

2020 Yates SUP Airstrip Application Supplement

Introduction

This is additional information for an application for a Special Use Permit for an Airstrip at 2201 Finger Bridge Rd. The Parcel ID is 360903325454 and it's zoned R40.

The owners, Jared and Tabitha Yates, operate a small airplane and ultralight vehicles (very small flying machines governed by 14 CFR Part 103) for recreation, transportation, community outreach and education, and would like to create a small grass airstrip at their residence, on the subject parcel. The proposed use is non-commercial and not public.



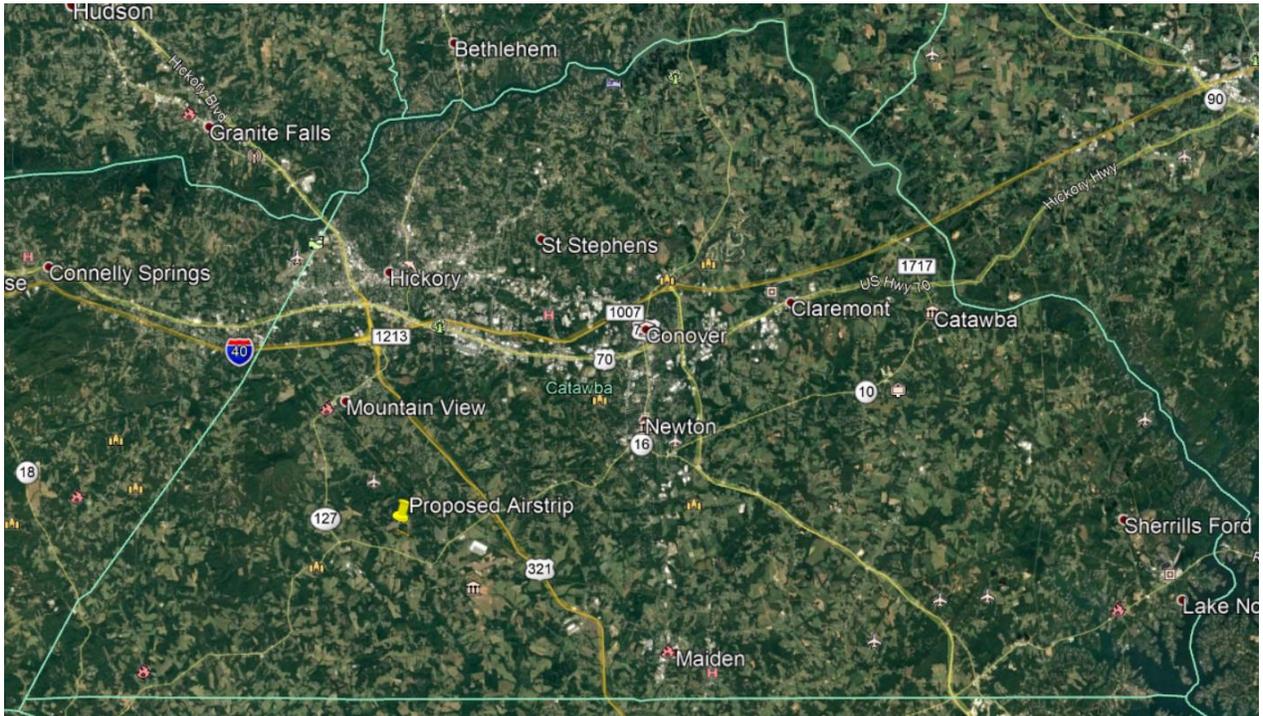
Catawba County's UDO Appendix defines an Airstrip as *"private airplane or helicopter landing facility and taxi areas, which may be grass or paved, with any accessory building associated with the facility such as hangars or maintenance buildings."*

