TN TDOT Department of Transportation

Tennessee General Aviation Airport Inspection Guide

A Guide for General Aviation Airport Managers

Tennessee Department of Transportation | Aeronautics Division | October 2018

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
SUITE 700, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TN 37243-0349
(615) 741-2848

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

October 5, 2018

To: All Tennessee General Aviation Airport Managers, Sponsors and Interested Parties

Subject: Approval and Adoption of Tennessee Department of Transportation Aeronautics Division General Aviation Airport Inspection Guide

1. Background: The attached Airport and Heliport Inspection Guide expands on Tennessee Code Annotated 42, Chapter 2 – State Administration and Rules of Tennessee Department of Transportation Aeronautics Division Chapter 1680-1-2, Licensing and Registration of Airports, dated February 2003. This document consolidates State of Tennessee and Federal agencies regulatory and oversight requirements.

2. Summary: This guide outlines steps for Tennessee General Aviation Airport and Heliport Managers as well as their Sponsors to obtain and maintain State Airport or Heliport licensure. This helps ensure the efficient and safe operation of their respective Public and Commercial Use Airports and Heliports. The guide will assist those who plan and execute the oversight, maintenance and operation of Tennessee General Aviation facilities.

3. Applicability: This guide is applicable to all Tennessee General Aviation Airport and Heliport Sponsors and Managers that seek State Public Use Airport or Heliport licensure.

4. Suggested Improvements: Users are invited to send comments and suggested improvements directly to Tennessee Department of Transportation Aeronautics Division, Program Monitoring and Compliance Office.

5. Distribution: Local reproduction and dissemination of this guide is authorized to all Tennessee Airport and Heliport Sponsors, Managers and interested parties.

6. Point of Contact: The point of contact for this Airport Inspection guide is Mr. Brian Fedders, Transportation Program Supervisor, Aeronautics Division, (615) 741-1785.

Sincerely,

Michelle D. Frazier
Aeronautics Director

MDF:BF/seb

Enclosure

TDOT Aeronautics Division General Aviation Airport Inspection Guide

TDOT – Aeronautics Division
Airport Inspection Guide

Purpose

The purpose of this guide is to establish uniform procedures relating to TDOT Aeronautics Division Program Monitoring Office General Aviation Airport Inspections within the state and outline the duties and responsibilities, procedures and requirements for airport inspectors, airport managers, and airport sponsors. This will include the following:

- Collection, maintenance and resolution of airport information and data in the FAA Airport Master Record.
- Receipt, coordination, evaluation, formulation and issuance of airport inspections and licenses to ensure safe functioning of the airport. This includes the issuance of agency license determinations, formulation of remedial construction plan(s), and evaluation of remedial construction plan(s) outcomes.
- Coordination and evaluation of proposed maintenance projects, Airport Capital Improvement Plans (ACIPs) and Airport Layout Plans (ALPs) development and execution. This includes the prioritization of airport projects and funding contingent on compliance with correcting any airport inspection deficiencies annotated during the state airport inspection.

Objective and Scope

The primary objective of the Airport Inspection Guide is to provide airport inspectors and airport managers guidance on the standardized execution and conduct of General Aviation Airport Inspections in accordance with applicable State and Federal Regulations governing the issuance of State General Aviation Public Use Airport Licenses. This publication will assist TDOT Aeronautics Division Inspectors, General Aviation Airport Managers, and airport sponsors with a point of reference to complete FAA Airport Master Record Review requirements, facilitate and expedite the issuance of State General Aviation Public Use Airport Licenses, correct safety/maintenance deficiencies, and evaluate proposed airport improvement projects.

Cancellation or Modification

This guide does not cancel or modify a previous version.

Applicable Regulations, Policies, and Guidance

The requirements identified within this guide originate in various state and FAA publications, including regulations, orders and advisory circulars. If a more recent version of the listed document exists, use the current version.

- FAA AC 150/5340-26A, Maintenance of Airport Visual Aid Facilities. FAA. June 20, 2014.
- FAA AC 150/5370-10G, Standards for Specifying Construction of Airports. FAA. July 21, 2014.
- FAA AC 150/5380-6C, Guidelines and Procedures for Maintenance of Airport Pavements. FAA. October 10, 2014.
- FAA AC 150/5340-1L, Standards for Airport Markings. FAA. September 27, 2013.
- FAA AC 150/5345-39D, Specification for L-853, Runway and Taxiway Retroreflective Markers. FAA. September 26, 2011.
- FAA AC 150/5340-5D, Segmented Circle Airport Marker System. FAA. September 25, 2013.
- FAA AC 150/5345-27E, Specification for Wind Cone Assemblies. FAA. September 26, 2013.
- FAA AC 150/5340-18F, Standards for Airport Sign Systems. FAA. August 16, 2010.
- FAA AC 150/5360-12F, Airport Signing and Graphics. FAA. September 26, 2013
- Federal Air Regulation (FAR) Part 77 – Safe, Efficient Use and Preservation of Navigable Airspace (Part 77). FAA. July 21, 2010.
- FAA AC 150/5300-13A, ch. 14, Airport Design. FAA. September 28, 2012.
- FAA AC 70/7460-1L, Obstruction Marking and Lighting Change 1. FAA. October 08, 2016.
- FAA AC 150/5345-43H, Specification for Obstruction Lighting Equipment. FAA. September 28, 2016.
- FAA AC 150/5190-4A, Model Zoning Ordinance to Limit Height of Objects Around Airports. FAA. December 24, 1987.
- FAA AC 150/5340-30H, Design and Installation Details for Airport Visual Aids. FAA. July 21, 2014.
- FAA AC 150/5345-27E - Specification for Wind Cone Assemblies. FAA. September 26, 2013.
- FAA Form 7460-1, Notice Of Proposed Construction Or Alteration. FAA. May 01, 2017.
- FAA AC 150/5340-30J - Design and Installation Details for Airport Visual Aids. FAA. February 12, 2018.
- FAA Order 5010.4A. Airport Data and Information Management. FAA. November 30, 2016.
- Tennessee Code Annotated Title 42 – Aeronautics.
- Rules of Tennessee Department of Transportation Aeronautics Division Chapter 1680-1-2 Licensing and Registration of Airports.

Limitations of This Guide

The procedural steps outlined in this guide may vary dependent on the type and location of the aeronautical study. If a conflict exists between this guide and current state and FAA regulations, staff should follow the guidance outlined in the state and FAA regulations.

Distribution

This guide is distributed to the State of Tennessee General Aviation Airport Managers, TDOT Aeronautics Division and all interested parties. The guide will be available electronically on the Aeronautics Publications page of the TDOT Aeronautics Division website.

Chapters

The chapters below organize the various inspection functions. Contained in the chapters are various appendices that are used during the execution of the inspection and post-inspection licensing and/or corrective actions.

Chapter 1: General Aviation Airport Inspection Guidelines and Checklists

i. Annual State General Aviation Airport Inspections

ii. Inspection Violations

Chapter 2: General Aviation Airport Inspection Types and Inspection Scheduling

i. Federal Aviation Administration 5010 Inspections

ii. Helipad State Inspection – New Construction

iii. Helipad State Safety Inspection – Spot Check and Annual Self-Inspections

iv. Schedule of State General Aviation Public Use Airport Inspections

v. Priority of State General Aviation Public Use Airport Inspections

Chapter 3: General Aviation Airport and Helipad Licensing

i. State General Aviation Airport Public Use Licensing Process

ii. State Regulations Regulating Public Use Airport Licensing

iii. State General Aviation Airport Minimum Standards

iv. State General Aviation Airport Public Use Conditional License

v. State Annual Airport Inspection Outcomes and Airport Capital Improvement Plans

vi. Airport Inspection Sponsor Report

vii. Inspection and Licensing Knowledge Management and Records Keeping

Page Intentionally Left Blank

Chapter 1: General Aviation Airport Inspection Guidelines and Checklists

i. Annual State Airport Inspections

The State General Aviation Airport Inspection is an annual inspection requirement used to verify and validate the safety and maintenance status of the airport installation and surrounding area for licensing. The TDOT Aeronautics Division State General Aviation Airport License review, inspection, and approval is a critical component of a systematic review process that ensures the overall maintenance and safe functioning of State General Aviation Public Use Airports.

