



**SOUTH CAROLINA  
AERONAUTICS**



# AIRPORT COMPATIBLE LAND USE EVALUATION (CLUE) TOOL USER GUIDE

For Trial Area

South Carolina Aeronautics Commission (SCAC) | Version 4

# Table of Contents

- Introduction ..... ii**
  - History of Land Use Compatibility ..... ii
  - Provisions of Title 55 ..... ii
    - What does it mean for SCAC? ..... iv
    - What does it mean for the Local Community? ..... iv
  - Airport Compatible Land Use Evaluation (CLUE) Tool ..... iv
    - What are the Airport Safety and Land Use Zones? ..... iv
    - What is being evaluated in the Airport Safety and Land Use Zones? ..... vi
    - How the CLUE Tool Works ..... vi
  - Summary ..... vi
- CLUE Tool User Guide for Trial Area ..... ii**
  - Step 1. Identify future development opportunity ..... ii
  - Step 2. Determine if Airport Safety and Land Use Zones apply ..... 1
  - Step 3. After the Property is Located ..... 1
    - Step 3a. Property outside the Airport Safety and Land Use Zones ..... 5
    - Step 3b. Property within the Airport Safety and Land Use Zones ..... 5
  - Step 4. Questionnaire Summary ..... 1
- CLUE Tool Glossary ..... 1**

# Table of Figures

Figure 1 – Revised Title 55 of the South Carolina Code .....	iii
Figure 2 – Airport Land Use Evaluation.....	v
Figure 3 – CLUE Tool Process .....	ii
Figure 4 – CLUE Tool Welcome Screen .....	1
Figure 5 - User Agreement Screen .....	2
Figure 6 - Home Screen.....	3
Figure 7- Using the Suitability Tool .....	4
Figure 8 – Taking Measurements – Measure Lengths .....	5
Figure 9 – Taking Measurements – Measure Areas.....	6
Figure 10 – Coordinates .....	7
Figure 11 – Selecting the Map Layers .....	8
Figure 12 – Switching the Base Map.....	9
Figure 13 – Using the Address Tab to Locate Proposed Development Location .....	10
Figure 14 – Using the Coordinates Tab to Locate Proposed Development Location .....	11
Figure 15 – Working with Coordinates .....	12
Figure 16 – Input Coordinate .....	13
Figure 17 – Input Coordinate – Click on the map .....	14
Figure 18 – Coordinates Widget – Format Settings .....	15
Figure 19 – Coordinates Widget – Add or Remove Coordinate Conversion.....	16
Figure 20 – Using the Airport Tab to Locate Propose Development Location .....	17
Figure 21 – Downloading Airport-Specific Data.....	18
Figure 22 – Using the Draw a Point Feature .....	19
Figure 23 – Using Enter a Polygon Feature .....	20
Figure 24 – Using the Draw a Polygon Feature.....	21
Figure 25 – Analyzing the Development Location .....	1
Figure 26 – Checking Applicability of FAA Height Regulations .....	2
Figure 27 – Analyzing Location .....	3
Figure 28 – Initial Height Analysis Score .....	4
Figure 29 – Development outside Airport Safety and Land Use Zones do not Require Review.....	5

Figure 30 – Answering the Questionnaire ..... 5

Figure 31 – Completing the Questionnaire ..... 6

Figure 32 – Questionnaire Summary ..... 1

# INTRODUCTION

## History of Land Use Compatibility

Aviation is a widely used form of transportation and comprises an industry that is responsible for over one trillion dollars in economic activity in the United States each year. Unfortunately, as this industry continues to grow, incompatible land uses are encroaching upon our nation's airports, threatening the safety of people in the air and on the ground.

Historically, most airports were built in farm fields and other places well away from the nearest towns. As towns grew, they got closer to airports, and conflicts over noise, safety, and airspace protection arose. Often the result was closure of the airport and perhaps construction of its replacement farther from town. This option was workable when airports consisted of little more than dirt strips. Replacement is much less feasible today when airports represent investments of millions or even billions of dollars. Furthermore, as urban areas have expanded and the demand for buildable property has continued to escalate, sites on which new airports can be built have become increasingly difficult to find. Then, when a new site is found, communities tend to expand outward toward the airport and the whole cycle begins again. These conflicts play out across the nation daily - within large urban areas as well as the smaller rural towns - as communities and airports struggle to find a balance between airport operations and compatible land use.

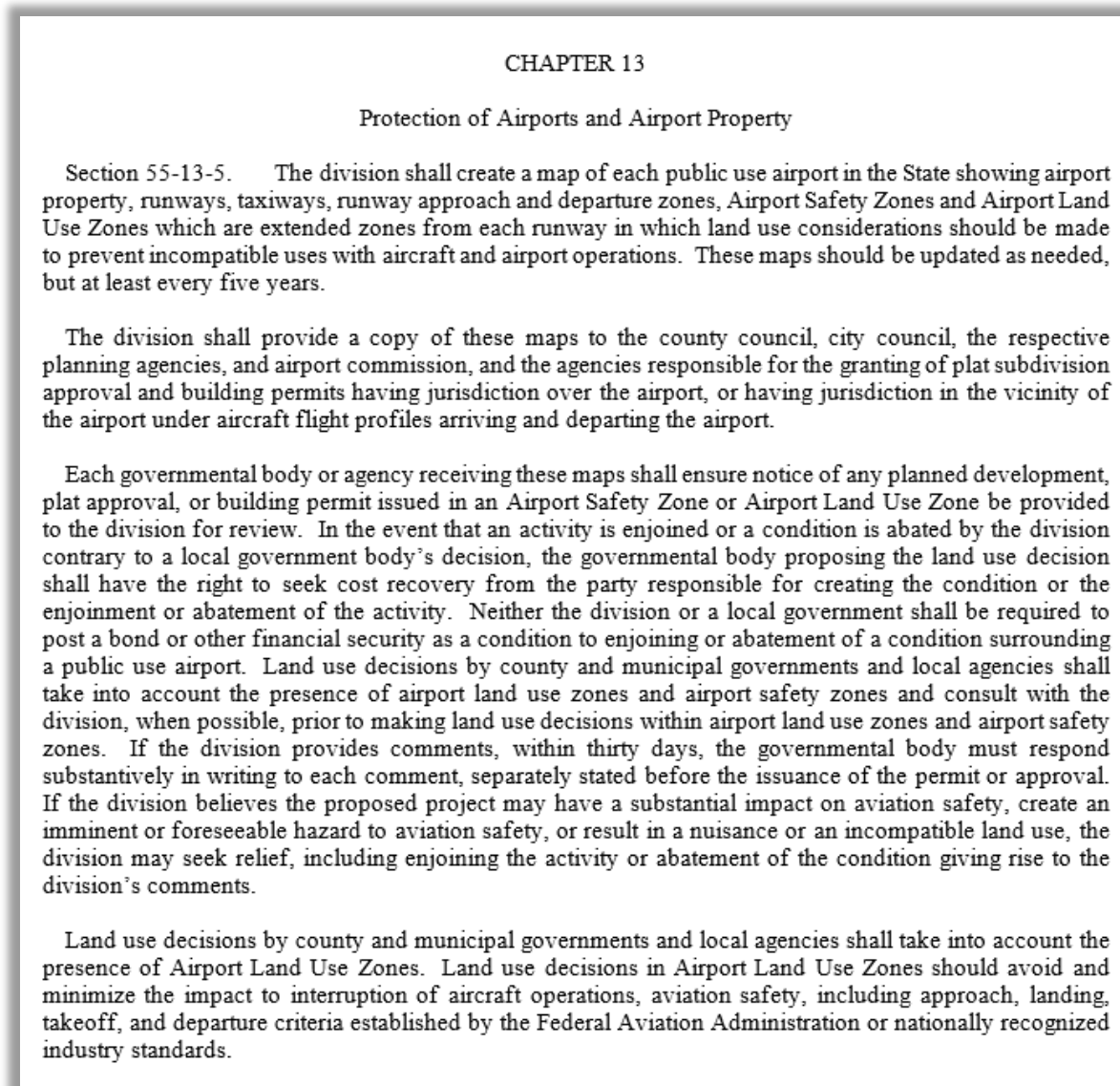
This incompatibility between airports and land uses that surround them is not a new phenomenon. A landmark study completed in 1952—the Doolittle Report—addressed many of the same issues that remain today. A point emphasized in that report was that airports and metropolitan areas should be jointly planned so that they each develop to serve the other. This concept has frequently been neglected, and incompatible land uses have flourished in proximity to many of the nation's airports. More than ever, it is now imperative that a cooperative approach to airport land use compatibility planning be embraced—the preservation of airports from the encroachment of incompatible land uses must be a priority for the nation, as well as individual states, local governments, host communities, and airports themselves.

## Provisions of Title 55

South Carolina has taken a proactive approach in planning for compatible uses near the State's airports. On July 1, 2012, revisions to Title 55 of the South Carolina Code were enacted that require the South Carolina Aeronautics Commission (SCAC) to develop and provide maps of airport-specific Safety Zones and Land Use Zones to local jurisdictions owning or located near publicly owned airports and require jurisdictions to notify SCAC of certain land use changes in these zones. The intent of these requirements is to enhance the level of land use compatibility near all public-use airports in the state.

The specific excerpt from the revised code is included in Figure 1.

Figure 1 – Revised Title 55 of the South Carolina Code



Source: Title 55 of the South Carolina Code

## What does it mean for SCAC?

In order to comply with the airport land use notification, evaluation, and comment process outlined in Title 55, the SCAC began development of an interactive web-based tool that would meet the requirements of Title 55 and streamline the notification and evaluation process that is established by the revised code.

## What does it mean for the Local Community?

Local communities must notify SCAC of developments proposed within their municipality if it is located within any of the Airport Safety or Land Use Zones established in Title 55. The municipal planning entity for the community (such as a city or county planner) is responsible for coordinating with SCAC. This person or group of people is herein referred to as the Local Permitting Official (LPO).

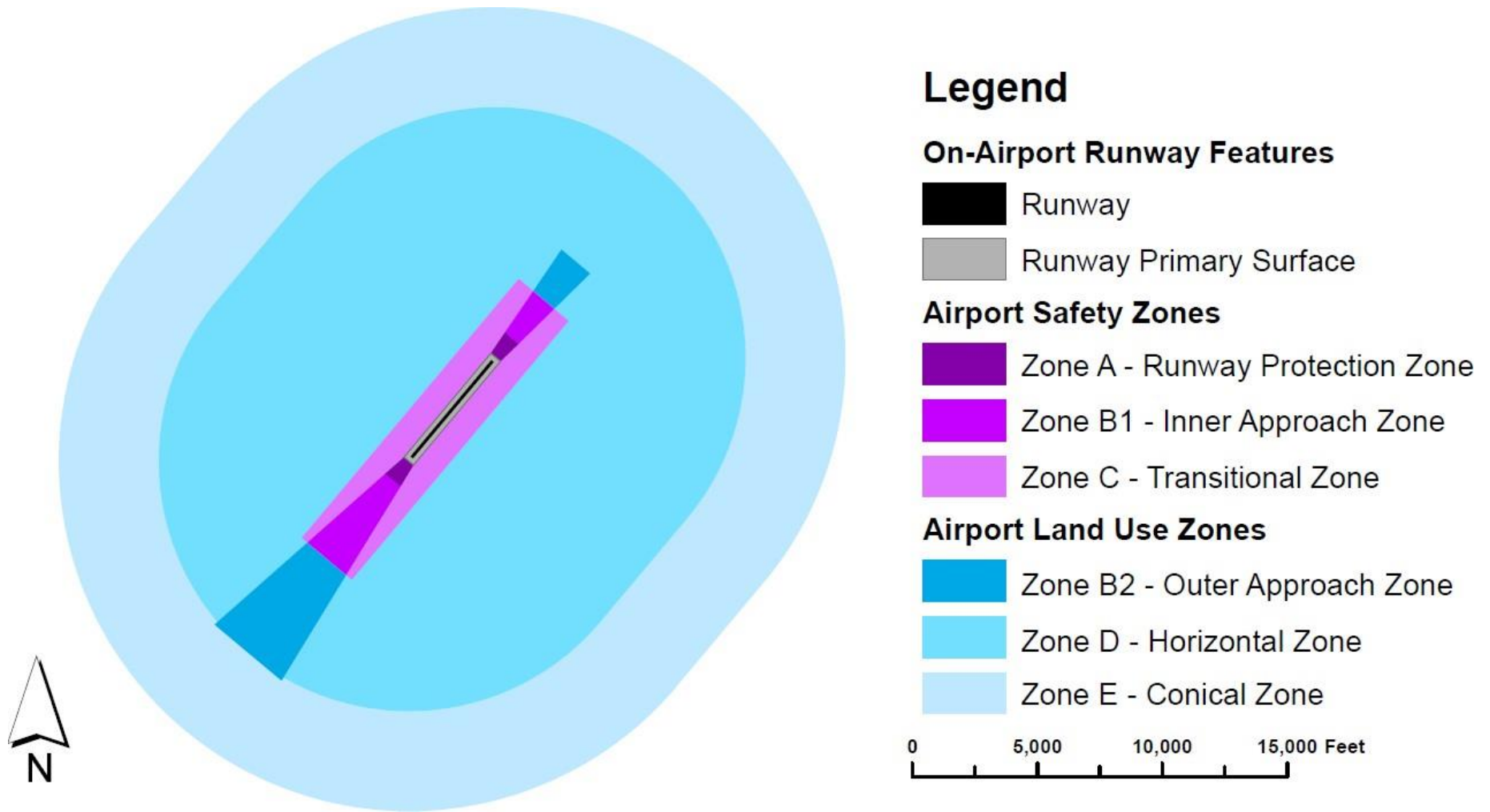
## Airport Compatible Land Use Evaluation (CLUE) Tool

Meeting the provisions of Title 55 requires SCAC to coordinate with local municipalities and planning agencies that oversee development near each of South Carolina's public use airports. Due to the extensive number of agencies to coordinate with and the complexities of planning for airport compatible land uses, SCAC has developed the Compatible Land Use Evaluation Tool (herein referred to as the CLUE Tool) that streamlines the notification process between LPOs and SCAC. This tool allows for a more efficient exchange of development information, and the ability for the public and planning entities to "test" certain development scenarios (if located within an Airport Safety or Land Use Zone) for compatibility prior to submission to the SCAC for review. See the CLUE Tool Glossary on page 26 for definitions of various terminology used in the CLUE Tool and throughout this guide.