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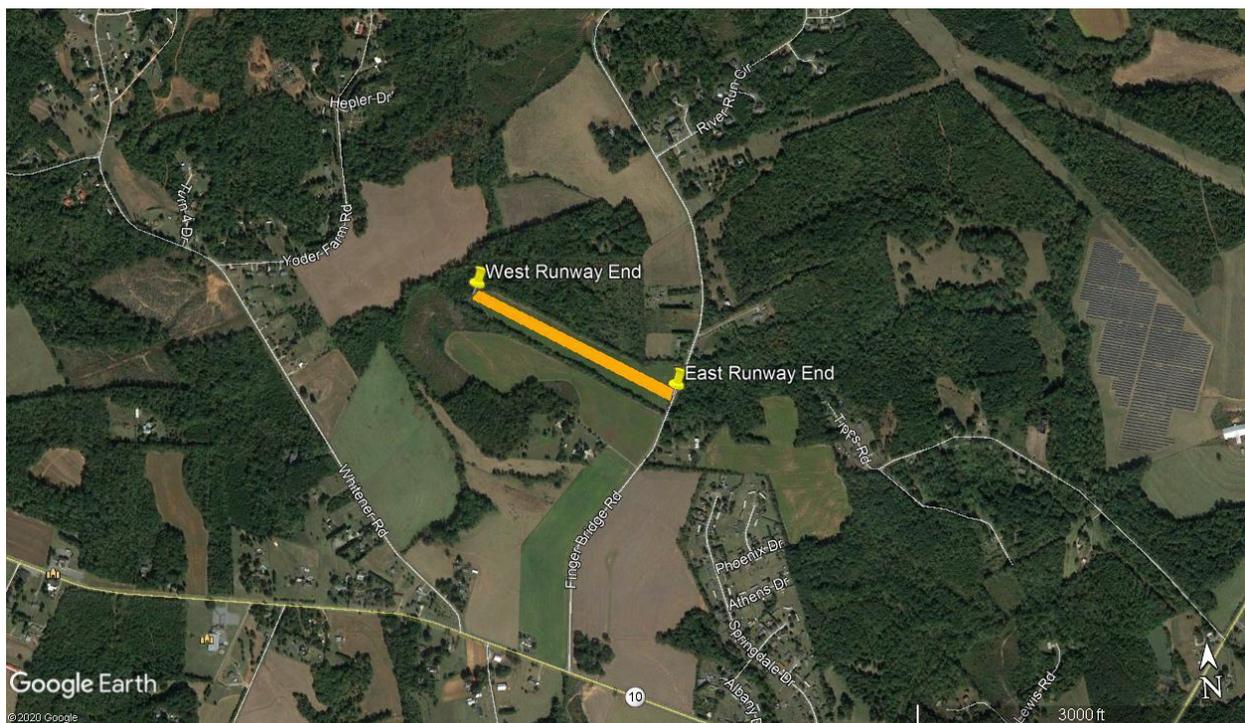
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Location Orientation