The State General Aviation Airport Inspection will be used to validate the State General Aviation Public Use Airport License for the following calendar year, e.g; inspection completed in September 2018 for 2019 licensing.

The results of the State Airport Inspection aid in developing funding requests for proposed Airport Capital Improvement Plan (ACIP) projects for the following calendar year.

TDOT Aeronautics Division will attempt to notify and coordinate with airport managers 48 hours prior to the scheduled inspection. TDOT Aeronautics Division Program Monitoring Office may conduct no-notice State Airport Inspections as required.

The State General Aviation Airport Inspection will be completed in conjunction with the FAA 5010 Master Record Review/Inspection, if applicable. FAA 5010 Master Record Review/Inspections are covered in detail in Chapter 2, Section i, FAA 5010 Master Record Inspections.

Safety violations and maintenance issues identified during airport inspections are divided into two categories, Section I Violations and Section II Violations. Section I Violations are items that are in violation of state and/or FAA standards and require immediate attention for safety reasons. Section II Violations are issues that are not in violation of state standards or immediate safety concerns, but will require attention and/or remediation in the future to prevent them from becoming Section I Violations. Inspection violations are covered in detail in Chapter 1, Section ii, Inspection Violations.

The TDOT Aeronautics Division Annual State Airport Inspection will cover the following inspectable areas:

a. Administrative Data

1. Airport State Inspection Requirement Administrative Data Checklist

Requirement Number	**Table 1-1 Airport State Inspection Requirements** Administrative Data Checklist
1	Airport Name
2	Airport Point of Contact
3	Airport Sponsor
4	Email Address of Airport POC

5	Primary Phone Number of Airport POC
6	Date of Inspection

b. Runway

1. TDOT Aeronautics Division Inspectors will inspect runway pavement for cracks and surface variations that could impair directional control of aircraft. The type and severity of runway pavement distress is assessed by visual inspection of the pavement area to identify surface defects, surface deformations, and cracking. Inspectors must walk and drive on the pavement to perform the condition survey. TDOT Aeronautics Division Inspectors are authorized to close State General Aviation Public Use Airports for inspection; however, the inspection should be completed in the least obtrusive manner possible, avoiding impact to normal airport operations if possible or feasible.

2. Runway inspection will be coordinated with airport operational staff and in conjunction with Common Traffic Advisory Frequency (CTAF) and appropriate aviation safety procedures. Additionally, TDOT Aeronautics Division Inspectors will inspect paved areas for mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits, and other contaminants.

3. TDOT Aeronautics Division Inspectors will drive one way on the runway at approximate takeoff/touchdown speed (80 mph) to evaluate ride comfort and repeat at a lower speed (20-30 mph), examining and evaluating the width of the runway for major defects. Surface distresses are evaluated on type, frequency, and severity. TDOT Aeronautics Division Inspectors will annotate the frequency and severity of specific surface defects on the runway, take a photograph, and note the location of any major surface defects identified for permanent record.

4. Post-inspection, TDOT Aeronautics Division Inspectors will cross-reference inspection observations with the most recent Pavement Condition Index (PCI) Study in order to identify any changes to the study and potential impact to maintenance projects. Paved runways at General Aviation Public Use Airports in Tennessee will be inspected annually for condition assessment to coordinate with the existing Airport Layout Plans (ALPs) and projected Airport Capital Improvement Plan (ACIP) projects. Based on yearly TDOT Aeronautics Division inspections and consistent with the individual airport ACIPs, preventive maintenance (including crack sealing, pavement markings, fog sealing, slurry seal, etc.) may be recommended maintenance projects. The objective of the pavement maintenance inspections is to provide input to a safe and operable pavement project for the least possible cost. An effective pavement maintenance program, as a part of the ALP and ACIP, will provide the airport manager and sponsor with sufficient information to assess pavement maintenance timelines and how to obtain the greatest return for funds expended.

5. In general, runway pavement markings are comprised of anything painted on a runway (e.g runway numbers, thresholds, edges). Markings for paved runway must be in accordance with FAA AC 150/5340-1L and must include runway designation numbers, centerline, runway holding position, and, if applicable, displaced or relocated threshold markings. Markings for unpaved runways must include delineation of runway ends and, if applicable, displaced threshold bars.

6. TDOT Aeronautics Division Inspectors will inspect Runway Threshold Markings and Runway Aiming Point Markings for visibility, as well as any peeling that may produce a Foreign Object Debris (FOD) hazard. Proper maintenance of runway markings may include cleaning, replacing or repairing any faded, missing, or non-functional item in order to keep each item unobscured and clearly visible. Usually, runway pavement markings must be cleaned or painted every three to five years and may be accelerated based on the requirements of the airport. Additionally, TDOT Aeronautics Division Inspectors will ensure surface painted signs and markings are painted to FAA standards.

7. Vehicle roadway signs must be installed for all vehicle roadway intersections with runways IAW AC 150/5340-18F.

8. FAA defined Safety Areas which include Runway Safety Area (RSA) and Runway Object Free Area (ROFA), will also be inspected during the course of the runway inspection. The RSA is an imaginary rectangular box surrounding the runway and is defined as the surface surrounding the runway, prepared or suitable for, reducing the risk of damage to airplanes in the event of a short landing, overrun, or excursion from the runway. The dimensions range from 120 feet to 500 feet in width and 240 to 1000 feet in length beyond the departure end of the runway. Typically, on General Aviation, non-air carrier airports, the RSA extends 150 feet from either side of the runway centerline and 240-300 feet beyond departure end and prior to threshold. The specific dimensions of the RSA and ROFA vary by Runway Design Code (RDC). The RDC can be found on the Airport Layout Drawing (ALD) page of the Airport Layout Plan (ALP) within the Airport Data section. The specific dimensions of Defined Safety Areas by RDC are found in FAA Advisory Circular 150/5300-13A, Appendix 7. However, specific dimensions for individual airport Defined Safety Areas are typically contained in the ALP on the ALD page. The figures below are examples of a Runway Design Code A1 runway with a visual approach illustrating the RSA, RFOA and Part 77 imaginary approach surfaces (Part 77 inspections are addressed in Section e of this chapter.)