## What are the Airport Safety and Land Use Zones?

SCAC has developed two sets of zones, per the requirements of Title 55. The first set – the Airport Safety Zones – are the zones closest to an airport's runway(s) and include the Runway Protection Zone, the Airport Inner Approach Zone, and the Transitional Zone. The second set – the Airport Land Use Zones – include the zones which surround the entire airport. Figure 2 illustrates the scope of these zones around what is a typical South Carolina general aviation (GA) airport. It is important to note that the size of the zones will change according to each airport's specific geometry and flight instrument procedures.

Figure 2 – Airport Land Use Evaluation



Source: South Carolina Aeronautics Commission

The areas shown in Figure 2 – Airport Land Use Evaluation are the areas in which the SCAC has the authority and responsibility to review any proposed development.

## What is being evaluated in the Airport Safety and Land Use Zones?

There are several characteristics of land uses that impact the level of compatibility that a use has with airport operations. Many of these characteristics are based upon the type of land use that is proposed. For example, institutional use (educational facilities, places of worship, healthcare facilities) is generally not considered to be compatible with airport operations due to aircraft noise that can interrupt learning, worshipping, or healing). By comparison, industrial use (manufacturing, etc.) is not typically impacted by aircraft noise since industrial activities are inherently noisy. Land uses can be categorized into five main types:

- Residential
- Commercial
- Industrial
- Institutional
- Recreational

Besides the type of land use, the following characteristics that will be evaluated for each proposed use within the Airport Safety and Land Use Zones include:

- Height of use
- Change in zoning (if required)
- Storage/sale/distribution of fuel (if applicable)
- Wildlife attractants

## How the CLUE Tool Works

The CLUE Tool has been built on a platform of several data layers that include the locations and dimensions of each public use airport's runways, the Airport Safety and Land Use Zones around each airport, and FAA regulated areas around each airport. This allows a user of the tool to select a location on a map and determine whether that property is within one of the Airport Safety or Land Use Zones and therefore requires review by the SCAC.

## Summary

Planning for compatible land uses near airports helps protect their continued operation and the investment that has been made in these facilities, as well as the safety of people both in the air and on the ground in proximity to them. As such, it is critical to establish and maintain compatible land uses in the vicinity of airports. The State of South Carolina has made a commitment to promote airport compatible land uses near the public use airports in the state through the passage of Title 55. SCAC has developed the CLUE Tool in response to Title 55 which can be used by the public, LPOs, and SCAC staff. The CLUE Tool User Guide for Applicants begins on the next page.

# CLUE TOOL USER GUIDE FOR TRIAL AREA

## HOW CAN THE CLUE TOOL BE USED FOR PROPOSED DEVELOPMENT?

A special portal of the CLUE Tool has been developed for use by applicants (such as property owners and developers). This portal is called the “Trial Area” and can be accessed here:

[www.scaeronautics.com/clue/trialarea](http://www.scaeronautics.com/clue/trialarea). The Trial Area can be

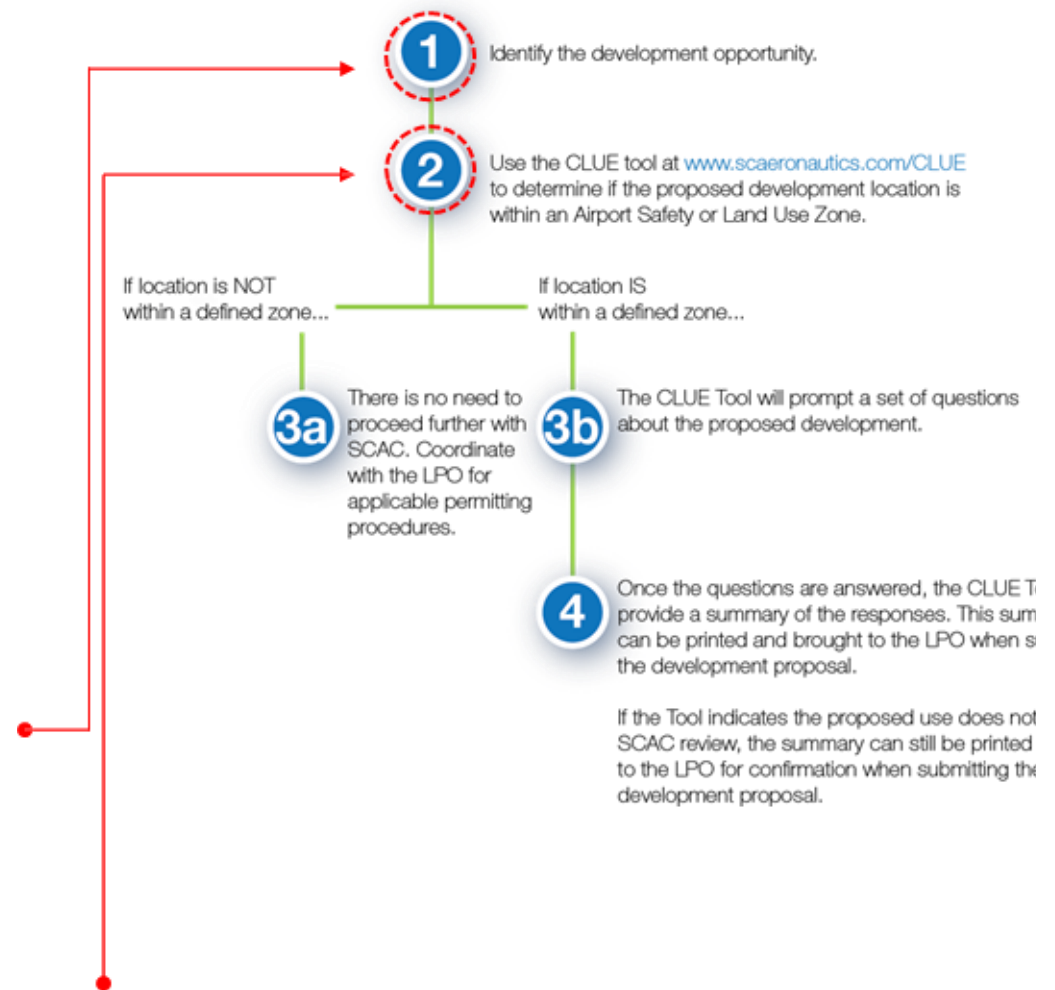
used to determine if a proposed use is located within any of the Airport Safety and Land Use Zones established by Title 55, and if the use requires review by SCAC.

Use of the CLUE Tool Trial Area by applicants is voluntary and is not required prior to visiting the Local Permitting Official (LPO). However, the CLUE Tool will be used by the LPO prior to issuing permits to the applicant, since any permit, subdivision, and/or rezoning application that triggers SCAC notification must be reported by the LPO to SCAC. As such, following the CLUE Tool process illustrated in **Figure 3** is optional (but recommended) for the applicant. Each step is discussed in greater detail in the following pages.

## Step 1. Identify future development opportunity

Whether applicants (typically the property owner[s] or developer[s]) have been planning for years, or recently identified a development opportunity to pursue, they can determine if the Airport Safety and Land Use Zones established by the SCAC apply to their proposed development.

Figure 3 – CLUE Tool Process



## Step 2. Determine if Airport Safety and Land Use Zones apply

A special portal of the CLUE Tool has been developed for use by applicants, which can be accessed here: [www.scaeronautics.com/clue/trialarea](http://www.scaeronautics.com/clue/trialarea) shown in **Figure 4** – . This “Trial Area” will help applicants determine if their proposed development property is within the Airport Safety and Land Use Zones. Applicants can access this tool from most internet-enabled devices, which allows them to quickly determine if their proposed development location is within one of the defined zones. It is recommended that a desktop or laptop computer be used for navigating the CLUE Tool.

Once an applicant launches their web browser and navigates to the tool, they will be prompted with two welcome screens shown in **Figure 4** – and **Figure 5** - User Agreement Screen. The first screen explains the purpose of the tool, Title 55, and what they will be prompted to do if their proposed use is within one of the Airport Safety or Land Use Zones. The second screen includes the user agreement terms that they will need to agree with to use the tool.

Figure 4 – CLUE Tool Welcome Screen

Welcome to the SC Aeronautics' Airport CLUE Tool Trial Area

The South Carolina Aeronautics Commission (SCAC) welcomes you to the Trial Area of the Airport Compatible Land Use Evaluation ("CLUE") Tool. Locate your proposed development on the map to find out if it is in an Airport Safety Zone or an Airport Land Use Zone.

[Title 55, Section 55-13-5 of the South Carolina State Code of Laws](#) requires that certain development applications in SCAC-specified **Airport Safety Zones and Airport Land Use Zones** be submitted by local government planning, zoning, and building permit officials to SCAC for review and comment. This interactive site is designed to assist the general public in understanding airspace and land use compatibility near airports by evaluating a "test case" development proposal against Federal Aviation Administration (FAA) and SCAC standards.

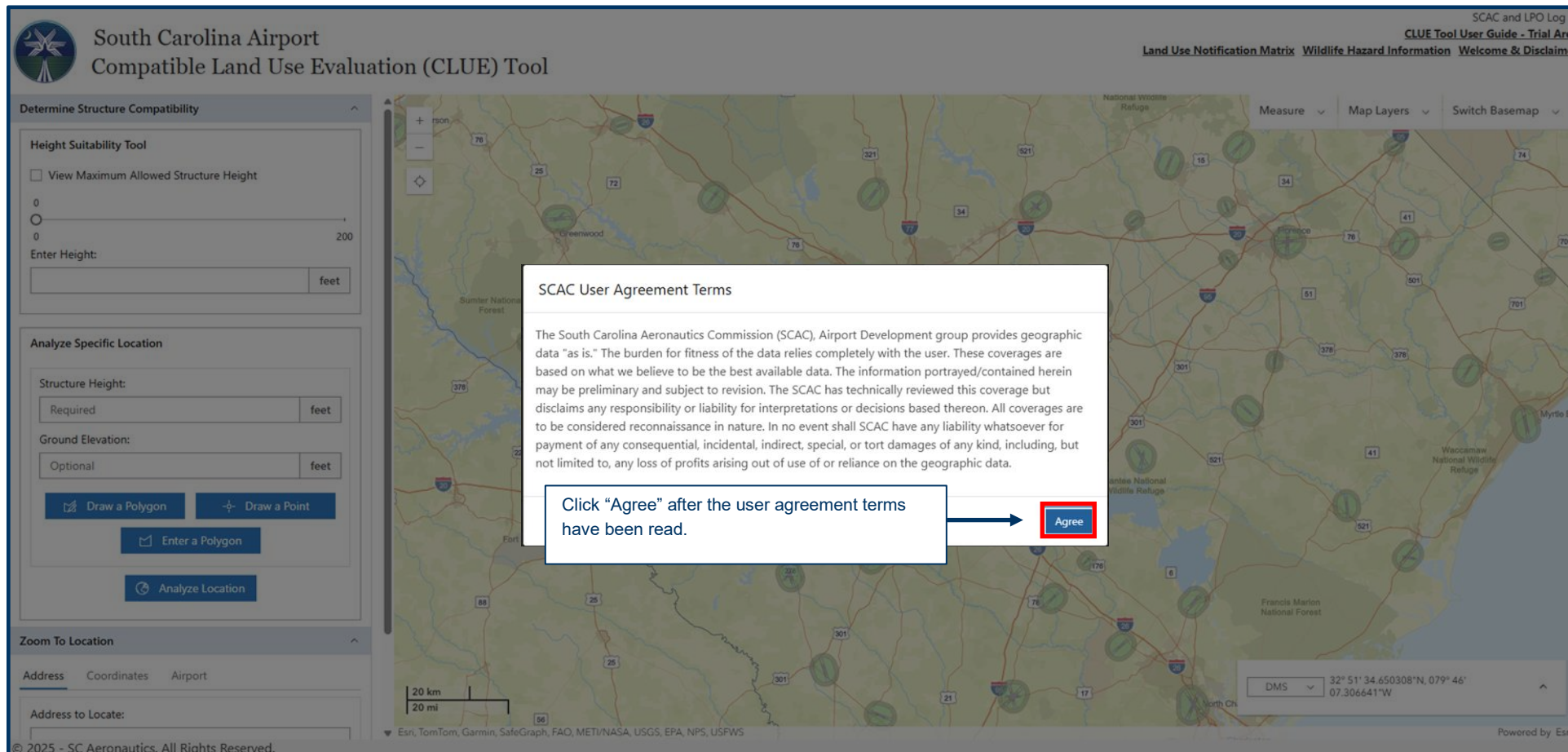
If your proposed location is in one of the above zones, you will be prompted to fill out a screening questionnaire. The questionnaire will provide information about the zone, help you understand triggers for SCAC review, and coordinate with your local permitting official.