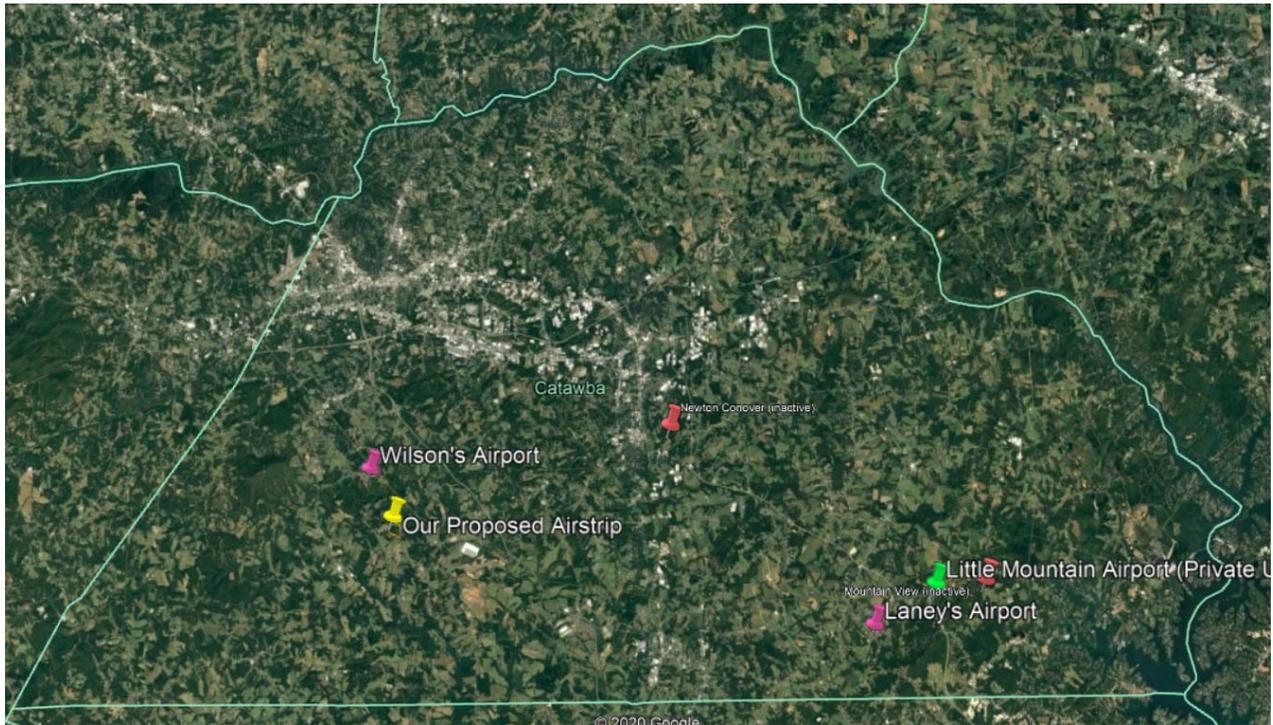
Above: Position of the property in the county, as indicated by the yellow pin.

Below: Position of the proposed grass airstrip on the property, as indicated by the orange box, relative to NC10 and Finger Bridge Rd.



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Other Airports in Catawba County



Wilson's Airport (E40)

Public Use, Privately-Owned single grass runway, 2175 feet long and 70 feet wide. Our current "home base" where we are rental tenants along with 6 other airplanes. Average of 67 operations per month.

Laney's Airport (N92)

Public Use, Privately-Owned with two grass runways. One is 2000 feet long and 100 feet wide, the other is 2400 feet long and 75 feet wide. 46 based airplanes with an average of 192 operations per month.

Little Mountain Airport (6NC1)

Private Use, Privately-Owned with one paved runway, 3000 feet long and 40 feet wide. Not open to the public.