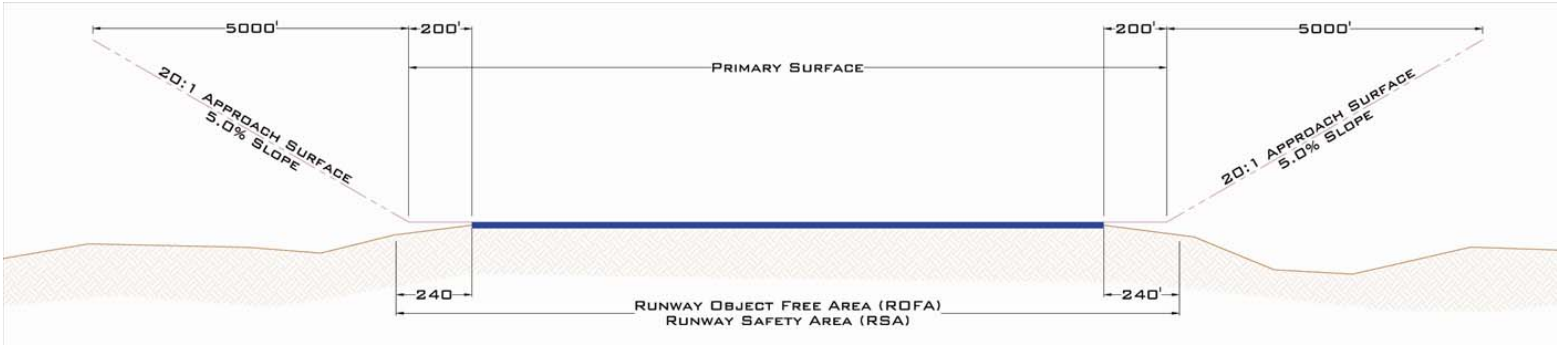


Figure 1. Example Runway Design Code 1A Runway with Visual Approach Cross-Section

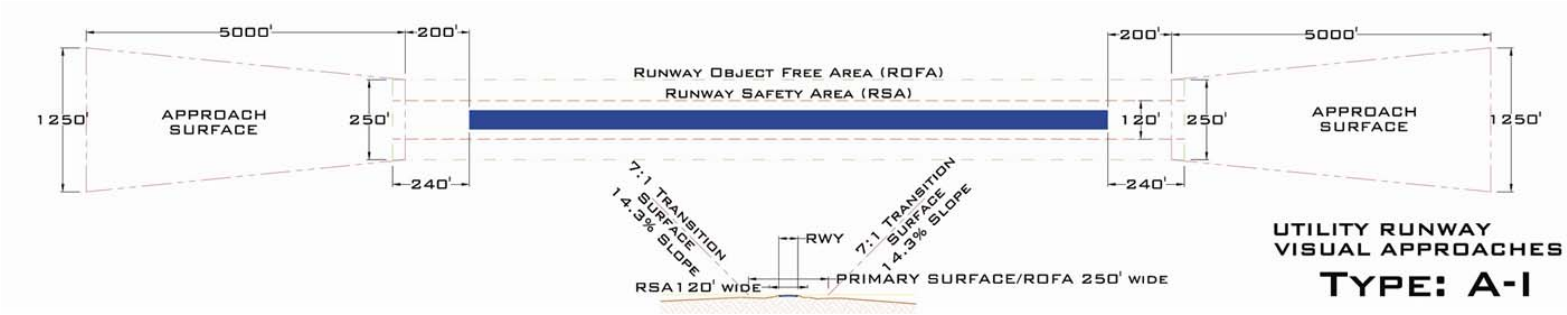


Figure 2. Example Runway Design Code 1A Runway with Visual Approach Overhead

1. RSAs will be inspected to ensure that the RSA is: (1) cleared and graded and no potentially hazardous ruts, humps, depressions or other surface variations; (2) drained by grading or storm sewers to prevent water accumulation; (3) capable under dry conditions of supporting Aircraft Rescue and Fire Fighting (ARFF) equipment; and (4) free of objects aside from those required for safe aircraft navigation. Objects higher than three inches in the RSA must be constructed on frangible mounted structures with the frangible point no higher than three inches above grade.

2. The ROFA is an area on the ground centered on the runway centerline, to enhance the safety of aircraft operations by having the area free of objects, except for objects in the ROFA required for air navigation or aircraft ground maneuvering purposes. The dimensions range from 120 feet to 500 feet in width and 240 to 1000 feet in length beyond the departure end of the runway. Typically, on General Aviation, non-air carrier airports, the ROFA extends 400-500 feet from either side of runway centerline and 240-300 beyond departure end and prior to threshold.

3. It is imperative that airport managers know the boundaries of their RSA and ROFAs to ensure that parked equipment and stockpiled materials remain clear. Common hazards and violations identified by TDOT Aeronautics Division Inspectors are construction materials, maintenance and lawn tractors, water ponding, and hay bales.

4. Airport State Inspection Requirements Runway Data Checklist

Requirement Number	Table 1-2 Airport State Inspection Requirements Runway Data Checklist
1	**Runway Length/Width**
2	**Overall Surface Conditions**
2a	Cracking
2b	Seal Requirements
2c	Debris
2d	Fill Material
2e	Pavement Issues
2f	General Remarks
3	**Marking Conditions**
3a	Faded
3b	Pealing
3c	General Remarks

c. Taxiway

1. Taxiways will be inspected for trafficability using the same standards as those in the Runway Inspection identified in Section b. TDOT Aeronautics Division Inspectors will inspect taxiway pavement for cracks and surface variations that could impair directional control of aircraft. The type and severity of taxiway pavement distress is assessed by visual inspection of the taxiway pavement area to identify surface defects, surface deformations, and cracking. Inspectors must walk and drive on the pavement to perform the condition survey. Additionally, TDOT Aeronautics Division Inspectors will inspect taxiway paved areas for mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits, and other contaminants. Surface distresses are evaluated on type, frequency, and severity. TDOT Aeronautics Division Inspectors will annotate the frequency and severity of specific surface defects on the taxiway, take a photograph, and note the location of any major surface defects identified for permanent record.

2. Markings for paved taxiway must be in accordance with FAA AC 150/5340-1L and must include runway holding position, and, if applicable, displaced or relocated threshold markings. Taxiways will also be inspected for pavement marking conditions, as well as any unnecessary or unneeded pavement markings.

3. Vehicle roadway signs must be installed for all vehicle roadway intersections with taxiways IAW AC 150/5340-18F.

4. FAA Defined Safety Areas to include the Taxiway Safety Area (TSA) will be inspected during the course of the Taxiway Inspection. The TSA is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. The dimensions of the TSA is based on the airplane design group for which the taxiway is designed and ranges from 49 feet to 262 feet in width. Generally, on General Aviation, non-Air Carrier airports, the TSA extends 49-79 feet from either side of taxiway centerline. The specific dimensions of the TSA and TOFA vary by Runway Design Code. The Runway Design Code can be found in the Airport Data section within the individual Airport Layout Plan on the Airport Layout Design page. The specific dimensions of Defined Safety Areas by Runway Design Category are found in FAA Advisory Circular 150/5300-13A, Chapter 4, Table 4-1, however specific dimensions for individual airport Defined Safety Areas are typically contained in the Airport Layout Plan on the Airfield Layout Design page.

5. The Taxiway Object Free Area (TOFA) is an area on the ground centered on the taxiway centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects in the TOFA required for air navigation or aircraft ground maneuvering purposes. The dimensions of the TOFA is based on the airplane design group for which the taxiway is designed and ranges from 79 feet to 386 feet in width. Generally, on General Aviation, non-Air Carrier airports, the TSA extends 79-131 feet from either side of the taxiway centerline.

6. Airport State Inspection Requirements Taxiway Data Checklist

Requirement Number	**Table 1-3 Airport State Inspection Requirements** Taxiway Data Checklist
1	Overall Surface Conditions
1a	Cracking
1b	Marking Conditions
1c	Correct Signage
1d	General Remarks

d. Apron/Ramp

1. Aprons and ramps will be inspected for trafficability using the same standards as those in the Runway Inspection identified in Section b. TDOT Aeronautics Division Inspectors will inspect apron and ramp pavement for cracks and surface variations that could impair directional control of aircraft. The type and severity of apron and ramp pavement distress is assessed by visual inspection of the apron and ramp pavement area to identify surface defects, surface deformations, and cracking. Inspectors must walk and drive on the pavement to perform the condition survey. Additionally, TDOT Aeronautics Division Inspectors will inspect apron and ramp paved areas for mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits, and other contaminants. Surface distresses are evaluated on type, frequency, and severity. TDOT Aeronautics Division Inspectors will annotate the frequency and severity of specific surface defects on aprons and ramps, take photographs, and note the location of any major surface defects identified for permanent record.