As the Trial Area is for informational purposes only, your "test case" will not be submitted to or saved with SCAC. However, you will be able to create a PDF and print your test case, which may be shared with your local permitting official.

**PLEASE NOTE:** Regardless of the information about a proposed development you may enter, it may also need to be submitted to the Federal Aviation Administration (FAA) based on height notification criteria in [14 CFR Part 77, §77.9](#), using FAA Form 7460-1 "Notice of Proposed Construction or Alteration" online at <http://oeaaa.faa.gov>. The form, if required, must be submitted 30 days before a local permit application is submitted or before construction commences. Additionally, your proposed development may be subject to local land use ordinances separate from SC Aeronautics' policies.

Click "Enter" after the welcome message has been read →

Figure 5 - User Agreement Screen



Once the applicant passes the two initial screens, they will be brought to the “home screen” shown in **Figure 6 - Home Screen**. The home screen has many options to explore to help applicants navigate and visualize their proposed development location. Instructions and illustrations are provided for each option in **Figures 7-15**.

Figure 6 - Home Screen

The screenshot displays the 'South Carolina Airport Compatible Land Use Evaluation (CLUE) Tool' interface. The top navigation bar includes links for 'SCAC and LPO Log In', 'CLUE Tool User Guide - Trial Area', 'and Use Notification Matrix', 'Wildlife Hazard Information', and 'Welcome & Disclaimers'. The main interface is divided into several sections:

- Determine Structure Compatibility:** Contains a 'Height Suitability Tool' with a checkbox for 'View Maximum Allowed Structure Height' and a height input field (0 to 200 feet).
- Analyze Specific Location:** Includes fields for 'Structure Height' (Required) and 'Ground Elevation' (Optional), both in feet. It features buttons for 'Draw a Polygon', 'Draw a Point', 'Enter a Polygon', and 'Analyze Location'.
- Zoom To Location:** Offers three tabs: 'Address', 'Coordinates', and 'Airport'. The 'Address' tab is active, showing an 'Address to Locate' field and an 'Enter an address or point of interest' button. Below it is a 'Results' section.
- Map Interface:** A central map of South Carolina with various overlays. At the top right of the map area are three dropdown menus: 'Measure', 'Map Layers', and 'Switch Basemap'. At the bottom right, a coordinate display shows 'DMS' and '32° 51' 34.650308"N, 079° 46' 07.306641"W'.

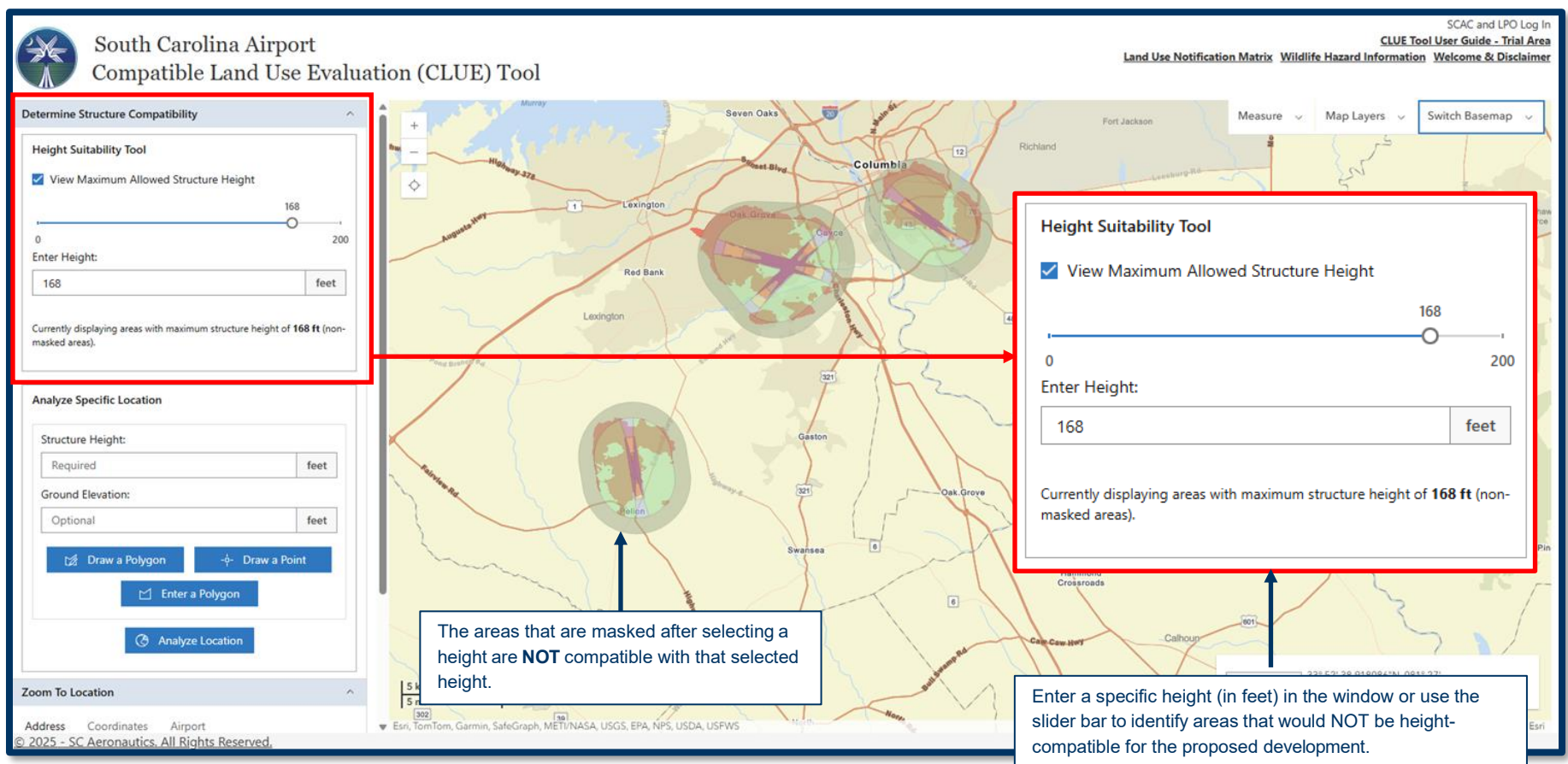
Callout boxes provide the following instructions:

- View the Trial Area User Guide and reference the Wildlife Hazard Information prior to using the tool.
- Use the Height Suitability Tool to locate areas that would NOT be compatible for the height of the proposed development. See Figure 7.
- Click one of these three options to find the proposed development location. See Figures 13-15.
- Click this button to measure distance and/or area and identify the latitude and longitude of a chosen point. See Figure 8-9.
- Click this button to change map layers. See Figure 11.
- Click this button to change basemap. See Figure 12.
- Click here to work with point coordinates. See Figure 10.

© 2025 - SC Aeronautics. All Rights Reserved. Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS. Powered by Esri.

Optional: The Height Suitability Tool is an easy-to-use feature to visually identify areas where structures of a specified height can be built. Often one of the biggest issues with proposed development is the height of the proposed structure. This tool allows the user to enter a specific height (in feet) or use the slider bar to view areas (highlighted in red) that would NOT be height-compatible for that proposed development. The higher the height, the more areas will appear in red, and vice versa. This tool is to be used to determine the compatibility of a proposed structure for height only and help development proposers to more quickly identify compatible areas to build. A development proposer should still analyze the compatibility of their proposed development using the process outlined in this guide (starting on page 15) once a height-compatible location is identified.

Figure 7- Using the Suitability Tool



Optional: The Measure feature of the program can be used to measure distance or area. This feature is provided to help users spatially reference their proposed development location by measuring distance (as the crow flies) from the proposed development to nearby locations (such as distance to the nearest airport), and measure areas (such as the area of the proposed development if unknown). These measurements can be helpful when using the CLUE Tool and when discussing the proposed development with the LPO and the SCAC.

Figure 8 – Taking Measurements – Measure Lengths

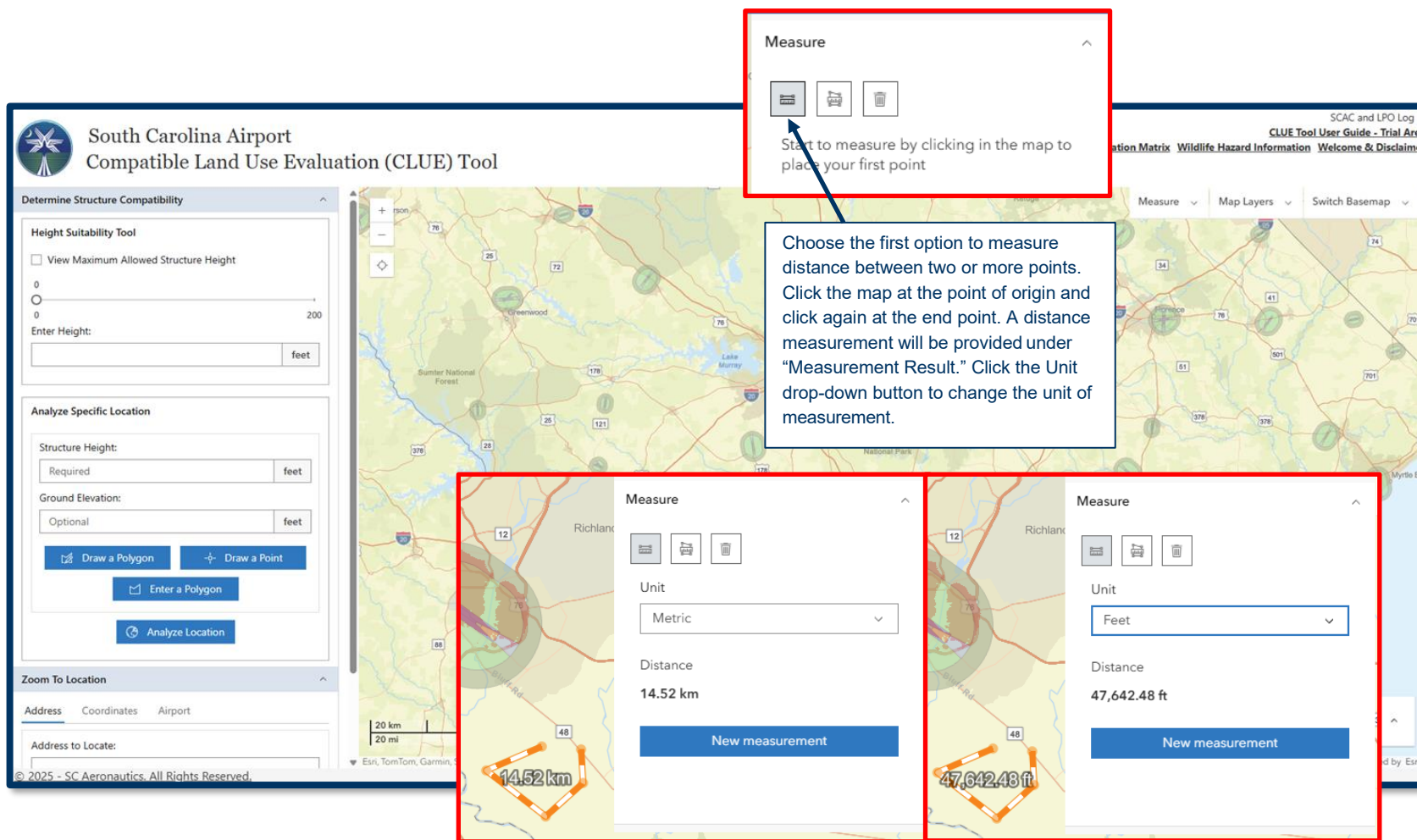


Figure 9 – Taking Measurements – Measure Areas

South Carolina Airport  
Compatible Land Use Evaluation (CLUE) Tool

Determine Structure Compatibility

Height Suitability Tool

View Maximum Allowed Structure Height

0  
0  
200

Enter Height:  feet

Analyze Specific Location

Structure Height:  Required feet

Ground Elevation:  Optional feet

Zoom To Location

Address Coordinates Airport

Address to Locate:

© 2025 - SC Aeronautics. All Rights Reserved.