Newton Conover Airport

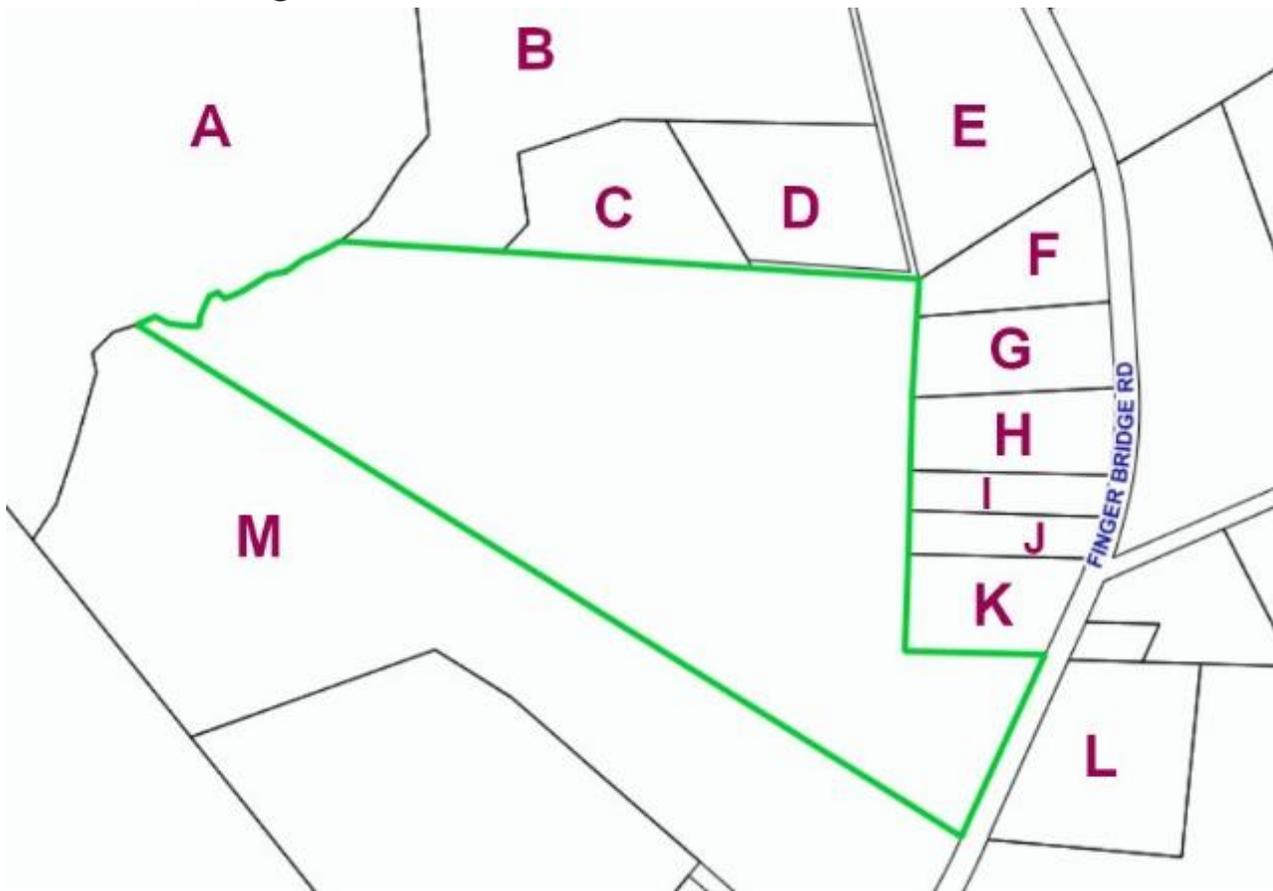
Not currently identifiable as an airport. Perhaps it was in the distant past.

Mountain View Airport

Formerly a single grass runway, 2000x50, but not currently useable

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Surrounding Parcels



Label	Owner	Use
A	Ted Yoder	Agriculture
B	Dennis Yoder	Agriculture/Wooded
C	Tony Yoder	Wooded
D	Wayne Yoder	Single Family Home (SFH)
E	Dennis Yoder	Agriculture/SFH
F	Barbara Blalock	Vacant Lot
G	Barbara Blalock	Vacant Lot
H	Jordan Punch	Single Family Home
I	Alan and Donna Bolick	Single Family Home
J	Terrell Setzer	Vacant Lot
K	Barbara Blalock	Single Family Home
L	Joanne Boatman	Wooded
M	Ralph Boatman	Agriculture

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About the Yates Family Aircraft

The Yates Family Aircraft seats up to four people, including the pilot. The engine produces 185 horsepower, with a cruise speed of 120 miles per hour and can fly for up to five hours between refueling. The maximum gross weight is 2500 pounds and it requires 200-800 feet of runway to take off, and 200-500 feet of runway to land. Our proposed airstrip is 2000 feet in total length. This is a home-built airplane, assembled from a kit. The first flight was in 2013, and since then it has visited 12 states, and flown over 400 hours. This type of airplane can operate on grass or paved runways, though we prefer grass because of reduced tire wear.

The utility of this airplane is comparable to a small family car, and it is most useful for family vacations, camping trips, and short sightseeing flights with friends and family. Jared has also volunteered with the airplane to deliver disaster relief supplies through the Operation Airdrop organization.



The Applicants also operate foot-launched and wheel-launched powered paragliders. These are classified by the Federal Aviation Administration (FAA) as Ultralights, as opposed to Airplanes. The UDO requires an Airstrip SUP for airplanes and helicopters, which technically do not include Ultralights. These ultralights carry only one person, fly at approximately 20-30 miles per hour, and use a special parachute-like wing. They can operate for up to 3 hours on a full tank of fuel, but most flights are short. The pilot inflates the wing while running a few steps during launch, and steers with hand controls. The engine and propeller can either be worn like a backpack, or attached



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on a tricycle with wheels. When attached to the wheels, the pilot needs not run during the takeoff or landing, but the speeds are still slow enough to allow for this. These machines can safely operate out of a space the size of a soccer field.