2. Aircraft parking provides local and itinerant aircraft users with space to store their aircraft. These designated areas should be maintained to support all aircraft operations. TDOT Aeronautics Division Inspectors will inspect these spaces for pavement and parking markings conditions. Additionally, TDOT Inspectors will inspect aircraft parking areas for appropriate and serviceable aircraft tiedowns and FOD.

3. Airport State Inspection Requirements Apron/Ramp Data Checklist

Requirement Number	**Table 1-4 Airport State Inspection Requirements** Apron/Ramp Data Checklist
1	Overall Surface Conditions
1a	Marking Conditions
1b	Tie-Down Conditions
1c	General Remarks

e. Part 77

1. The Part 77 Inspection is governed by FAA Regulation Part 77 which establishes standards and notification requirements for objects affecting navigable airspace. Part 77 inspections identify potential aeronautical hazards in advance, preventing or minimizing adverse impacts to the safe and efficient use of navigable airspace.

2. Regardless of their size and operational levels, all airports have airspace surfaces established around them. The primary purpose of these airspace surfaces at a given airport is to ensure the safety of aircraft operating at or around that airport. This is particularly applicable for aircraft transitioning from air to ground and/or ground to air, when aircraft are typically most vulnerable to conflicts with ground-based objects. The critical consideration associated with all of the surfaces is that the surfaces are kept clear of all man-made and natural obstructions.

3. It is a critical mission of the TDOT Aeronautics Division to protect the airspace above and surrounding Tennessee General Aviation Public Use Airports in order to help ensure the safety of aircraft transitioning from ground to air and vice versa. TDOT Aeronautics Division Inspectors will follow FAA FAR Part 77 guidelines to identify, report, and assist airport managers in the proper procedures to remove any obstruction to navigable airspace. Note: The potential for natural hazards (e.g. trees) is more likely in remote areas of Tennessee where natural vegetation may pose the biggest threat to runway approach surfaces.

4. An airport, at a minimum, will maintain the following: (1) clear 20:1 approach surfaces to each end of the runway's primary surface or to its displaced threshold, (2) clear 7:1 transitional surfaces to each runway's primary surface and approach surfaces, and (3) airport lighting in accordance with Section f. Lighting if night use is planned. Obstruction standards and designation of imaginary surfaces related to airports will be in accordance with FAR Part 77.

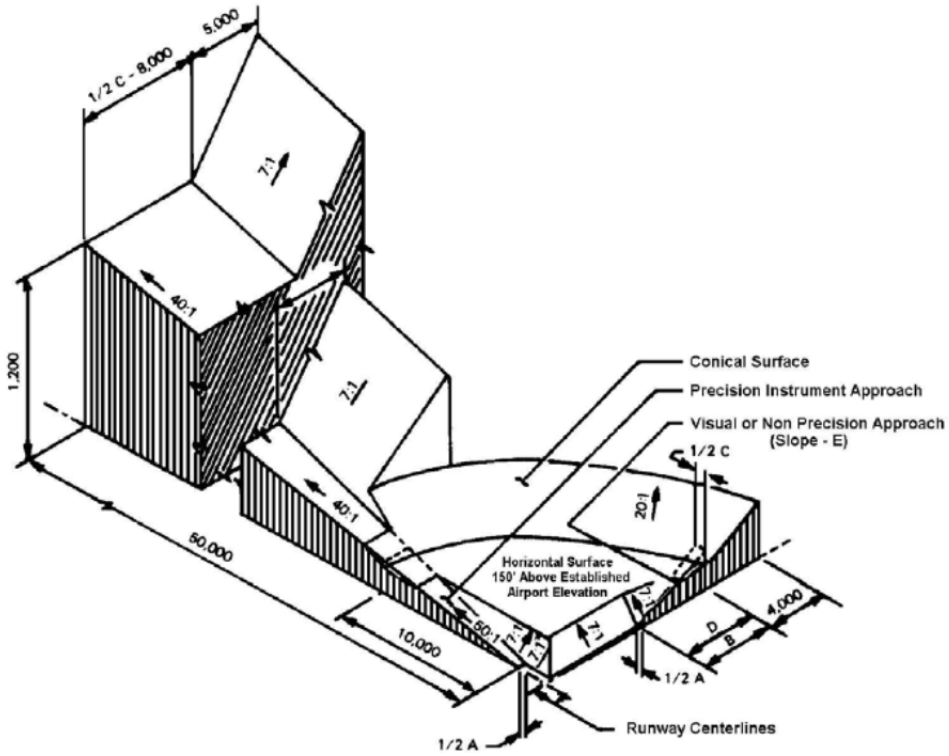


Figure 3. Example FAA FAR Part 77 Imaginary Surfaces

5. TDOT Aeronautics Division Inspectors will utilize the following methodology to identify, report and assist in the removal of obstructions to navigable airspace

Requirement Number	**Table 1-5 Airport State Inspection Part 77** Obstructions to Navigable Airspace
Phase One A – Obstruction Identification – Potential Obstructions are identified through one or more of the following processes:	
1	Triennial FAA Airport 5010 Inspections
2	Annual TDOT Aeronautics Division Airport License Inspection Outcomes
3	Airport Master Plan, Airport Layout Plan and ACIP Reviews
4	Notification of obstacles from pilots and/or other agencies (including FAA)
Phase One B – Obstruction Planning – Following the identification of potential obstructions, TDOT Aeronautics Division will make a determination to whether the potential obstruction(s):	
1	Are not critical to airport operations and, therefore, no further action is required
2	Are not critical to airport operations at that time, but require monitoring
3	Warrant additional analysis
4	Require remediation

Phase Two – Design – For obstructions that require remediation, the Airport Manager will initiate the following planning and coordination efforts. (Note: Some of these requirements will need to be conducted through a airport planning effort in conjunction with TDOT Aeronautics Division and Local Sponsors.)	
1	Identify obstruction type(s) and quantities
2	Identify obstruction location(s) (on-airport/off-airport)
3	Coordinate with TDOT Aeronautics Division as required
4	Coordinate with local jurisdictions/airport sponsors as required
5	Identify property considerations for all off-airport obstructions (including property acquisition, aviation easements, etc.)
6	Identify and scope environmental considerations based on obstruction locations, if applicable
7	Negotiate and resolve considerations for off-airport obstructions (inc. real property values, property acquisition, acquiring aviation easements, etc.)
8	Determine if obstruction removal meets criteria for an airport maintenance activity or ACIP project (competitive bid process.)
Phase Three – Permitting – The Airport Manager will initiate the following processes for remediating the identified obstructions if identified as a capital project	
1	Coordinate with TDOT Aeronautics Division to determine if removal would be exempt from environmental regulations.
2	Coordinate with local, state and federal jurisdictions, to determine permits and other requirements, as appropriate.
3	Coordinate with appropriate representatives and agencies to obtain appropriate environmental permits/studies.
4	Obtain appropriate easements/access/right-of-entry permits.
5	Coordinate with other appropriate agencies having jurisdictional authority within the airport environment, including land owners.
Phase Four – Construction – The Airport Manager will initiate the following processes for remediating the identified obstructions	
1	Determine if remediation can be completed by local airport personnel or if a qualified contractor should remove the obstruction.
2	If a qualified contractor is required to remove the obstruction, the Airport Manager can utilize the local/municipality maintenance service or enter into another TDOT qualified and approved type of agreement resulting in the selection of a qualified contractor.
3	Local Municipality Service Agreement or On Call agreements may be easier for smaller projects.
4	Conduct obstruction removal in compliance with any established local, state or federal environmental regulations.