Measure

Start to measure by clicking in the map to place your first point

Choose the second option to measure an area. Draw boundaries around an area and double click when finished. An area measurement will be provided under "Measurement Result." Click the Unit drop down button to change the unit of measurement

Measure

Unit: Metric

Area: 33.51 km<sup>2</sup>

Perimeter: 24.27 km

Measure

Unit: Metric

Area: 33.51 km<sup>2</sup>

Perimeter: 24.27 km

33.51 km<sup>2</sup>

33.51 km<sup>2</sup>

SCAC and LPO Log In  
CLUE Tool User Guide - Trial Area  
Land Use Notification Matrix Wildlife Hazard Information Welcome & Disclaimers

Measure Map Layers Switch Basemap

32° 51' 34.650308"N, 079° 46' 07.306641"W

Powered by Esri

Figure 10 – Coordinates

The screenshot displays the 'South Carolina Airport Compatible Land Use Evaluation (CLUE) Tool' interface. On the left, there are three main sections: 'Determine Structure Compatibility', 'Analyze Specific Location', and 'Zoom To Location'. The 'Determine Structure Compatibility' section includes a 'Height Suitability Tool' with a 'View Maximum Allowed Structure Height' checkbox and a height slider. The 'Analyze Specific Location' section has input fields for 'Structure Height' (Required) and 'Ground Elevation' (Optional), along with buttons for 'Draw a Polygon', 'Draw a Point', 'Enter a Polygon', and 'Analyze Location'. The 'Zoom To Location' section has tabs for 'Address', 'Coordinates', and 'Airport', with an 'Address to Locate' field.

The main map area shows a geographic view of the region around Columbia, South Carolina. Three red boxes highlight coordinate input fields:

- Top box:** A dropdown menu set to 'DMS' with the coordinates  $33^{\circ} 37' 30.477642''N, 080^{\circ} 35' 43.502930''W$ . A blue arrow points to an upward-pointing arrow icon next to the coordinates.
- Middle box:** A dropdown menu set to 'DMS' with the coordinates  $33^{\circ} 37' 32.535953''N, 080^{\circ} 32' 20.805176''W$ . Above the coordinates is an 'Add conversion' dropdown menu.
- Bottom right box:** A dropdown menu set to 'DMS' with the coordinates  $32^{\circ} 51' 34.650308''N, 079^{\circ} 46' 07.306641''W$ .

At the top right of the map area, there are tabs for 'Measure', 'Map Layers', and 'Switch Basemap'. A label 'Coordinates (bottom right)' points to the bottom right box. At the bottom left, there is a scale bar for 20 km and 20 mi. The footer includes '© 2025 - SC Aeronautics. All Rights Reserved.' and 'Powered by Esri'.

Figure 11 – Selecting the Map Layers

The screenshot displays the 'South Carolina Airport Compatible Land Use Evaluation (CLUE) Tool' interface. On the left, there are panels for 'Determine Structure Compatibility' (with a height suitability tool set to 157 ft) and 'Analyze Specific Location' (with structure height set to 'Required' and ground elevation set to 'Optional'). The main area is a map of the airport area. On the right, a 'Map Layers' panel is open, showing a list of layers to be displayed on the map. The layers are: 'Airport Boundaries' (checked), 'Land Use Notification Zones' (checked), 'Land Use Evaluation Zones' (checked), and 'Part 77 Airspace Surfaces (Existing)' (unchecked). Each layer has a corresponding slider bar to adjust its transparency. A text box with a blue border and white background is overlaid on the map, containing the following text: 'Click the “Map Layers” button and choose which layers to use. The tool will automatically default to showing all layers listed. Click the checkbox next to the layers you don’t wish to view to “uncheck” those layers. Use the slider bars to change transparency of the layers as desired.' Another red-bordered box highlights the 'Map Layers' panel itself. At the bottom left, there is a 'Zoom To Location' section with address and coordinate fields. The bottom right corner shows a coordinate display in DMS: 33° 43' 48.976734"N, 080° 57' 50.926025"W. The page footer at the bottom center contains a dark blue box with the text 'Step 2'.

Figure 12 – Switching the Base Map

South Carolina Airport  
Compatible Land Use Evaluation (CLUE) Tool

SCAC and LPO Log In  
[CLUE Tool User Guide - Trial Area](#)  
[Land Use Notification Matrix](#) [Wildlife Hazard Information](#) [Welcome & Disclaimer](#)

**Determine Structure Compatibility**

Height Suitability Tool

View Maximum Allowed Structure Height

0 157 200

Enter Height: 168 feet

Currently displaying areas with maximum structure height of 157 ft (non-masked areas).

**Analyze Specific Location**

Structure Height: Required feet

Ground Elevation: Optional feet

**Zoom To Location**

Address Coordinates Airport

© 2025 - SC Aeronautics. All Rights Reserved.

Click the "Switch Basemap" button, choose which basemaps to use. The tool will automatically default to using the "Streets" basemap. Switching to the "Imagery" or "Imagery with Labels" basemap may help in navigating to proposed development locations.

Switch Basemap

Imagery Imagery Hybrid

Streets Topographic

33° 50' 29.597940"N, 080° 34' 54.064453"W

Powered by Esri

Once the applicant has picked the basemap and layers that they would like to use, they can find their proposed development location on the map by navigating to the left-hand side of the screen and choosing “Address,” “Coordinates,” or “Airport” based on the locational information available. **Figure 13** illustrates the use of the “Address” tab where a simple street address can be entered. **Figures 14-19** illustrate the use of the “Coordinates” tab using latitude and longitude coordinates (which could be used if the location does not have a street address). **Figures 20** illustrate the use of the “Airport” tab which will auto-fill with the name of a South Carolina airport as the applicant begins to type the name (this could be used if the applicant does not know the street address or coordinates of the proposed location but could identify the location within the area surrounding the nearby airport).

Figure 13 – Using the Address Tab to Locate Proposed Development Location

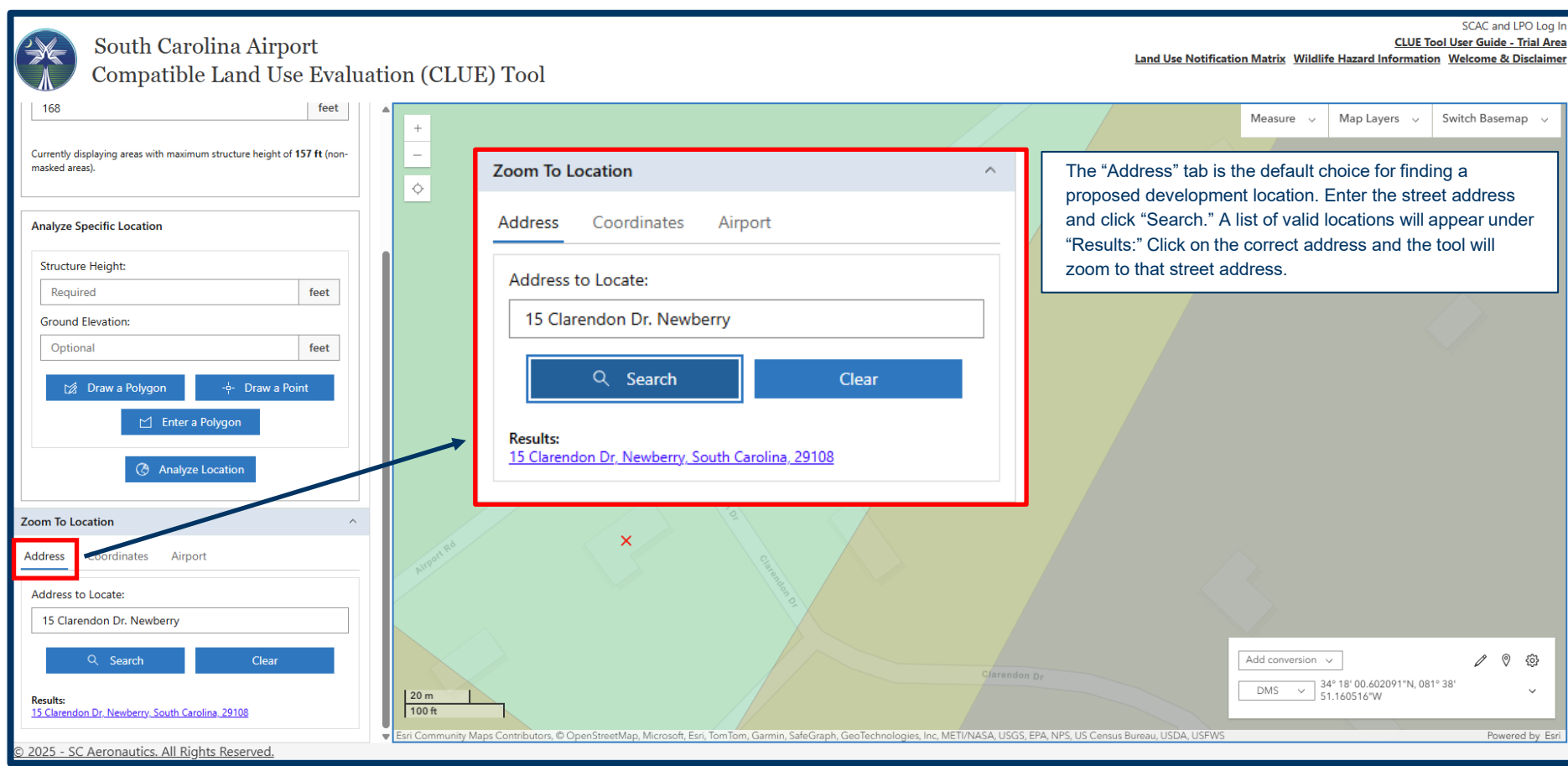


Figure 14 – Using the Coordinates Tab to Locate Proposed Development Location

South Carolina Airport  
Compatible Land Use Evaluation (CLUE)

Analyze Location

Zoom To Location

Address **Coordinates** Airport

Degrees Minutes Seconds

Latitude (Y):

Longitude (X):

Locate

Other Coordinate Systems

Latitude (Y):  
33.25

Longitude (X):  
-81.4

Spatial Reference:  
Decimal Degree

Reset Locate

Zoom To Location

Address Coordinates Airport

Degrees Minutes Seconds

Latitude (Y):

Longitude (X):

Locate

Other Coordinate Systems

Latitude (Y):  
33.25

Longitude (X):  
-81.4

Spatial Reference:  
Decimal Degree

Reset Locate

The "Coordinates" tab is the second tab available. Enter the latitude and longitude coordinates of the proposed location and click "Locate" when finished. The tool will zoom to that location. This tab provides options for several latitude and longitude formats, such as degrees minutes seconds, and decimal degrees. Select the correct format before entering coordinates.

20 m  
100 ft

Esri Community

SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Powered by Esri

© 2025 - SC Aeronautics. All Rights Reserved.

SCAC and LPO Log In  
CLUE Tool User Guide - Trial Area  
Land Use Notification Matrix Wildlife Hazard Information Welcome & Disclaimer

ch Basemap

Joey Zorn Blvd

Joey Zorn Blvd

DMS 33° 14' 59.426665"N, 081° 24' 05.841851"W

In addition to the Zoom to Location using Coordinates, there is also the out of the box coordinates widget located at the bottom right of the map. **Figures 15-19** show the different options for the Coordinates Widget.