Applicants are proposing a private grass airstrip of up to 2500 feet, with approximately 100 feet of close-mowed width and approximately 100 feet of hay field on each side of the runway. This far exceeds the safety requirements of all of the applicants' intended uses.

Both the airplane and the ultralights have gasoline engines with muffled exhaust, and do not produce excessive noise.



Non-Commercial Use

This application is for residential, personal use only. Just as a residence has a driveway for cars, a residence with an airplane requires an airstrip. The applicants do not propose a Conference/retreat/event center as in UDO Sec. 44-649, or commercial operations such as renting hangar space to others. Any occasional gatherings or events in the future would be subject to UDO Sec. 44-625. - Temporary use/special event.

Applicants propose that the following UDO sections would not apply:

- Sec. 44-515. - Access management.
- Sec. 44-523(h) - Street Trees
- Sec. 44-534. - Off-street parking.
- Sec. 44-535. - Joint-use facilities and shared parking.
- Sec. 44-536. - Parking standards.

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Displaced Thresholds

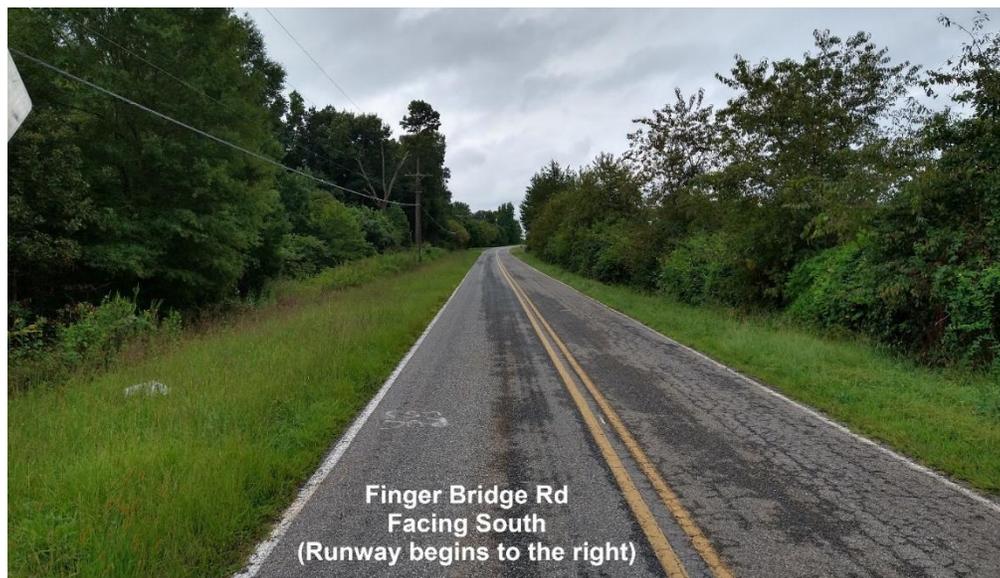
The proposed airstrip is designed to maximize safety for the applicants and the surrounding properties and residents. The direction of takeoff and landing will vary depending on the wind direction. When departing to the northwest, the airplane will start the takeoff roll on the east side of the parcel, near Finger Bridge Road. When landing to the northwest, the airplane will pass over Finger Bridge Road before touching down. While it is safe to start the takeoff roll at the very beginning of the runway, it would not be safe to land at the very beginning of the runway, because the airplane would pass too low over the road.

The solution for such circumstances is called a “Displaced Threshold.” This is an aviation term that means the runway has one beginning point for takeoff, but has a different beginning point for landing. The latter is located farther down the runway. Displaced Thresholds are common any time there is something at the end of the runway other than a big open space. The proposed runway will use Displaced Thresholds on both ends.