6. TDOT Aeronautics will evaluate obstruction removal projects on an airport by airport basis as budget constraints and clearance requirements may adjust the priority level of such initiatives in conjunction with the ACIP.

7. TDOT Aeronautics Division will identify obstructions to the 34:1 approach surface (non-precision approach); however, any violations identified are a Section II Violation – Recommended Maintenance.

8. When feasible and practical, TDOT Aeronautics Division Inspectors will utilize Unmanned Aerial System (UAS) imagery technology and geospatial imagery analysis to assist in the identification and marking of obstructions to the approach surface.

9. TDOT Aeronautics Division Inspectors will conduct visual identification of possible approach surface obstructions and collect associated data from the end of the runway on the runway center point utilizing a tripod, transit and laser rangefinder. Inspectors will conduct obstacle identification and data collection in the safest, least obtrusive manner possible and will give way to aircraft utilizing the runway. Data collected during obstacle identification will be entered into a workbook that includes a trigonometry formula that will calculate obstructions based on airport specific parameters and those defined in the Part 77 Approach Slope Category for the most precise runway approach procedure.

10. Airport State Inspection Requirements Part 77 Data Checklist

Requirement Number	**Table 1-6 Airport State Inspection Requirements** Part 77 Data Checklist (for both approaches/all runways)
1	Runway Category
2	Approach Slope Acceptability
2a	20:1
2b	34:1
2c	General Remarks

f. Lighting

1. An airport lighting system is required for night operations. An airport lighting system will consist of runway edge and threshold lights in accordance with FAA AC 150/5340-30J, a lighted wind cone. If traffic pattern indicators are required in accordance with Section 3542(c) of these regulations, they must be illuminated. If required, obstruction to air navigation, as defined by FAR 77.23, must be lighted in accordance with FAA AC 70/7460-1L – Change 1, unless the FAA has conducted an aeronautical study and determined that the lighting is not necessary for safety and TDOT Aeronautics Division concurs.

2. Runway lighting fixtures, whether elevated or in-pavement, require a high degree of maintenance. The primary issue with elevated light fixtures is they are more susceptible to being run over or damaged by grounds maintenance equipment or aircraft. Therefore, broken glass or electric wiring may be exposed creating a hazard to airport users. Additionally, airport lighting is integral to the safe and efficient execution of operations at night or in low visibility conditions. It is imperative that airport lighting is well maintained to ensure optimal airport and runway operational conditions at all times.

3. TDOT Aeronautics Division Inspectors will inspect the ground elevation around the light to ensure that the frangible point is approximately one inch above ground, and the height of the light is not more than 14 inches above ground when located within five feet of a runway or taxiway edge. Additionally, TDOT Aeronautics Inspectors will spot check light bases and housing for frangibility compliance, moisture and cracking, corrosion as well as check gaskets, seals and clamps for deterioration and damage.

4. Airport State Inspection Requirements Lighting Checklist

Requirement Number	**Table 1-7 Airport State Inspection Requirements** Lighting Checklist
1	Runway Lighting Type
2	Threshold Lighting Acceptability
3	Rotating Beacon Operational Status (if applicable)
4	Lighting Control Type

g. NAVAIDS

1. TDOT Aeronautics Division Inspectors will inspect Navigational Aids (NAVAIDS) for condition, functionality, and compliance with FAA regulations. Common inspectable items are Runway End Identifier Lights (REILs), wildlife on NAVAIDS, paint condition on NAVAIDS, and Wind Cone size, condition and functionality, etc.

2. NAVAIDs that penetrate the Part 77 surfaces must be marked with international orange and white paint and lights, with red obstruction lights placed on the highest point. This makes the NAVAID and other Air Traffic Control Facilities (ATC-F) more visible to the pilot.

3. Segmented circles aid pilots in locating visually obscured airports and provide a centralized location for such indicators and signal devices as may be required on a particular airport. Typically co-located with the segmented circle are wind cones or windsocks that provide wind surface conditions at airports. These should be located in a position that affords maximum visibility to pilots in the air and on the ground.

4. NAVAID structures should be carefully checked during opening, closing, and routine inspections for any imperfections. FAA specifies certain requirements for the wind cone and segmented circle equipment, which can be found in FAA AC 150/5340-5D, Segmented Circle Airport Marker System, and FAA AC 150/5345-27E, Specification for Wind Cone Assemblies. The FAA also lists preventative maintenance procedures in FAA AC 150/5340-26C, Maintenance of Airport Visual Aid Facilities.

5. TDOT Aeronautics Division Inspectors will conduct the following inspections on Segmented Circle/Wind Cones: Wind Cone ability to swing freely in 360 degrees without obstruction, Wind Cone fabric condition to include cone color visibility/fading and water repellant properties, and Wind Cone lamp functionality and lighting capacity.

6. Airport State Inspection Requirements NAVAIDS Checklist

Requirement Number	Table 1-8 Airport State Inspection Requirements NAVAIDS Checklist
1	Wind Cone Type and Condition
2	Segmented Circle Condition (if applicable)

h. General Airfield Infrastructure

1. Hangar and Terminal Conditions: TDOT Aeronautics Division Inspectors will conduct an inspection of Hangar and Terminal conditions to note the overall maintenance posture of the airport facilities and note any significant maintenance requirements or deficiencies. TDOT Aeronautics Division Inspectors will conduct a safety inspection to ensure that all hangared aircraft maintain specified clearances during movement activities, all repair services inside hangars incorporate safety procedures to include fueling and defueling activities, POL hazard mitigation measures are incorporated, and basic physical security practices are followed to prevent unauthorized access to aircraft and equipment. Local permitting agencies may require nearby fire hydrants, sprinkler systems, fire alarm systems, personnel doors, floor drains and other building safety items, depending on the size of the hangar. Additional inspectable items are potential wildlife issues and the use of hangars for aeronautics related purposes.

2. Security, Cameras, Gates and Fences: Airport facilities require protection from acts of vandalism, unauthorized access, and theft. To provide a measure of protection, unauthorized persons must be precluded from having access to NAVAIDs and ATC facilities. Perimeter fencing installation is recommended to preclude inadvertent or intentional entry of people or wildlife onto the airport.

3. Fire Extinguishers and Serviceability/Condition: TDOT Aeronautics Division Inspectors will inspect portable fire extinguishers for serviceability and ease of access. Portable fire extinguishers are required to be visually inspected when initially placed in service and at least monthly thereafter. These visual inspections can be performed by airport facility staff and are intended to ensure that each extinguisher is in its designated place, and will operate if needed. The 2017 NFPA 407 Fire Code for Airport Fueling Operations, adopted by the FAA, indicates that A:B:C rated multipurpose dry chemical fire extinguishers should not be placed within 500 feet of aircraft operating areas.

