations related to positional accuracy, latency in enforcement, and inconsistent responses across different hardware and control systems (Torens, 2020). Geofencing is a useful but not a perfect safeguard against boundary violations, particularly in dynamic environments, and when operating under sub-optimal GNSS positioning conditions. The primary challenge lies in the uneven adoption and execution of geofencing technologies across UAS platforms and flight-planning software. Functionality currently varies by manufacturer and operating environment, and user controls are not standardized (Alamouri, 2023). Some manufacturers and software providers incorporate proprietary geofencing systems (e.g., DJI GEO System), but enforcement mechanisms differ (DJI, 2026). For example, within DroneDeploy’s flight planning application, active geofence enforcement is currently supported only for DJI dock-based systems, whereas for RC, Android, and iOS platforms, boundaries function mainly as planning references rather than in-flight restrictions (DroneDeploy, Geofences, 2025). These inconsistencies underscore the need for greater standardization, availability, and flexibility from manufacturers to support reliable operational implementation. Thus, students should understand not only the potential of geofencing to support compliant flight operations, but also its current limitations, variability across platforms, and opportunities for future improvement.

6.1.4 Removing Personal Identifiable Information

Image filtering and blurring techniques are commonly applied to publicly available imagery to protect individual privacy. In the late 2000s, Google confronted this issue at scale during the development of Google Street View. The collection of massive quantities of street-level imagery raised concerns regarding potentially personally-identifiable information (PII), particularly human faces and vehicle license plates. Because of the volume of data involved, manual review was impractical and automated detection and redaction methods were developed (Frome, 2009). Computer vision and machine learning techniques were therefore used to identify and blur PII, using multiple detection stages to ensure adequate redaction.

Similar approaches can be applied to aerial mapping imagery to address privacy concerns associated with unintentionally captured PII. Effective implementation may require multiple levels of review and redaction, both for the raw images and the downstream photogrammetric products. Incorporating automated detection and filtering into the workflow helps ensure that sensitive information is not retained in company storage systems or distributed in deliverables to clients. A variety of open-source and commercial tools can support this process. For example, OpenCV provides widely used face-detection algorithms that can be integrated into Python-based workflows to automatically identify and blur facial regions (OpenCV, N.d.). MATLAB includes built-in facial detection capabilities, such as the faceDetector function, which allow for similar implementation (MATLAB, 2025). Introducing students to these tools exposes them to practical methods for integrating image processing into UAS workflows, particularly when this functionality is not natively available within photogrammetric software.

6.1.5 Downsampling

For mapping applications, downsampling serves as a practical technical barrier between data collection and invasive action. Many common surveying tasks, such as volumetric analysis (earthwork or stockpiles), large-scale topographic mapping, and watershed modelling, do not require the high-resolution data that typically captures personally identifiable information. By intentionally reducing the spatial resolution (before data collection), the surveyor effectively anonymizes the surveyed area while maintaining the accuracy needed for digital elevation models for such applications. This type of strategy can demonstrate a lack of “**specific intent”** (emphasis added), as faces, license plates, and household activities become indistinguishable, thus mitigating claims that flight observations were conducted within the immediate reaches of private property. Specific intent typically requires that the defendant acted with the purpose of achieving a specific result. (Carter v. United States, 2000).

By processing raw imagery into a downsampled orthomosaic, a surveyor can fulfil technical requirements for regional or urban planning, environmental monitoring, landscape change detection, and other applications, while ensuring that no sensitive data was explored. This approach transforms the UAV’s output from a potential tool of surveillance into a strictly geospatial instrument, providing a defensible data collection framework that reduces the risk litigation.

6.1.6 Point Cloud Generation and Processing

In a similar way as the downsampling strategy, a point cloud generation, being via photogrammetric approach or using active sensors, such as LiDAR, can have an extra privacy step by design, avoiding a detailed 3D point cloud representation of neighboring property.

Considering point clouds generated by traditional photogrammetric pipeline, supported by computer vision techniques, such as dense image matching, the level of details in the point cloud is related mainly to the resolution of the raw image, and the characteristics of the surveyed area. Downsampling the input images can affect the quality of the overall 3d representation. However, voxelization can be used to downgrade the resolution of the point cloud outside the surveyed area, having then a internal privacy assurance step (that can be done onboard of post-processed). This type of action can avoid high resolution data to be shared with clients or stored in online geodatabases.