Figure 15 – Working with Coordinates

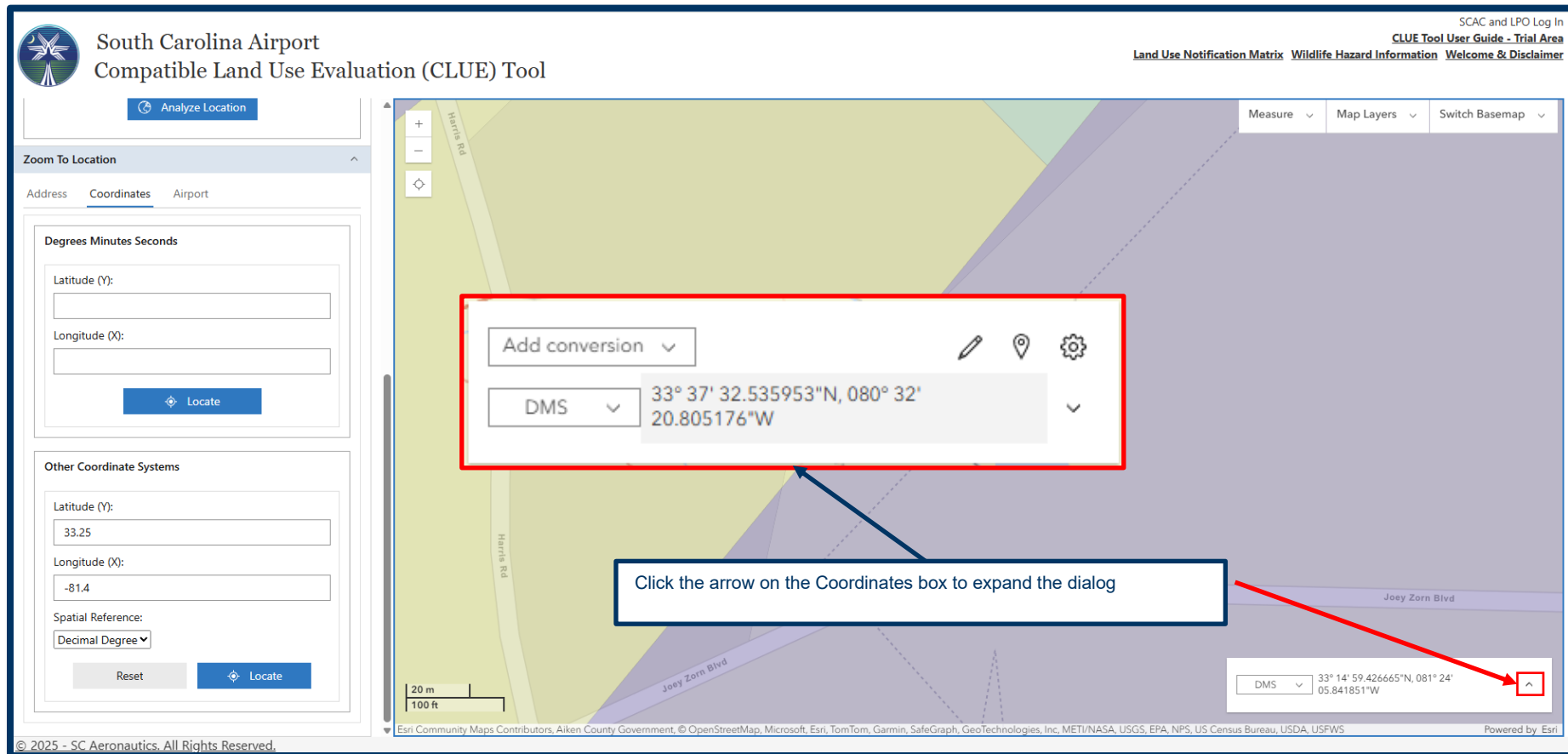


Figure 16 – Input Coordinate

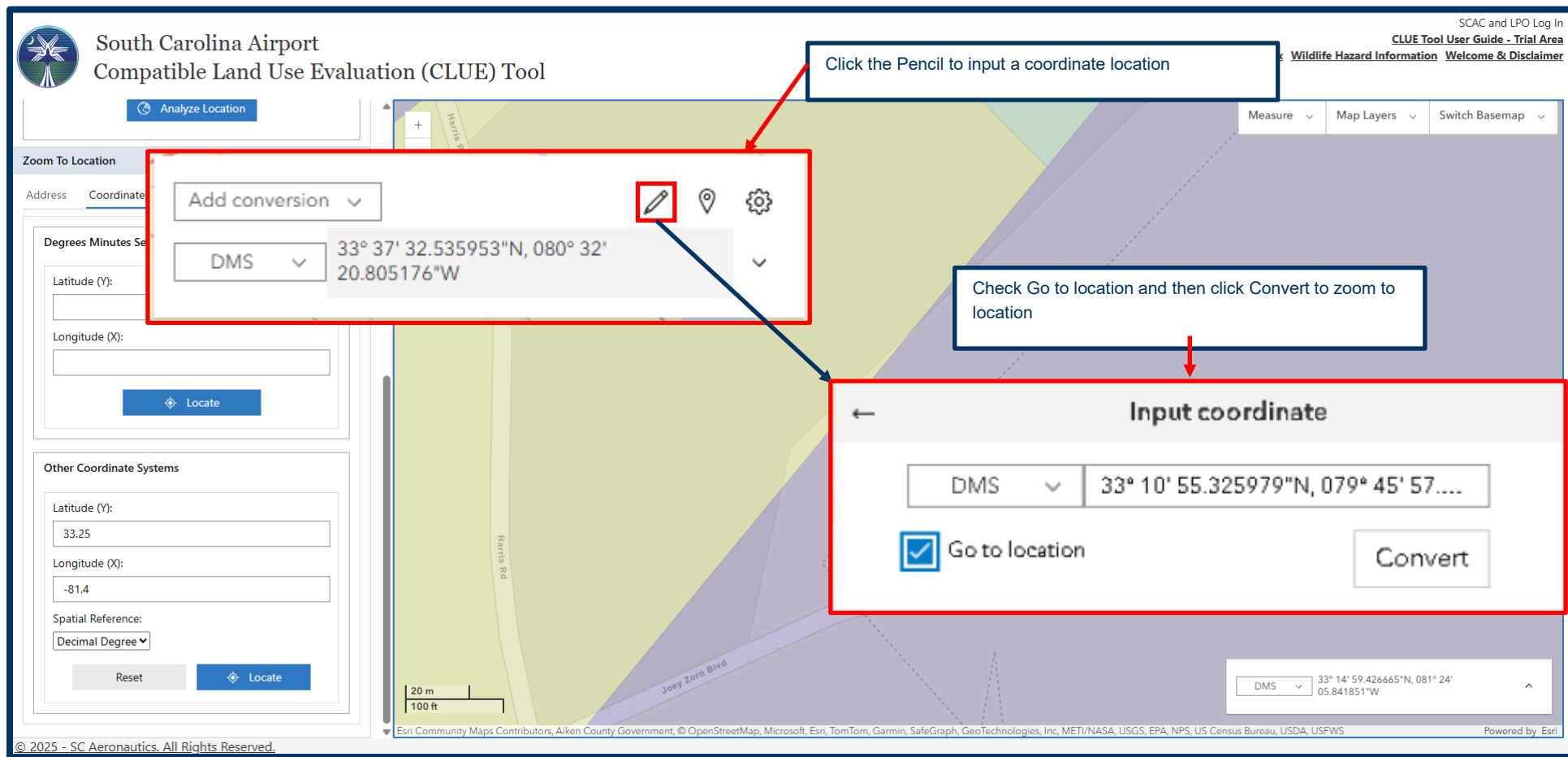


Figure 17 – Input Coordinate – Click on the map

The screenshot displays the 'South Carolina Airport Compatible Land Use Evaluation (CLUE) Tool' interface. The top left features the tool's logo and title. A navigation bar includes 'Analyze Location', 'Zoom To Location', and 'Address'/'Coordinate' tabs. The 'Coordinate' tab is active, showing a 'DMS' dropdown and a coordinate input field containing '33° 37' 32.535953"N, 080° 32' 20.805176"W'. A red box highlights this input area, and a red circle highlights the location pin icon. A blue arrow points from the pin icon to a map area where a red circle is drawn around a specific location. A second red box highlights this map area, which also contains a coordinate input field with '33° 42' 53.465085"N, 080° 40' 59.909180"W'. A text box at the top right of the map area contains the instruction: 'Click the Pin to go to a coordinate on the map. (Circle)'. The interface also includes a scale bar (20m/100ft), a 'Locate' button, and a footer with copyright information.

Figure 18 – Coordinates Widget – Format Settings

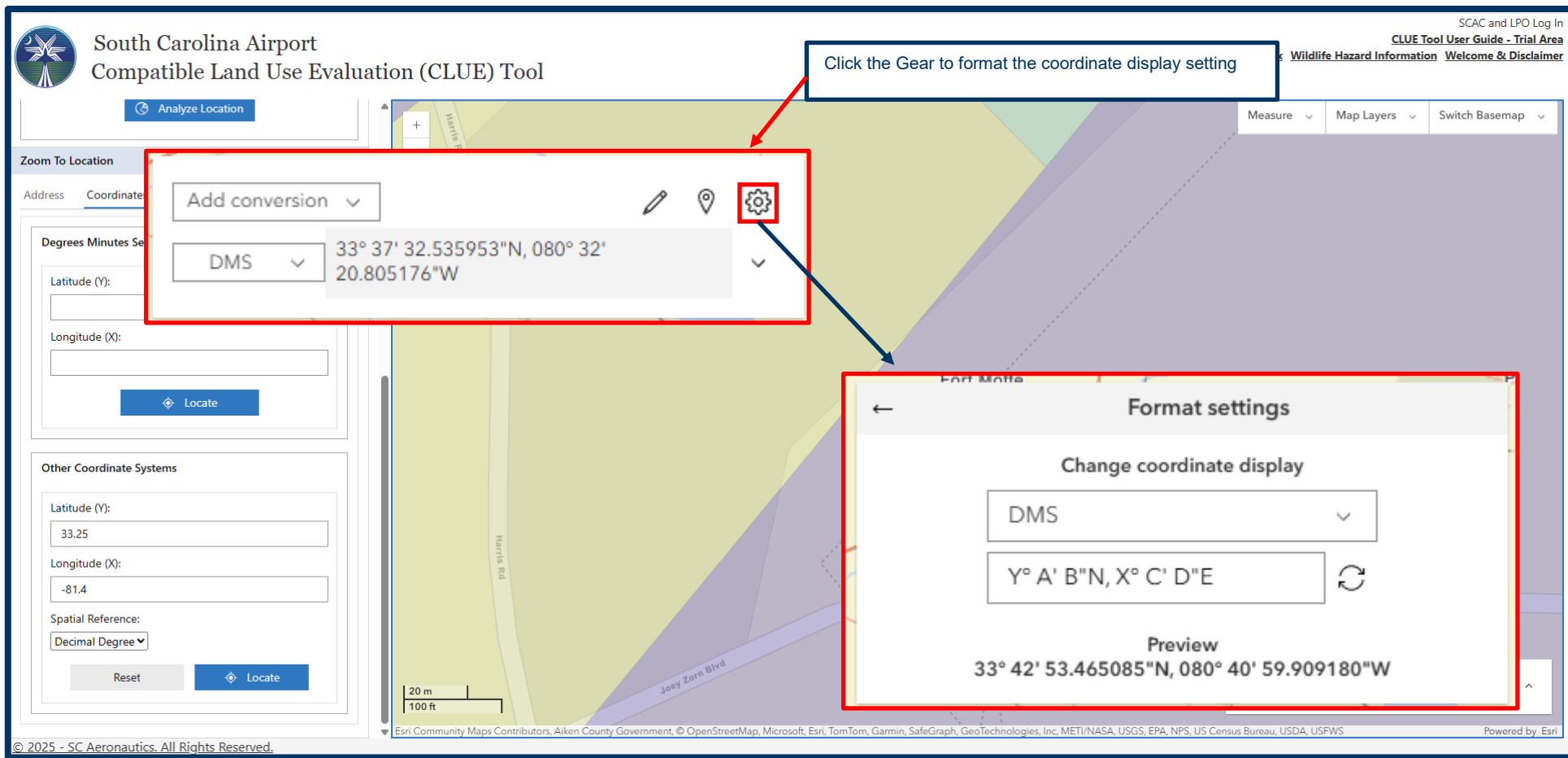




Figure 20 – Using the Airport Tab to Locate Propose Development Location

The screenshot displays the South Carolina Airport Compatible Land Use Evaluation (CLUE) Tool interface. On the left, there are input fields for 'View Maximum Allowed Structure Height' (0 to 200 feet) and 'Analyze Specific Location' (Structure Height: Required, Ground Elevation: Optional). Below these are buttons for 'Draw a Polygon', 'Draw a Point', 'Enter a Polygon', and 'Analyze Location'. The 'Zoom To Location' dialog box is open, showing the 'Airport' tab selected. The 'Airport Name' dropdown menu is set to 'Darlington County (UDG)', and the 'Locate' button is highlighted with a red box. A blue arrow points from this 'Locate' button to the 'Zoom To Location' dialog box. A text box on the right explains the process: 'The "Airport" tab is the third tab available. Enter the name of the airport nearby the proposed development location. The tool will auto-populate the field with the full airport name as it is entered. Click "Locate." The tool will zoom to that airport's location. Pan around using the mouse to find the development location.'