Requirement Number	Table 1-9 Facilities Requirements Fire Extinguishers
1	Extinguishers are in their designated places and easily/readily accessible
2	There are no obstructions to fire extinguisher access or visibility
3	Safety seals are not broken or missing
4	There is no evidence of physical damage, corrosion, leakage or clogged nozzle
5	Pressure gauge readings are in the proper range or position
6	Operating instructions are legible and facing outward
7	Fullness – confirmed by weighing or lifting
8	Record of the yearly service/maintenance (service tag indicating inspector and when)
9	No A:B:C rated fire extinguishers within 500 feet of aircraft operating areas

4. Emergency Shutoff Present and Properly Located: TDOT Aeronautics Division Inspectors will ensure that fuel systems conform to the specifications and requirements of each of the following regulations:

Requirement Number	Table 1-10 Fuel Systems Facilities Requirements Applicable Specifications and Requirements
1	FAA AC 150/5230-4A, Aircraft Fuel Storage, Handling, and Dispensing on Airports
2	National Fire Protection Association (NFPA) 30 – Flammable and Combustible Liquids Code
3	National Fire Protection Association (NFPA) 415 – Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways
4	National Air Transportation Association (NATA) Refueling and Quality Control Procedures for Airport Service and Support Operations
5	Air Transport Association Specification 103: Standards for Jet Fuel Quality Control at Airports
6	American Petroleum Institute – Standard 1581: Specifications and Qualification Procedures for Aviation Jet Fuel Filter/Separators
7	American Petroleum Institute – Standard 1500: Storage and Handling of Aviation Fuels at Airports
8	Any applicable state and local standards and requirements.

a. TDOT Aeronautics Division Inspectors will inspect Airport Fuel Systems and Airport Fueling Vehicles (if applicable) utilizing the following minimum safe operation criteria derived from the FAA-adopted, 2017 NFPA 407 Fire Code for Airport Fueling Operations to identify, annotate and assist in the remediation of any potential fire code violations or hazards to safe fueling activities. Local fire codes may supplement, but not replace or diminish the TDOT Aeronautics Division minimum aviation fueling safe operation and storage inspection criteria outlined below. When a conflict exists between local fire codes and the TDOT Aeronautics Division inspection criteria, inspectors will utilize the TDOT Aeronautics Division minimum requirements.

Requirement Number	Table 1-11 Airport Fuel System NFPA 407 Checklist Standard for Aircraft Fuel Servicing
General Fuel System Requirements	
1	Emergency fuel shutoff "deadman switch" flow control switch provided
2	Emergency shut-off station clearly labeled EMERGENCY FUEL SHUTOFF at 7' above grade with lettering at least 2" in height on a contrasting background
3	Fuel nozzle cannot be held open/bypassed
4	Bonding or grounding connections in place, clean and unpainted
5	B:C Rated Fire extinguishers present on ramp during fueling (A:B:C Type Not Permitted)
6	Fuel operations personnel fully trained on fueling operations, fire equipment use, and emergency procedures.
7	Emergency fuel shut-off station inspected with documentation to show 6 and 12 month inspections
8	Fuel equipment service and maintenance records maintained
9	Fuel hose testing and inspection performed daily, monthly and quarterly for fuel hose blistering, cracking, carcass saturation, separation or kinks.
10	Fueling operations conducted outdoors
11	Communications and electrical equipment prohibited from use within 10' of the fueling area
12	No Smoking signage posted and open flames prohibited
13	Appropriate NFPA 704 diamond hazard placards in place
14	Fueling facilities located at minimum 50' from any buildings
15	No A:B:C rated multipurpose dry chemical fire extinguishers (ammonium phosphate) within 500' of aircraft operating areas
Aviation Fueling Facilities Requirements	
1	Fuel tanks meet all requirements of NFPA 30
2	Clear space maintained around fueling equipment and area
3	Fire extinguisher located at fuel loading location (minimum 80-B:C)
4	Access to fuel storage and loading areas secured
Airport Fueling Vehicles Requirements	
1	All vehicles compliant with NFPA 385
2	Fire extinguishers in place on vehicle (minimum two (2) 80-B:C visible and easily accessible)
3	Smoking elements not permitted in/on vehicle (cigarette lighters, ashtrays, etc)
4	Name of operator or responsible organization clearly marked on vehicle
5	Required signage is in place and visible on all sides of the vehicle – FLAMMABLE, NO SMOKING, PRODUCT NAME/FUEL TYPE
Airport Self-Service Fueling Requirements	
1	Emergency shut-off located 20'-100' from fuel dispensers
2	Means of notifying fire department in place near fueling area

3	Fire extinguisher in place at the dispenser and at the emergency shut-off location (minimum one (1) 80-B:C required in each location)
4	Emergency instructions clearly posted
5	Fuel dispenser operating instructions clearly posted
6	Access to fuel dispensers secured
7	Clear space maintained around fueling equipment and fueling area

b. Aircraft refueling is one of the most potentially hazardous operations at an airport and must receive adequate attention. In addition to the specifications and requirements outlined above, the following general principles and guidelines are recommended for safe aviation refueling operations and facilities:

- Ensure aviation fuel is clearly and appropriately identified by type,
- Adhere to contaminant exclusion and filtration practices,
- Execute continuous cleanup operations, and
- Implement daily, weekly and monthly fuel system operational checks and record keeping.

c. The airport fuel system is subject to licensing/certification by the Tennessee Department of Agriculture, Division of Weight and Measures. The runoff from the airport property is subject to licensing/permitting by the Tennessee Department of Environment and Conservation, Division of Water Pollution Control.

All licenses provided by local, state and federal government agencies must be displayed in a prominent location at the airport. Additionally, airport managers are required to report aviation fuel sales and submit aviation fuel sales information to the State of Tennessee Department of Revenue via the Tennessee Taxpayer Access Point (TNTAP).

d. The State of Tennessee Department of Revenue Tennessee Taxpayer Access Point (TNTAP) Checklist is contained in Appendix 1c.

5. Vegetation Control

a. Vegetation control serves dual functions of reducing wildlife hazards at the airport, as well as reducing the development of obstructions and hazards in and around an airport. Vegetation growth should not be permitted to exceed 12 inches in height in the Instrument Landing System critical areas within 2000 feet of the localizer and within 800 feet of glide-slope antennas, if applicable. Aside from the ILS critical area, the Federal Aviation Administration has not specified the height that vegetation is to be maintained away from the movement area. A turf or grass height of 7-14 inches is recommended to discourage the attraction of wildlife in vicinity of the runway although 5-8 inches may work in many airport environments as part of a wildlife hazard management program.

b. Vegetation should be controlled around runway and taxiway elevated edge lighting systems and should not be allowed to obstruct views of any runway edge, runway lighting system or navigational aids. Frequent mowing operations are recommended for turf runways, runway safety areas, turf taxiways, and all navigational aids, including wind socks,

segmented circles, and runway lights, as appropriate. Additional areas, although on a less frequent schedule, should include runway shoulders, infields, turf aircraft parking areas, and building foundations. Based on seasonal weather patterns, a mowing schedule will fluctuate based on monthly actual rainfall totals. It is important to inspect the airport on a regular basis to determine when mowing is needed and anticipate such conditions based on weather forecasts. When practical, vegetation control operations should be coordinated to coincide with scheduled facility maintenance.

Priority	Table 1-12 Airport Vegetation Clearance Priorities
1	Runway Edge/Shoulders
2	Around Runway Lights
3	Around NAVAIDS (Including wind socks, segmented circles, weather reporting equipment, etc.)
4	Helipad Edge/Shoulders
5	Taxiway Edge/Shoulders
6	Runway Safety Areas
7	Runway Approach Areas
8	Aircraft Parking Areas
9	Airport Access Drive
10	Automobile Parking Areas
11	Airport Building Foundations

6. Federal Title VI and State Fraud, Waste or Abuse Poster Displayed: Airports receiving state or federal funds are required to post the Federal Title VI compliance poster and State Fraud, Waste or Abuse poster in a public area. Title VI of the Civil Rights Act of 1964 in conjunction with Tennessee Code Annotated 4-21-904 indicates that if you receive state services that are Federally and/or State funded, the United States Civil Rights Act of 1964 and Tennessee Code Annotated/T.C.A. 4-21-904 ensures your right to receive equal treatment and service opportunities regardless of your race, color, national origin, or limited English proficiency. Title VI of the Civil Rights Act specifically prohibits discrimination in programs that are federally funded, and T.C.A. 4-21-904 specifically prohibits discrimination in programs that are state funded. Individuals receiving federal financial assistance, which can be distributed by state departments, will not face discrimination on the basis of race, color, national origin, sex, age, beliefs or disability. The Fraud, Waste or Abuse Poster is required by any public agency that receives state funds and encourages citizens to report fraud, waste or abuse committed by state or local governments or agencies that receive government funds.

a. The State of Tennessee Title VI compliance poster is contained in Appendix 1a.

b. The State of Tennessee Fraud, Waste or Abuse Poster is contained in Appendix 1h.