Based on current edge-computing technology, point cloud representations generated by LIDAR system can have a real-time internal privacy assurance step, due to the multisensor architecture required for LiDAR point cloud generation. For a 3D coordinated to be determined in a LiDAR system, it is necessary to know the location of pulse emission source, the LASER pulse emission angle, the orientation of the platform, and boresight and leverarm parameters, possible to be determined by GNSS-RTK, LiDAR scan system, IMU, calibration procedure, respectively. Having all these elements determined in real time, it is possible to filter out (or downsample) all 3D points outside interest area.

6.1.7 Gimbal-Stabilized Sensors

In the context of modern aerial surveying, via imagery of LiDAR systems, particularly legally sensitive areas, the gimbal-stabilized sensor can be adapted from a simple tool for image stabilization into a critical instrument for ethical and legal compliance. Whether deploying high-resolution cameras or LiDAR, the inherent stabilization of a 3-axis gimbal allows for precise, dynamic pointing that can be automated to respect property boundaries. Surveyors can program the gimbal's flight plan with geofences, as presented previously. When the UAV’s sensor FOV overlaps a restricted area (neighbor’s property), the gimbal can be commanded away dynamically by integrating real-time Exterior Orientation Parameters (EOP’s) considering position and attitude of the camera in real time (Gasparovic, 2017). This ensures that a neighbor's curtilage (United States v. Dunn, 1987) is not mapped out by the sensor, moving beyond static privacy areas avoidance toward a software-defined, adaptive privacy protocol that considers privacy by design.

6.2 Pedagogical considerations and recommendations

6.2.1 Instructor background

This is a unique problem converging two important aspects and courses, specifically photogrammetry and legal aspects. Photogrammetry curricula often focus on technical aspects. More recently photogrammetry curricula started including additional content for requirements performing UAS surveys such as having a UAS license and practical considerations of performing a UAS license (e.g., high wind, obstacle avoidance, etc.). Legal aspects are traditionally taught in conjunction with boundary surveying, property rights, and land title. This paper addresses the importance of adding another element, i.e., the legal and privacy considerations of UAS surveys. Faculty may consider covering these issues in a legal aspects course or in an ethics course. However, our experience suggests that this would be suboptimal, as there are important technical mitigation processes (discussed in the previous sections) that the students must get training and practice, which require robust technical knowledge in photogrammetry. Thus, ideally, the instructor teaching photogrammetry curricula should also have the background to address the legal aspects. However, this is not often the case, and thus, the alternate recommendation is for the instructor to collaborate with a land use attorney to co-teach lectures and co-grade assignments.

6.2.2 Vignettes

As part of this new course content, assignments are important to enhance higher-order thinking and applying those theoretical concepts in practical and realistic scenarios. We provide four basic assignment ideas that instructors can use and build for their courses. These are:

1. Immediate reaches – Objective to determine the boundary between Navigable Airspace and Private Property.
2. Data Capture or Surveillance – Objective to determine whether it is a Geomatics project for data capture, or a surveillance by private or government entity, and aviation easement (Wisconsin Department of Transportation) when necessary.
3. Surveying or Photogrammetry Without License – Objective to determine if an amateur drone pilot photographer creating an accurate contour map is an activity requiring a license to practice.
4. Identification of potential no fly zones (NFZ) – Objective is to check NFZ using the built-in information of existing sUAS platforms and compare it against the FAA regulations and the local airspace restrictions.

In these assignments students would have to (1) understand the main project goals, (2) investigate the local legal framework, and understand the legal limitations, (3) create a flight plan or survey design that conforms with the legal limitations and make plans for risk mitigation. Another component that is worth including in those assignments is the ethical component. Many surveyors may underestimate the importance of protecting the privacy of adjoiners or consider that the chances for an adjoiner to know the legal framework and have the will to act will be very low. Thus, the surveyor should act with the ethic of protecting the well-being and privacy of their clients and their adjoiners.