South Carolina Airport  
Compatible Land Use Evaluation (CLUE) Tool

SCAC and LPO Log In  
CLUE Tool User Guide - Trial Area  
Land Use Notification Matrix Wildlife Hazard Information Welcome & Disclaimer

Zoom To Location

Address Coordinates **Airport**

Airport Name:  
Darlington County (UDG) ▼

Locate

Structure Height:  
Required feet

Ground Elevation:  
Optional feet

Draw a Polygon Draw a Point  
Enter a Polygon  
Analyze Location

Zoom To Location

Address Coordinates **Airport**

Airport Name:  
Darlington County (UDG) ▼

Locate

2 km  
5,000 ft

Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS

34° 27' 25.624040"N, 079° 59' 41.054906"W  
DMS

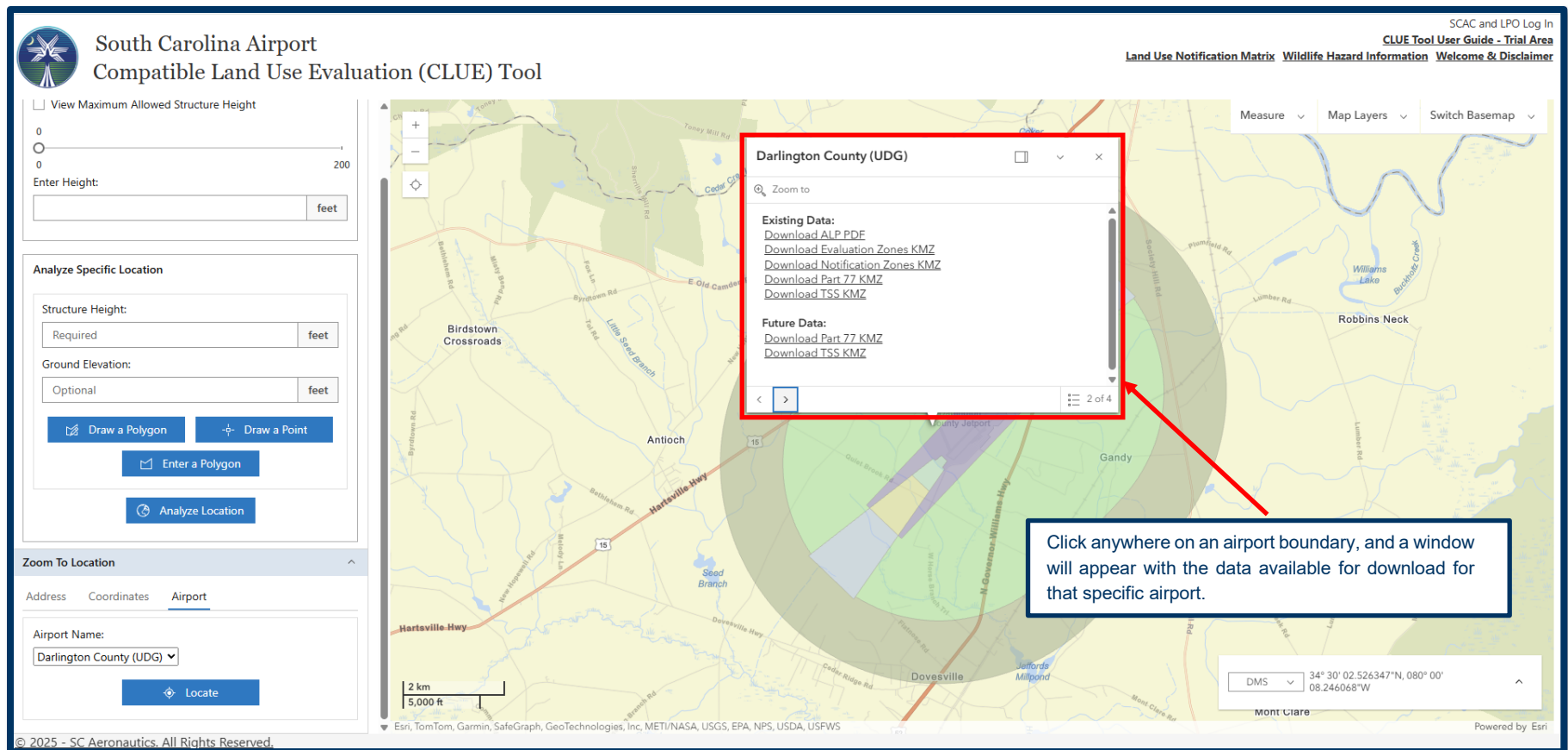
Mont Clare

Powered by Esri

© 2025 - SC Aeronautics. All Rights Reserved.

Optional: Once the applicant has navigated to the general location of their proposed development, they can click on the nearby airport boundary to explore and review airport-specific data, such as the Airport Layout Plan (ALP) (which depicts current, future, and ultimate airport development) and the boundaries of the Federal Aviation Regulation (FAR) Part 77 Surfaces at an airport. **Figure 21** includes a screen capture of the airport-specific data that is available for download after clicking on the airport boundary. Keyhole Markup Language (zipped) (KMZ) is a format for modeling and storing geographic features such as points, lines and polygons for display in Google Earth, Google Maps, and other applications. These files can be downloaded by the applicant and opened in Google Earth by clicking “File” then “Open” and selecting the KMZ file(s) that were downloaded from the CLUE Tool.

Figure 21 – Downloading Airport-Specific Data



Once the applicant has navigated to their proposed development location, they will need to use the “Draw a Point”, “Enter Polygon”, or “Draw a Polygon” to create the exact location of the proposed development on the map. This allows the tool to evaluate the proposed development based on the location in which the applicant places the point or polygon. **Figure 22** illustrates the use of the “Draw a Point” feature. **Figure 23** and **Figure 24** illustrate the use of the “Enter Polygon” and “Draw a Polygon” feature respectively. Any of the three features can be used – the choice is up to the applicant. If they are proposing development that will have a significant footprint (or are unsure of the exact site for development), the polygon option would be better so the applicant can draw the general anticipated spot for construction. If they are proposing development with a more limited footprint, the point option is appropriate. In either case, the applicant should enter the height of the structure (required) and the ground elevation at the proposed development site (optional) as shown in **Figures 22-24**.

Figure 22 – Using the Draw a Point Feature

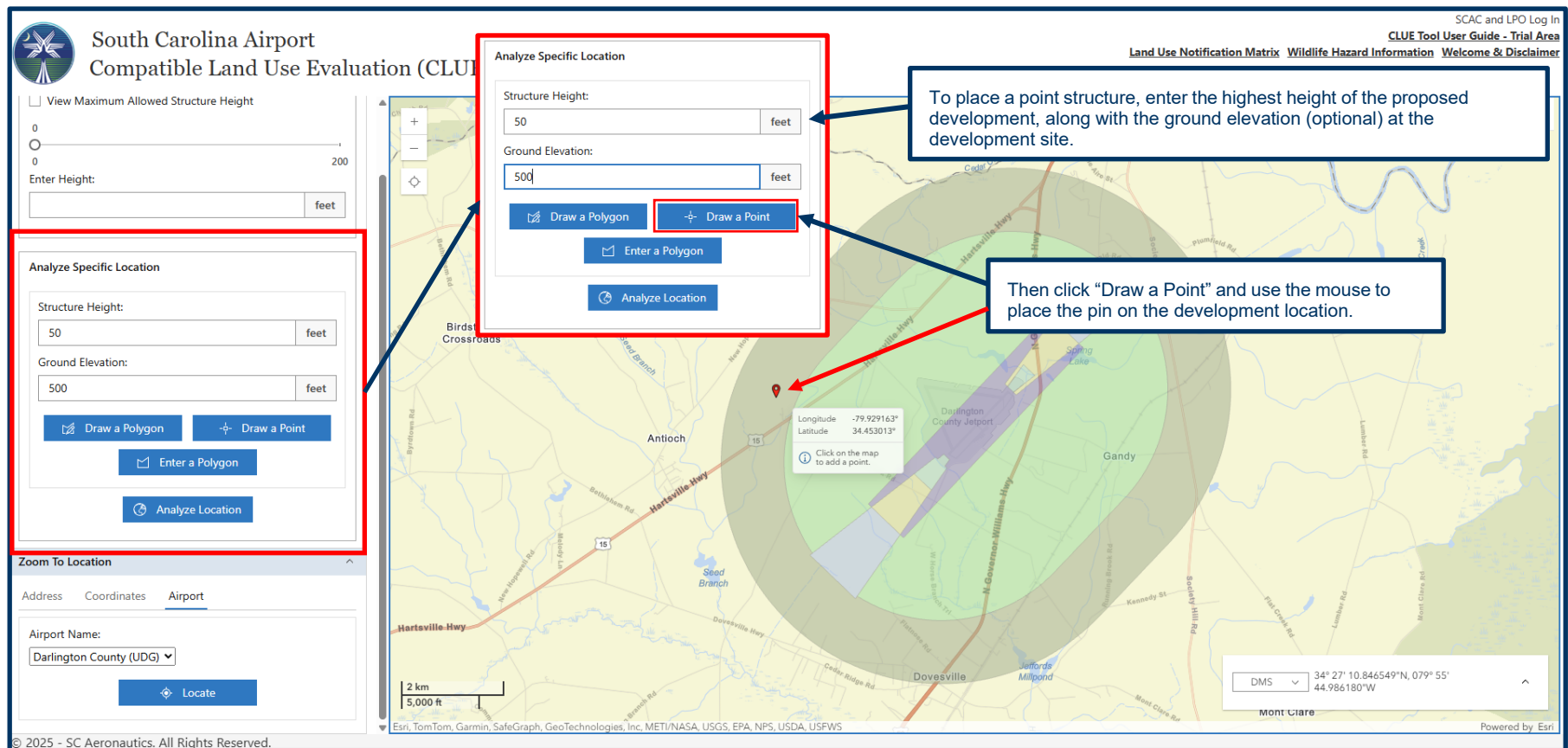


Figure 23 – Using Enter a Polygon Feature

To place a polygon structure using coordinates enter the highest height of the proposed development, along with the ground elevation (optional) at the development site and click "Enter a Polygon".

The screenshot displays the CLUE tool interface with a map of a residential area. A red-bordered dialog box titled "Place Polygon By Coordinates" is open, showing a list of polygon coordinates and a "Place Polygon" button. A red polygon is visible on the map. Three callout boxes provide instructions: one points to the "Enter a Polygon" button, another points to the "Spatial Reference" dropdown, and a third points to the "Place Polygon" button. The interface includes various input fields for structure height and ground elevation, and a "Zoom To Location" section.

**Place Polygon By Coordinates**

Please select the desired Spatial Reference and enter the polygon coordinates in the text area below using the [x,y] format shown. Remember to enter the first coordinate set at the end to ensure a closed polygon.

Example:  
[-81.14936874389645, 33.90722283335955]  
[-81.14782379150388, 33.90626116231325]  
[-81.1486391830444, 33.905655660162644]  
[-81.14971206665035, 33.90661733803982]  
[-81.14936874389645, 33.90722283335955]

Spatial Reference:  
Decimal Degrees (WGS84)

Polygon Coordinates

[-81.14936874389645, 33.90722283335955]  
[-81.14782379150388, 33.90626116231325]  
[-81.1486391830444, 33.905655660162644]  
[-81.14971206665035, 33.90661733803982]

Place Polygon

Select a spatial reference from the "Spatial Reference" pick list.

Enter the polygon coordinates using the format [x,y]. Enter the first coordinate set at the end of the coordinate list to close the polygon. Click "Place Polygon" to complete. A red polygon will be displayed on the map.

Click to enter a point by coordinates

Enter a Polygon

Analyze Location

Zoom To Location

Address Coordinates Airport

Airport Name:  
Darlington County (UDG)

Locate

200 m  
500 ft

DMS 34° 24' 47.620146"N, 079° 54' 46.895970"W

© 2025 - SC Aeronautics. All Rights Reserved.

Figure 24 – Using the Draw a Polygon Feature

South Carolina Airport

SCAC and LPO Log In  
CLUE Tool User Guide - Trial Area  
Land Use Notification Matrix Wildlife Hazard Information Welcome & Disclaimer

Measure Map Layers Switch Basemap

View Maximize

Enter Height: 0 200 feet

Analyze Specific Location

Structure Height: 50 feet

Ground Elevation: 500 feet

Draw a Polygon Draw a Point

Enter a Polygon

Analyze Location

Zoom To Location

Address Coordinates Airport

Airport Name: Darlington County (UDG)

Locate

200 m 500 ft

Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Powered by Esri

© 2025 - SC Aeronautics. All Rights Reserved.

To place a polygon structure, enter the highest height of the proposed development, along with the ground elevation (optional) at the development site.

Then click "Draw a Polygon" and use the mouse click on the outer edge of the development location. A line will be drawn from that initial point to the next spot that is clicked on. Continue clicking around the development to draw the outer boundary of the site.

When the boundary of the site is completed, double-click and the polygon will be closed, and the shape will turn red.