7. Emergency Preparedness Manual: By FAA definition, an airport emergency is any occasion or instance, natural or man-made, that warrants action to save lives and protect property and public health. TDOT Aeronautics Division has not established a formal response procedure for airport emergencies; however, airport managers should have, at minimum, a manual to address emergencies that occur on or directly impact an airport or adjacent property that:

a. Is within the authority and responsibility of the Airport Manager to respond.

b. Presents a threat to airport property, infrastructure, or airport personnel because of the proximity to the airport.

c. Has responsibilities under local/regional emergency plans and by mutual aid agreements.

8. Airport State Inspection Requirements General Airfield Data Checklist

Requirement Number	**Table 1-13 Airport State Inspection Requirements** General Airfield Data Checklist
1	Hanger Conditions
2	Security (if applicable)
2a	Gate
2b	Cameras
3	Fire Extinguishers and Servicability/Condition
3a	Throughout Installation
3b	At Fuel Farm
4	Emergency Shutoff Present and Properly Located at Fuel Farm
5	Fence (if applicable)
5a	Height
5b	All or Partial Enclosure of Installation
6	Grass Mowing Conditions
7	Condition of Terminal Building
8	Title VI (Fraud, Waste and Abuse) Poster Displayed in Public Area
9	Emergency Preparedness Manual Present and Updated
10	General Remarks

i. Section One Violations Identified and State Required Corrections - Section One Violations are covered in detail in Section ii, and Chapter 3, Section iv and v.

j. Section Two Violations Identified and State Recommended Corrections - Section Two Violations are covered in detail in Section ii and Chapter 3, Section iv and v.

k. License Type Attached

1. Public/Commercial Use License - Public/Commercial Use License issuance is covered in detail in Chapter 3, Section i, ii, and iii.

2. Conditional License - Conditional Airport License issuance is covered in detail in Chapter 3, Section v.

l. Inspector Name and Date

a. The State of Tennessee Airport Inspection Checklist is contained in Appendix 1b.

b. The FAA Southern Region Airports Division Quick Reference Guide is contained in Appendix 2a.

c. The FAA FAR Part 77 Approach Dimensions Quick Reference Guide is contained in Appendix 2b.

ii. Inspection Violations

1. There are two categories of violations that a TDOT Aeronautics Inspector may identify over the course of an inspection, Section I Violations and Section II Violations.

a. Section I Violations

1. Section I Violations are items that are in violation of state standards and require immediate attention for safety reasons.

2. Common Section I violations are obstructions or hazards in the flight path of inbound or outbound aircraft impacting approach/departure surface, hazards in the Runway Safety Area, etc.

3. TDOT Aeronautics Inspectors will provide a detailed written description of the Section I Violation(s) in an inspection letter to the airfield manager, annotate the violation(s) on the inspection checklist, and take digital photographs to visually document the violation(s).

4. Section I Violations result in the issuance of a Conditional Airport License until the violations are corrected, inspected and verified by TDOT Aeronautics Division Inspectors.

5. Airport Managers may request assistance from TDOT Aeronautics Division for the proper methods to correct the violation or request additional funding to correct the violation.

b. Section II Violations

1. Section II Violations are items that are not in violation of state standards, but require attention.

2. Section II Violations will not result in the loss of a State Public Use Airport License or issuance of a Conditional Airport License.

3. TDOT Aeronautics Inspectors may issue a State Public Use Airport License if only Section II Violations are observed during the inspection.

4. Common Section II Violations are maintenance considerations, minor cracks in the pavement of a ramp, fading markings, etc.

5. TDOT Aeronautics Inspectors will provide a detailed written description of the Section II Violation(s) in an Inspection Report, letter, and/or email to the airport manager, annotate the violation(s) on the inspection checklist, and take digital photographs to visually document the violation(s).

6. TDOT Aeronautics Inspectors will provide maintenance project recommendations and strongly recommend that every effort is made to correct the Section II Violations before they become a significant issue impacting safety, potentially resulting in a Section I Violation or increasing the cost to repair/address.

7. Airport Managers may request assistance from TDOT Aeronautics Division for the proper methods to correct the violation or request additional funding to correct the violation.

Chapter 2: General Aviation Airport Inspection Types and Inspection Scheduling

i. Federal Aviation Administration 5010 Inspections

1. The FAA 5010 Inspections are a federal requirement for all public use airports that must be completed every three years (triennially) and is used to validate the Airport Master Record for the following two federal fiscal years.

2. The FAA 5010 Inspection is a part of the National Airport Safety Data Collection Program (NASDCP) that reviews previously submitted Airport Master Record data.

3. The NASDCP is a collection of safety data for all non-primary public and private airports and is stored in the National Flight Data Center (NFDC) database.

4. The TDOT Aeronautics Division Program Monitoring Office will verify and/or update public use General Aviation Airport Master Record Data as requested by GCR.

a. TDOT Aeronautics Division Program Monitor Inspectors conducting FAA 5010 inspections will visit 5010web.com to download and print the FAA Form 5010-1 Airport Master Record.

b. TDOT Aeronautics Inspectors will bring the FAA Form 5010-1 to the airport manager and make pen and ink changes to the FAA Form 5010-1 Airport Master Record (if necessary) as indicated by the airport manager.

c. TDOT Aeronautics Inspectors will enter pen and ink changes annotated in the field into 5010web.com in order to update the official Airport Master Record held in the NASDCP/NFDC.

d. The Airport Master Record contains 93 data points excluding additional remarks.

e. The 5010 includes eight categories of data elements, General Airport Administrative Data (1-26), Runway Data (30-39), Lighting/Approach Aids (40-49), Obstruction Data (50-58), Declared Distances (60-63), Services Data (70-76), Facilities Data (80-89), Based Aircraft Data (90-96), Operations Data 100-105), and Remarks Data (110-113).

5. TDOT Aeronautics Division Program Monitoring Office will attempt to notify airport managers of the inspection 48 hours prior to the inspection.

6. TDOT Aeronautics Division Program Monitoring Office may contact airport managers to validate information contained on FAA 5010 Master Records as required in support of FAA 5010 Master Record Review/Inspection requirements.

ii. State Helipad Inspection – New Construction

1. The State Helipad Inspection is a requirement that must be completed for helipads that have undergone major alteration or are newly constructed throughout the state.

2. The State Helipad Inspection is used to validate the safety of the installation and surrounding area for helipad licensing.

3. The State Helipad Inspection and licensing will only be completed one time following completion of new helipad construction.

iii. State Helipad Safety Inspection – Spot Check and Annual Safety Self-Inspections

1. State helipad managers are required to self-report the safety status of their helipads yearly via an annual Safety Checklist emailed to the helipad managers by the TDOT Aeronautics Division in order to maintain State Helipad Licensing.

2. The TDOT Aeronautics Division will conduct Helipad Safety Spot Check Inspections at random or at the request of the helipad sponsor.

3. TDOT Aeronautics Division Program Monitoring Office will attempt to notify helipad managers of the inspection 48 hours prior to the inspection.