When there is a road close to a runway, NCDOT requires that the height of the road be considered 15 feet, which is based on the height of a tall truck on the road. This requirement applies to the east end of our runway because of Finger Bridge Road. The intent is to ensure that airplanes aren’t flying a few feet over the road on landing, which would obviously not be safe for vehicles on the road or for the occupants. In this case the trees on the east side of Finger Bridge Road are the tallest obstacle, so the displaced threshold is based on the trees. It also keeps airplanes clear of the powerlines and complies with the NCDOT requirements.

On the west end of our proposed airstrip, when airplanes will be landing to the southeast, there are existing trees on the property that will require a displaced threshold. There are tall powerlines that run east-west, situated off the end of the proposed runway. These stand in a low valley that keeps them out of the approach and departure path, and much lower than the existing trees.

This is the view travelling southbound on Finger Bridge Rd towards NC10, near the site of the extended runway centerline:



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Compliance with Section 44-332(f)(2)(a)(1-4), Approval Criteria

There are four general standards that must be met for approval of special uses, and we will address them in order.

1. 44-332(f)(2)(a)(1): *The use will not materially endanger the public health, safety, and general welfare, if located where proposed and developed and operated according to the application.*

We never want to endanger the health, safety, and general welfare of our friends and neighbors, ourselves, or the rest of our family. Here are some of the ways that we ensure this.

Aviation is highly regulated, primarily at the federal level, but also at the state level.

For example, Title 14 of the Code of Federal Regulations (14 CFR) Part 91.13 addresses Careless or reckless operation of airplanes. It says “No person may operate an aircraft in a careless or reckless manner so as to endanger the life or property of another.”

14 CFR 103.9, which applies to Ultralights, says “No person may operate any ultralight vehicle in a manner that creates a hazard to other persons or property.”

There is also similar language at the State level, in the NC General Statute:

§ 63-13. Lawfulness of flight. Flight in aircraft over the lands and waters of this State is lawful, unless at such a low altitude as to interfere with the then existing use to which the land or water, or the space over the land or water, is put by the owner, or unless so conducted as to be injurious to the health and happiness, or imminently dangerous to persons or property lawfully on the land or water beneath. The landing of an aircraft on the lands or waters of another, without his consent, is unlawful, except in the case of a forced landing. For damages caused by a forced landing, however, the owner or lessee of the aircraft or the aeronaut shall be liable as provided in G.S. 63-14.

§ 63-18. Dangerous flying a misdemeanor. Any airman or passenger who, while in flight over a thickly inhabited area or over a public gathering within this State, shall engage in trick or acrobatic flying, or in any acrobatic feat, or shall except while in landing or taking off, fly at such a low level as to disturb the public peace or the rights of private persons in the enjoyment of their homes, or injure the health, or endanger the persons or property on the surface beneath, or drop any object except loose water or loose sand ballast, shall be guilty of a Class 1 misdemeanor.

This language makes it against the rules to endanger others in the air or on the ground.

We are highly motivated to ensure that each flight is safe from beginning to end, in large part because we are also on the flight. We have a young family and choose to not take unnecessary risks. We strive to lead as examples of good safety decision-making for the local community. Our reputation is one of respect and consideration. Jared has served as President for the local EAA chapter. We have good relationships with many of the local aviators and plan to continue in our community involvement in Catawba County as a family that enjoys flying safely together.

Establishing a new airport, even if it is restricted for private use, always enhances safety in the aviation community. In the rare event that an airplane flying over experiences an anomaly and needs to land soon, our runway becomes one of the choices available for a safe unplanned

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landing. This may be a local airplane that departs from a nearby airport, or a transient airplane passing overhead enroute between far-away points. Airplanes in distress are always allowed to land anywhere, but landing on a smooth established runway is far superior to making due with a road, mature soybean or corn field, or trees.