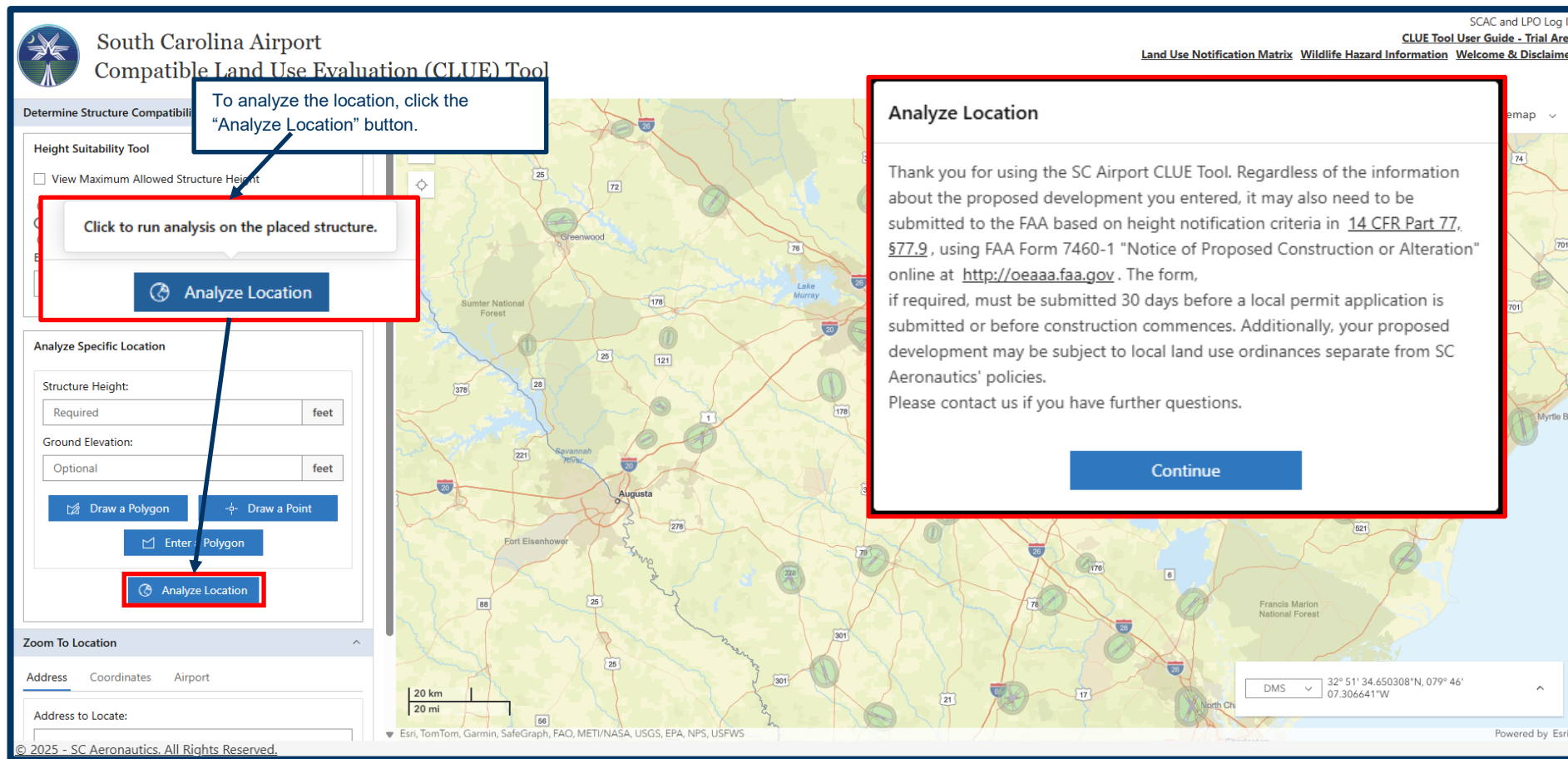
Deflection: -94.0°  
Distance: 61.83 m  
Area: 79,754.36 m<sup>2</sup>  
Double-click on the map to complete.

DMS 33° 54' 27.669083"N, 081° 08' 56.568764"W

### Step 3. After the Property is Located

Once the point or polygon has been placed, the tool needs to analyze the location that was identified with a point or polygon. This can be done by clicking the “Analyze Location” button, shown in **Figure 25**.

Figure 25 – Analyzing the Development Location



A prompt will appear with a window of information (Figure 26) notifying the applicant that regardless of the tool’s analysis, their proposed development is still subject to Federal Aviation Administration (FAA) height regulations which may require them to submit an FAA Form 7460-1 “Notice of Proposed Construction or Alteration” to the FAA for federal review. To determine if an applicant’s proposed development height falls under this FAA regulation, they should click on the <http://oeaaa.faa.gov> link. If it does – they will be required to complete and submit the FAA Form 7460-1 online at this website 30 days before they apply for local permits or start construction. If their proposed development does not require FAA review, then they are not required to submit a FAA Form 7460-1. In either case, they will click “Continue” after they have read and understand their responsibilities. After clicking “Continue”, a dialog box will appear while the analysis is running.

Figure 26 – Checking Applicability of FAA Height Regulations

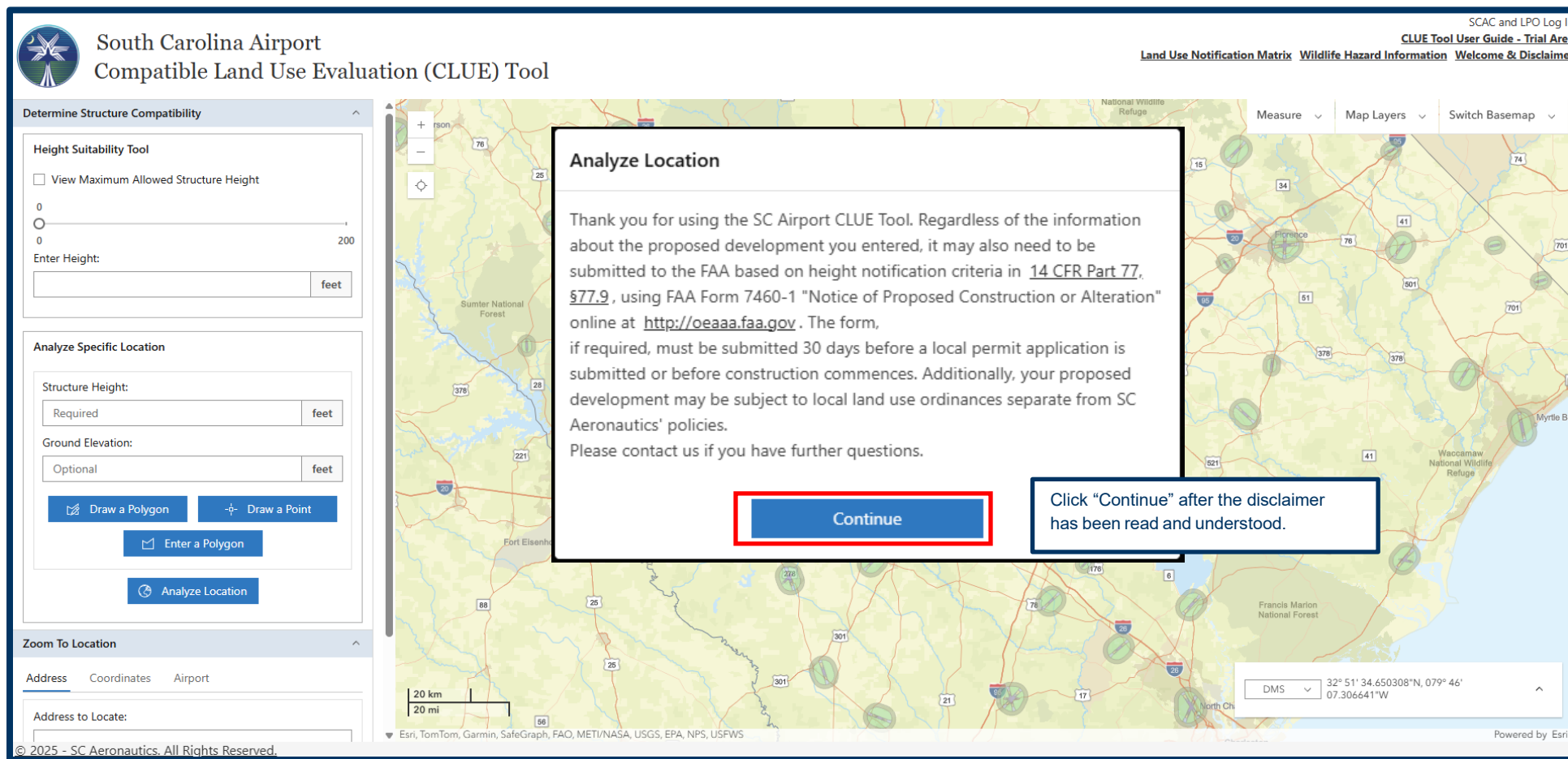
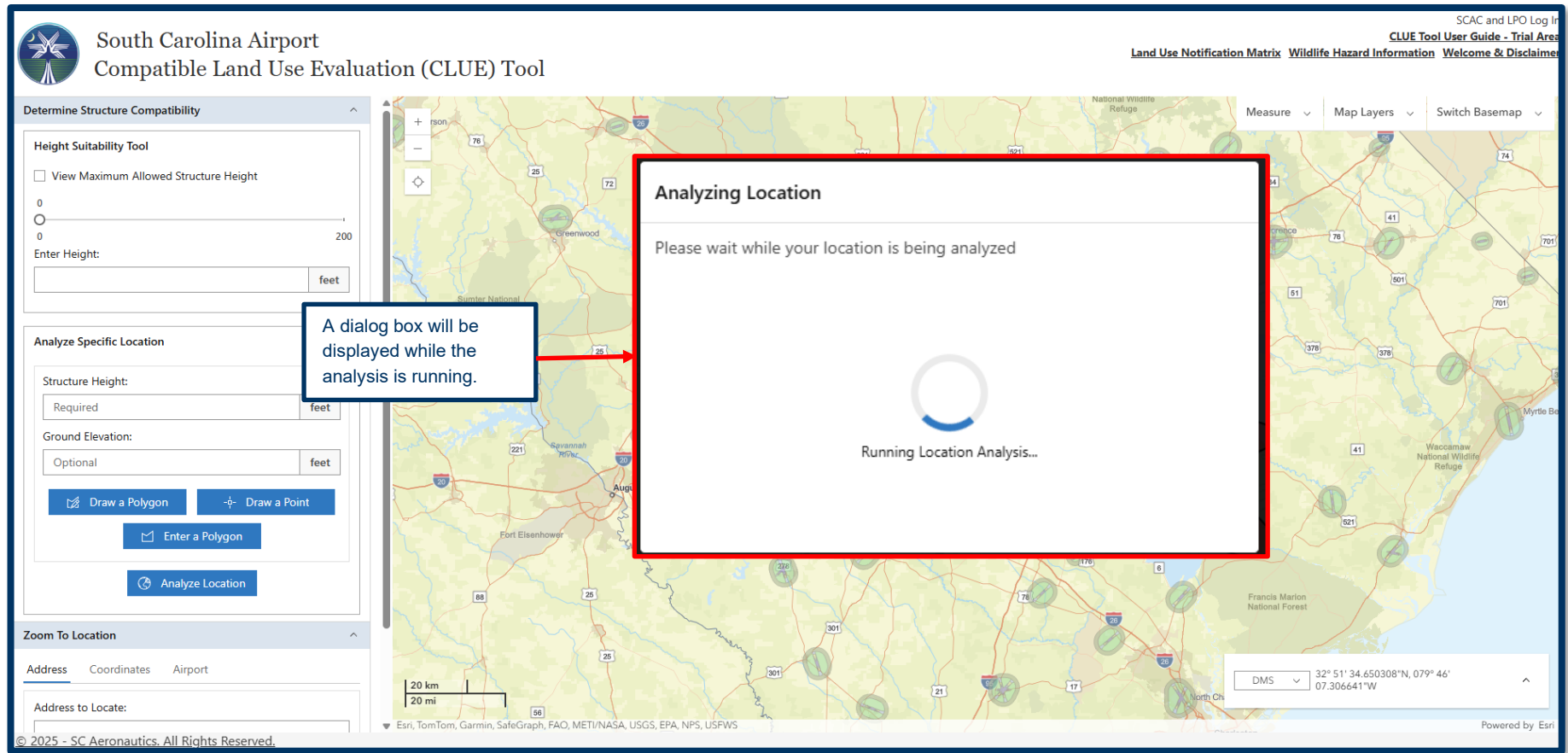


Figure 27 – Analyzing Location



A second window (Figure 28) will appear with an initial analysis of the proposed structure height and ground elevation (using the measurements provided by the applicant in Step 2) as it relates to the FAR Part 77 Surfaces and the Threshold Siting Surfaces (TSS). This information is used to determine the initial height compatibility of the proposed use. In this example, the top elevation of the proposed structure is lower than the maximum allowed FAR Part 77 height and the allowed TSS height, making the use compatible as it relates to height only. The applicant should click “OK” after they’ve reviewed their initial height analysis score.