6.2.3 Assessment

Table 1 provides a rubric for the assessment of the proposed vignettes. The assessment criteria focus on the legal investigation, the mitigation solution based on the project needs, the ethical requirements for the project, and the student's ability to professionally communicate with the property owner and adjoiners. These criteria are relevant for several accreditation bodies such as ABET which is the main accreditation body for surveying programs in the USA (e.g., see Bolkas et al. 2023). In terms of the Engineering Accreditation Commission (EAC) of ABET, we identify four student outcomes that are relevant with these vignettes, these are (ABET EAC 2026):

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

Student outcomes (3) and (4) are straightforward for their relevancy. Students' outcome (1) is relevant because students will have to use principles of mathematics and engineering to find a solution that mitigates the data collection issue, while student outcome (2) is relevant because the student designs a data collection plan considering public safety and welfare, as well as cultural and social factors. These vignettes can be expanded to include more student outcomes. For example, with the addition of teamwork, experimentation to their mitigation solutions, and independent legal research work, these vignettes can also satisfy the following student outcomes (ABET EAC 2026):

5. an ability to function effectively on a team whose members together provide leadership, create a collaborative environment, establish goals, plan tasks, and meet objectives.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Thus, these vignettes can be used to address most, if not all, of the EAC ABET student outcomes, making them an effective and important tool for accreditation of surveying and geospatial programs. The ability to use one assignment for all student outcomes is beneficial for the instructors and the overall data collection process, as it reduces the instructor's efforts for data collection. Please note that the rubric presented here should be expanded and tailored depending on the student outcomes that are assessed with these vignettes, and the performance indicators established by the programs. Rubrics for each student outcomes are not provided here, and these are left for the individual programs and instructors to develop.

Table 1: Grading rubric: legal aspects of photogrammetry

Criteria	Incomplete (0-50%)	Developing (51-75%)	Proficient (76-90%)	Exemplary (91-100%)
Legal Citations	Fails to mention relevant case law or FAA regulations.	Mentions FAA Part 107 but ignores property law precedents like *Causby*.	Correctly identifies relevant case law (e.g., *Causby*) and applies it to the scenario.	Integrates multiple sources, including State-Specific Statutes and Constitutional "Takings" theory.
Risk Mitigation	Proposes solutions that violate airspace safety or privacy rights.	Suggests basic mitigation but fails to address "immediate reaches" or altitude thresholds.	Proposes clear technical solutions (e.g., B4UFLY checks, 50ft buffers) to avoid litigation.	Develops a comprehensive operational plan including Avigation Easements and sensor offsets.
Professional Ethics	Shows no regard for PII (Personally Identifiable Information) or licensure.	Acknowledges privacy but offers no concrete plan for data redaction or disclaimers.	Understands the limits of unlicensed surveying.	Demonstrates knowledge in ethics and drafts high-quality Right of Entry forms
Communication	Responses are unprofessional or hostile toward stakeholders.	Response is overly technical and fails to de-escalate concerns from non-experts.	Communicates clearly and professionally to property owners or clients.	communication that protects the practitioner's legal rights while respecting property owners.

6.3 Recommendations for Instructors

6.3.1 Select a local Professional Photogrammetrist, Land Surveyor or Land Use Attorney to grade selected student vignette exercise responses.

6.3.2 Students to prepare Right-of-Entry template pre-launch for all flights on/off campus property**.**

6.3.3 Students use a real-world data set and appropriate tools to meet privacy requirements.

6.3.4 Students prepare a waiver for adjoiners to permit the flyover, The waiver is to include the property owners' names, property address, flight dates and times, and limitation of liability for the trespass and the use of data captured.

Conclusion

As photogrammetry is an essential tool for geomatics and urban planning, the legal risks and technical parameters must be well-understood. By integrating property law and airspace navigation into the core curriculum, educators can ensure that the next generation the professionals operate within legal and ethical frameworks. The content of the paper highlights the main concepts related to trespass, reasonable expectation of privacy, and immediate reaches, together with mitigation strategies to avoid professional liability risk. Incorporating such content in Surveying and Photogrammetry courses, students will easily see the connection between advanced mapping techniques and legal aspects, improving even the coverage of content in accreditations, such as ABET.

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