Pilot Experience and Training

Flying an airplane requires a Pilot Certificate (sometimes called a pilot's license), issued by the FAA. Examples of Pilot Certificates are Student Pilot, Private Pilot, Commercial Pilot, and Airline Transport Pilot. Operating our family airplane would require the privileges of a Private Pilot Certificate. Jared holds an Airline Transport Pilot Certificate, which is much more difficult to obtain than the minimum certificate required. His undergraduate and master's degrees are both in aviation. His career as a Captain for a major airline, and most of his hobbies, involve flying things. The first flight in his pilot logbook was in 1999 and he has accumulated over 12,000 hours as an airplane pilot. Much of this experience is in large airline jets, with over 1500 hours in small airplanes. A new student will typically fly her first solo flight with 10-15 hours, and a Private Pilot Certificate requires a minimum of 40 hours of flight experience. Jared has written several national magazine articles about building and flying airplanes and presented forums at the EAA's Airventure international convention. He is a volunteer officer in the local non-profit airplane-building club (The Blue Ridge Chapter of the EAA) and a volunteer representative for the Airport Support Network of the Aircraft Owner's and Pilot's Association for the Wilson's airport in Mountain View, where the family airplane has been based for the last 7 years.

A career-minded pilot is especially motivated to follow the rules and stay safe while operating small airplanes, because misbehavior in a small plane could jeopardize all of the pilot's certificates issued by the FAA.

When it comes to Ultralight vehicles, the FAA does not require any pilot certificate or training. In fact, there is not a pilot certificate available that applies to flying ultralights. With our respect and attention to safety, before beginning to fly our ultralight paramotors, Jared and Tabitha researched the available optional training and travelled to Florida for intensive training at one of the best training facilities in the world. Both Jared and Tabitha have years of experience in flying paramotors and operate safely. These seemingly-simple machines require conservative weather choices and a dedicated approach to safety.

We elect to fly during daylight hours and do not intend to add lights to the airstrip, or operate after 30 minutes beyond sunset, or earlier than 30 minutes before sunrise.

Jared and Tabitha have a very safety-oriented mindset, driven by the idea that "the superior aviator uses their superior judgement to avoid situations that demonstrate their superior skill."

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2. 44-332(f)(2)(a)(2): *The use, which is listed as a special use in the district in which it is proposed to be located, complies with all required regulations and standards of this chapter, unless greater or different regulations are contained in the individual standards for that special use*

Here are the regulations and standards of the UDO that apply to airstrips. First, section 44-640:

Sec. 44-640. - Airport/airstrip/runway/taxiway.

(a)No airstrip/runway/taxiway shall be located on a parcel of land less than ten acres.

- The subject property is just over 39 acres.

(b)Proof in writing of compliance with all FAA and NCDOT regulations.

- FAA requires that notice be given (Form 7480-1) of the intent to operate an airplane from a specific piece of property. The results of this form are included in the appendix, as received on 1/13/2021. The letter from the FAA says “Provided all parties comply with the Letter of Agreement (LOA) signed between E40 and FLY-SKY.” This LOA is also included, and is required because of the proximity between our proposed airport and the Wilson’s grass airport to the north. The procedures in the LOA were established with guidance from the Charlotte Flight Standards District Office of the FAA, and with fellow tenants and users of the Wilson’s airport.
 - FAA will also require submission of Form 5015-5 following approval of SUP and grading, so that FAA will add the airstrip to the FAA map and databases. A sample of this form is on the third page of the FAA correspondence.
- NCDOT requires an Aircraft Area Landing Permit which addresses location, size of airstrip and distance to road, which was issued by the NCDOT on 1/14/2021, and is included in the appendix.

(c)The minimum length for the landing strip, approach zones and other land and air space criteria must comply with FAA and NCDOT regulations.

- The proposed airstrip would be 2000 to 2500 ft. in length.
- The FAA does not have specific minimum runway length requirements for a private, grass airstrip
 - Municipal Airport requirements (which are not applicable) would require a minimum runway length of 880 ft based on fastest airplane, height above sea level and surface.
- Applicant will comply with “displaced threshold” requirements – an FAA term referring to location of runway in relation to surrounding roads, trees, etc. This helps to ensure adequate height when crossing obstacles near the edge of a runway.

(d)No structure can be located within the area identified in subsection (c) above.

- There are no structures located in the proposed airstrip area. The Applicant intends to construct their home and a barn on the property outside of the airstrip and not affecting the displaced threshold.

(e)One nonilluminated sign with a maximum area of 16 square feet is permitted.

- The Applicant does not intend to post any signage.