Figure 28 – Initial Height Analysis Score

**South Carolina Airport  
Compatible Land Use Evaluation (CLUE) Tool**

**Determine Structure Compatibility**

**Height Suitability Tool**

View Maximum Allowed Structure Height

0  
0 200  
Enter Height:  feet

**Analyze Specific Location**

Structure Height:  feet

Ground Elevation:  feet

**Zoom To Location**

Address Coordinates Airport

Address to Locate:

**Initial Height Analysis Score**

**Reference DEM Ground Elevation: 255.000'**  
**Structure Ground Elevation: 500.000'**  
**Structure Height: 50'**  
**Vertical Buffer: 20'**  
**Structure Top Elevation: 570.000'**

**Maximum Allowed Existing Part 77 Height: 390'**  
**Maximum Allowed Existing TSS Height: N/A**

**Maximum Allowed Future Part 77 Height: 386'**  
**Maximum Allowed Future TSS Height: 500'**

**Structure within 3 Nautical Mile Buffer: true**  
**Structure within 6 Nautical Mile Buffer: true**

**Initial Structure Elevation Score: Incompatible**

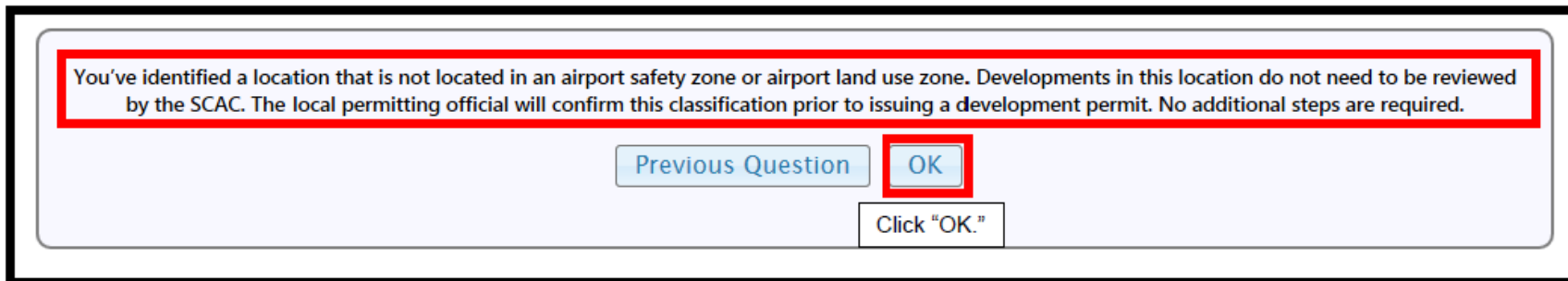
Click “Continue” after the initial height analysis score has been reviewed.

© 2025 - SC Aeronautics. All Rights Reserved.

### Step 3a. Property outside the Airport Safety and Land Use Zones

If the applicant’s proposed development is located outside of the Airport Safety and Land Use Zones, they are not required to proceed further with SCAC review and will receive the message shown in **Figure 29** indicating such.

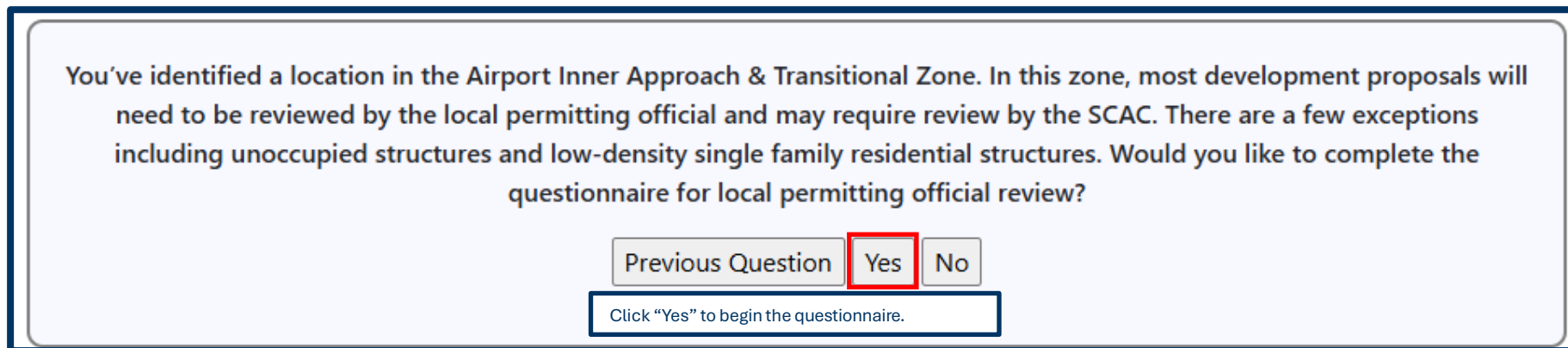
*Figure 29 – Development outside Airport Safety and Land Use Zones do not Require Review*



### Step 3b. Property within the Airport Safety and Land Use Zones

If the applicant’s proposed development location lies within any of the Airport Safety and Land Use Zones, the tool will prompt the applicant to answer a short set of questions regarding the characteristics of their proposed development (see **Figure 30**). The applicant should answer these questions honestly and to the best of their ability. They may click “Previous Question” if they need to navigate back and modify any of their answers.

*Figure 30 – Answering the Questionnaire*



Once all questions on the questionnaire have been answered, a prompt will appear with a window telling the applicant that their questionnaire is complete (see **Figure 31**). It will notify them whether their proposed use has triggered review by SCAC.

*Figure 31 – Completing the Questionnaire*

The questionnaire is complete. Your proposed development has triggered at least one item for airport land use compatibility review by the SCAC. Please submit this questionnaire with your development proposal for local permitting official review.

Previous Question

OK

Click "OK" once the instructions are understood.

# Step 4. Questionnaire Summary

Once the applicant completes this questionnaire, the tool will provide a summary sheet of the applicant’s answers (Figure 32) and note whether the proposed development triggered review by the SCAC.

Figure 32 – Questionnaire Summary

The screenshot shows the 'Questionnaire Summary' page of the CLUE tool. At the top left is the South Carolina Airport Compatible Land Use Evaluation (CLUE) logo and a 'Return To Trial Area' button. The main content area is divided into three sections, each enclosed in a red box:

- Section 1 (Left):** Contains the 'Print Results' and 'Downloads' buttons. Below them is the 'Case:' information, including 'Structure Location' (Center Latitude: 33.63127596501111, Center Longitude: -81.72141293130227) and 'Height Analysis Values' (Structure Height: 25', Vertical Buffer: 20', Structure Ground Elevation: 500', Structure Top Elevation: 545'). It also lists existing and future maximum allowed Part 77 and TSS heights. A 'Height Compatibility Score' section states the structure is compatible. At the bottom, a warning message indicates the location is in the Airport Inner Approach & Transitional Zone.
- Section 2 (Middle):** Contains the 'Print Results' and 'Downloads' buttons. It displays the same case information as Section 1.
- Section 3 (Right):** A 'Download KMZ' panel with a list of items to download, all of which are checked:
  - SCAC Title 55 Land Use Zones: Land Use Notification Zones KMZ, Land Use Evaluation Zones KMZ
  - Existing Airspace Surfaces: Part 77 Surface KMZ, Threshold Siting Surface KMZ
  - Future Airspace Surfaces: Part 77 Surface KMZ, Threshold Siting Surface KMZ
  - Case Structure KMZ: Case Structure
 Below the list are 'Download' and 'Close' buttons.

Annotations include:

- A box pointing to the 'Print Results' button in Section 1: 'To print the questionnaire summary, click "Print Results".'
- A box pointing to the 'Downloads' button in Section 1: 'Optional: To download a variety of KMZ surface/structure files, click "Downloads" and select the KMZ files you want to download. KMZ files can be opened in Google Earth by clicking "File" then "Open" and selecting the .kmz file(s) that were saved. Through the CLUE Tool.'
- A box pointing to the 'Print Results' button in Section 2: 'To print the questionnaire summary, click "Print Results".'
- A box pointing to the 'Downloads' button in Section 2: 'Optional: To download a variety of KMZ surface/structure files, click "Downloads" and select the KMZ files you want to download. KMZ files can be opened in Google Earth by clicking "File" then "Open" and selecting the .kmz file(s) that were saved. Through the CLUE Tool.'

At the top right, there is a 'SCAC and LPO Log In' link and a 'Welcome & Disclaimer' link. At the bottom left, there is a copyright notice: '© 2025 – SC Aeronautics. All Rights Reserved.'

Regardless of whether the tool indicates the applicant's use has triggered SCAC review, the applicant can print a copy of their questionnaire summary which they can share with their LPO when applying for development permits/approval. If the proposed development does not require SCAC review, the applicants' LPO will review their questionnaire summary prior to issuing any permits to begin construction. If the proposed development triggered SCAC review, the LPO will work with the applicant to submit their proposed development for review.

*Note: If the applicant's proposed development requires submission of an FAA Form 7460-1, they will receive a letter of findings from the FAA once they've reviewed the applicant's use. FAA's review and response may take up to several weeks to a few months to complete, so the applicant should submit the Form 7460-1 as soon as possible. The applicant should bring the FAA findings letter along with their questionnaire summary to their LPO. The applicant's LPO will upload a copy of the FAA letter to SCAC for their review.*

# CLUE TOOL GLOSSARY

**Applicant** – Likely the property owner(s) or developer(s) that are responsible for applying for local permits.

**Case** – The establishment of an applicant’s proposed development circumstance within the LPO login area of the CLUE Tool. A case is given a reference number so it may be monitored, evaluated and closed out when appropriate. Cases are not created in the Trial Area of the CLUE Tool.

**Flammable/Hazardous Materials** – Large quantities of flammable or hazardous materials such as gas, propane, and chemicals. Small propane tanks and the like are not considered to be included in this grouping. Some facilities of concern include (but are not limited to) commercial fueling stations/truck stops and bulk fuel terminals.

**Ground Elevation** – The mean sea level (MSL) height of the ground on which the proposed development will be built.

**Local Permitting Official (LPO)** – Likely the local municipal planner(s) or building permit official responsible for permitting procedures.

**Density** –

**Low Density** – This is the second lowest density level established for the tool. This level of density varies between land use types based upon characteristics of the land use type. The following outlines what is considered Low Density for each of the major land use types:

## **Residential**

- Up to four (4) dwelling units per 1 acre lot
- Example: single family homes

## **Commercial & Industrial**

- Facility size of 10,000 square feet or less
- Examples: specialty shops, printing & shipping shops, banks, laundromats, vehicle repair shops, bakeries, hardware shops, towing/vehicle storage, building supply yards, exterminators

## **Institutional**

- Not more than 25 persons
- Examples: single doctor offices, specialist offices, dentist/orthodontist offices, medical laboratories, urgent care facilities

**Recreation**

- Not more than 50 persons
- Examples: small gyms, dance studios

**Medium Density** – This level of density varies between land use types based upon characteristics of the land use type. The following outlines what is considered Medium Density for each of the major land use types:

**Residential**

- 2-10 dwelling units/acre or not more than 25 persons/acre
- Examples: apartment complexes, duplexes, townhomes

**Commercial & Industrial**

- Facility size of more than 10,000 square feet up to 50,000 square feet
- Examples: fast food restaurants, small cafés, small restaurants/bars, small & medium size offices, machine shops, general manufacturing, recycling centers

**Institutional**

- 25-100 people
- Examples: small libraries, small museums, small religious assemblies

**Recreation**

- 50-200 people
- Examples: bowling alleys, skating rinks, tennis/swimming facilities, sports parks

**High Density** – This level of density varies between land use types based upon characteristics of the land use type. The following outlines what is considered High Density for each of the major land use types:

**Residential**

- More than 10 dwelling units/acre or more than 25 persons/acre
- Examples: large apartment complexes, mobile home parks, high rise condominiums

**Commercial & Industrial**

- Facility size of 50,000 square feet up to 100,000 square feet
- Examples: big-box stores, large offices, multi-floor complexes, restaurants, shopping malls, nightclubs, heavy manufacturing, mining/extraction, water treatment

**Institutional**

- More than 100 but less than 500 people Examples
- Examples: colleges, universities, hospitals, community centers, large religious assemblies, conventions or performing arts centers

**Recreation**

- More than 200 but less than 500 people
- Examples: indoor theaters, small amusement parks, stadiums, casinos, large amusement parks, racetracks

**Ultra-High Density** – The highest density category established for the tool. This level of density varies between land use types based upon characteristics of the land use type. The following outlines what is considered Ultra High Density for each of the major land use types:

**Residential**

- No density established for this land use type (see High Density instead).

**Commercial & Industrial**

- 500+people
- Examples: big-box stores, large offices, multi-floor complexes, restaurants, shopping malls, nightclubs, heavy manufacturing, mining/extraction, water treatment

**Institutional**

- 500+ people
- Examples: colleges, universities, hospitals, community centers, large religious assemblies, conventions or performing arts centers

**Recreation**

- 500+ people
- Examples: indoor theaters, small amusement parks, stadiums, casinos, large amusement parks, racetracks

*Note: these “Ultra-High Density” uses are the same uses shown under “High Density”, but they have even higher density of 500+ people. For example, a local community college that has between 100 and 500 students and faculty would be considered “High Density” and a local university that has more 500+ students, and faculty would be considered “Ultra-High Density.”*

**Very-Low Density:** The lowest density category established for the tool. This level of density varies between land use types based upon characteristics of the land use type. The following outlines what is considered Very Low Density for each of the major land use types:

**Residential**

- One dwelling unit per one (1) acre or greater lot size
- Example: large lot single family home

**Structure Height** – The tallest point of the proposed development, including the height of church steeples, utility poles, cell towers, parking lot lights, etc.

**Wildlife Attractants** – Specific uses or characteristics of uses that are appealing to wildlife and draw them in. Examples of common wildlife attractants include landfills, wastewater treatment plants, open mining operations with water bodies, construction soil/debris piles, detention ponds, fountains, created wetlands, trash receptacles and certain types of crops.

**Zoning Change** – A change in zoning that requires a local zoning map amendment.