(Ord. No. 2007-001, 2-5-2007)

Also, Table 44-403-1, Use Matrix, indicates that “Airstrip” use is permitted within R-40, after review and approval of a special use permit. When the Applicants purchased the property, it was zoned R-20. On 8/17/2020 the Board of Commissioners approved the rezoning to R-40.

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3. 44-332(f)(2)(a)(3): The use will not substantially injure the value of adjoining or abutting property

Minimal Visible Change from Roadway or Neighboring Parcels: Our initial selection of this parcel for purchase began with a study of the surrounding area, to see which neighboring properties might be impacted. There are no structures under the flight path for a takeoff or landing in either direction. The orientation of the proposed runway was carefully selected to maximize safety and minimize proximity to neighbors and surrounding livestock.

The property is currently landscaped to provide opaque screening of thick and tenacious native vegetation to block out any of the sights and sounds of the airport, except at two driveway entrances along the road frontage. The southern boundary is a wood line of varying thickness, as much as 100 feet in places. Some of this vegetation is south of our property line, but a minimum of 20 feet of screening would remain even if the neighboring vegetation was removed. On the east end, the fence line includes a healthy screen of trees and shrubs. In the north east corner, the east-west oriented fence line continues to the southwest corner of the adjoining property, where our property line turns north. For the remainder of the property adjacent to the north side of the runway, our parcel extends north and screens the neighboring parcels with woods, pasture, and silvopasture. The most prevalent plant species in the fence lines include wild cherry trees (*Prunus avium*), trumpet vine (*Campsis radicans*), privet (*Ligustrum vulgare*), eastern red cedar (*Juniperus virginiana*), poison ivy, etc.

As for when we are not using the airstrip, we will still be maintaining it. There will not be any significant change in appearance from the road, excepting the type of crop grown. The runway will look in parts like a hay field, and in parts like a mowed lawn.

Minimal Noise: We are proposing use of airplanes with gasoline engines with muffled exhaust and Ultralights, so there will be minimal noise produced.

Minimal Use: We are flying for fun and when the weather and schedules allow, the use of the airstrip will be infrequent.

This aerial image below shows the proposed runway, along with structures in the area accentuated with red arcs. The green highlight is to show an approach path that would fly over adjacent wooded/agriculture fields.

There are no homes on the adjoining parcels to the east and west ends of the proposed runway.

The yellow highlight is to show the field owned by the applicants.

The white line is to approximate the runway location (not to scale).



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4. 44-332(f)(2)(a)(4): *The use is consistent with any adopted area plans that encompass the property subject to the application.*

The Mountain View SAP Adopted by the Catawba County Board of Commissioners on October 21, 2002 does not address air transportation, but does include some of the following recommendations.

Page 19: *Lower density residential areas should meet the following development requirements: Cluster development is required with open space preserved along the road frontage unless a traditional subdivision design is developed that can incorporate open space preservation and buffers around the development.*

Page 21: *Preserve rural character in low density areas by limiting development even if water and sewer are available.*

By establishing an airstrip on this parcel, we will maintain open road frontage with the appearance of a hay field, providing an attractive open view of Baker's Mountain. The "short grass" runway area will be approximately 100 feet wide, providing for an additional 100 feet of hay field on each side of the runway, along a length of 2000 feet.



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Application Summary

Thank you for your attention and consideration. Our family has lived in the Mountain View area of Catawba County for 15 years. We value the connections that we have established with our neighbors and our community. We enjoy and appreciate the beauty of the surrounding area.

Our application for this Special Use Permit intends to add value to our community and to the education and enjoyment of those around us, with care and attention to safety for all. We have had positive feedback from our neighbors and we feel that this petition is appropriately timed and intentionally considered for this specific parcel. We have done extensive due diligence to ensure that we are within safety margins and compliance with the SUP.

We are trusted as reliable neighbors, as well as a caring home to visit with two young girls playing in the yard, active in the care of the goats and animals on our small family farm.

We plan to continue to share our love of flying with others through aviation. Any aviation gatherings or events at the proposed site would be subject to UDO Sec. 44-625. - Temporary use/special event.

Thank you for your consideration, and we welcome any questions that you have about our intention or application.