4. TDOT Aeronautics Division may conduct no-notice State Helipad Safety Spot Check Inspections as required.

5. If a helipad is co-located with an airport, the State Helipad Safety Spot Check will be completed ICW the Annual State General Aviation Airport Inspection and FAA 5010 Master Record Review/Inspection, if applicable.

iv. Schedule of Airport Inspections

1. The State Airport Inspection is an annual requirement that must be completed prior to the end of the calendar year.

2. FAA 5010 Inspections are required every three years and must be completed prior to the end of the federal fiscal year (September 30th).

3. State Helipad Self-Reported Safety Inspections are required annually and must be completed prior to the end of the calendar year.

4. If an airport is scheduled for a triennial FAA 5010 Inspection during the federal fiscal year, the Annual State and FAA 5010 Inspection will be completed concurrently (if applicable).

5. If an airport contains a helipad, the helipad will be spot checked for safety during the course of the Annual State Airport Inspection and FAA 5010 Inspection (if applicable).

v. Priority of Airport Inspections

1. TDOT Aeronautics Division Priority of Airport Inspections is:

Inspection Priority	**Table 2-1 Priority of Airport Inspections** Type of Inspection
1	Concurrent triennial FAA 5010 and State Airport License Inspections for airports holding Conditional State Airport Licences
2	Concurrent triennial FAA 5010 and Annual State Airport License Certification Inspections
3	Conditional State Airport License Certification Re-Inspections
4	New Construction State Helipad License Inspections
5	State Airport License Certification Inspections
6	Helipad Spot Check Safety Inspections
7	TDOT Aeronautics Division Program Monitoring Office assistance visits as requested

Chapter 3: General Aviation Airport and Helipad Licensing

i. State General Aviation Public Use Airport Licensing Process

1. The State General Aviation Airport License Process is governed by Effective Rules and Regulations of the Tennessee Department of Transportation Aeronautics Division Chapter 1680-1-2 Licensing and Registration of Airports.

2. TDOT Aeronautics Division Effective Rules and Regulations stipulate that no person may hold an airport open for use, unless otherwise exempted, without first applying for and obtaining an appropriate permit or authorization as required by the TDOT Aeronautics Division.

3. No aircraft takeoff or landing may be made at a site that is not permitted, exempted, or authorized in accordance with these regulations.

4. A separate heliport permit is not required for a designated heliport located within the boundaries of a permitted airport. The heliport must meet heliport design standards as described in Chapter 3, Section iv, Part 6, Subsection B of these regulations.

5. When airport ownership changes, the new airport owner shall submit notification in writing to TDOT Aeronautics Division and documentation showing who owns the airport to the TDOT Aeronautics Division within 30 days of such change. Additionally, airport owners and sponsors are encouraged to utilize the online State Airport License Application Form on the TDOT Aeronautics Division website.

6. Before physical or operational changes are made, which affect conditions that have been imposed upon operation of the airport, the airport owner shall submit notification in writing and supporting documentation to TDOT Aeronautics Division to remove, add or amend the conditions. The notification and supporting documentation shall be submitted to TDOT Aeronautics Division by the airport manager at least 30 working days prior to the physical or operational change.

7. The State General Aviation Airport License Process is further governed by three primary Tennessee State Laws within Tennessee Code Annotated Title 42 - Aeronautics.

a. Tennessee Code Annotated 42-2-209. Rules, regulations and standards of department

b. Tennessee Code Annotated (subparagraph 42-2-209(a) Power to Issue)

c. Tennessee Code Annotated 42-2-211. Licensing of airports

8. The State of Tennessee Application for Public Airport License is contained in Appendix 1e.

ii. TDOT Aeronautics Division Chapter 1680-1-2-04 Public Airport Licenses

1. 1680-1-2-04 governs the process of applying for Public Use Airport Licenses and the basic standards for meeting licensing requirements.

2. All airports open to the public, and all airports on which commercial aeronautical operations are conducted, except those specifically exempted, are required to secure and maintain Public Airport Licenses and to meet the minimum standards for airports delineated below. Airport owners and sponsors are encouraged to utilize the online State Airport License Application Form on the TDOT Aeronautics Division website.

3. Airports holding a valid Airport Operating Certificate issued by the FAA are specifically exempted (Part 139 Airports).

4. The provisions outlined in 1680-1-2-04 shall not apply to airports owned or operated by the United States (Federal Facilities).

5. TDOT Aeronautics Division may exempt the airport from any requirement if it finds that the application of that requirement would constitute an undue burden on the airport and is not required in the interest of public safety.

Approval Requirement Number	**Table 3-1 TDOT Aeronautics Division Chapter 1680-1-2 Licensing and Registration of Airports** Public Airport License Requirements
1	Application for license must be made on a form approved by TDOT Aeronautics Division or via web form application.
2	The application must be signed by the owner or lessee. The lease agreement containing the signature of the owner must be on file with the TDOT Aeronautics Division.
3	In the interest of public convenience or unusual circumstances, TDOT Aeronautics Division may approve an airport which does not meet the required standards by use of the term "Special" in conjunction with airport category and type on the airport license. The conditions under which a "Special" approval is granted shall become a part of the license and each renewal license issued, unless removed by appropriate TDOT Aeronautics Division action.
4	All licensed public airports are subject to inspection at any time.
5	All licenses issued under this section will be effective from the date of issue through the expiration date listed on the face of the license.
6	All airport licenses issued under this section, together with the conditions attached thereto, shall be posted in a prominent place at the airport. In the event there are no buildings at the airport, the license and conditions shall be displayed at the office or place of business of the caretaker or manager.
7	TDOT Aeronautics Division, may, after notice to the licensee and opportunity for remediation, revoke any license or renewal thereof, or refuse to issue a renewal, when it shall reasonably determine: (1) that

	there has been an abandonment of the airport as such, or (2) that there has been failure to comply with the conditions of the license or renewal thereof, or (3) that because of change of physical or legal conditions or circumstances the airport has become either unsafe or unusable for the aeronautical purposes for which the license was issued.

iii. TDOT Aeronautics Division Chapter 1680-1-2-.05 Minimum Airport Standards

1. TDOT Aeronautics Division Chapter 1680-1-2-.05 Minimum Airport Standards governs the basic airport and helipad standards by which TDOT Aeronautics Division will inspect airports for licensing.

2. Subsection A – Airport Dimensions

Table 3-2 1680-1-2-.05 Minimum Airport Standards Airport Dimensions	**Minimum Standard**
1. Effective Length of Runway Safety Area	2,000 ft*
2. Width of Runway Safety Area	150 ft
3. Width of Runway	40 ft
4. Maximum Effective Gradient	2%
5. Slope of Approach Surface	20:1
*Minimum Length Increased 10% for every 1% of Effective Gradient	

3. Subsection A – STOLport (Short Take-off and Landing) Dimensions

Table 3-3 1680-1-2-.05 Minimum Airport Standards STOLport Dimensions	**Minimum Standard**
1. Effective Length of Runway Safety Area	1,500 ft*
2. Width of Runway Safety Area	150 ft
3. Width of Runway	40 ft
4. Maximum Effective Gradient	2%
5. Slope of Approach Surface	15:1
*Minimum Length Increased 10% for every 1% of Effective Gradient	

4. Subsection A – Airport Facilities

Requirement Number	Table 3-4 1680-1-2-.05 Minimum Airport Standards Facilities Requirements
1	TDOT Aeronautics Division approved markers shall be installed on unpaved landing areas at 200 foot intervals along the useable width and at 150 foot intervals at the ends of the landing area.
2	TDOT Aeronautics Division approved wind indicator must be installed.
3	A fire extinguisher which is capable of extinguishing all classes of fire must be available for immediate use.
4	A TDOT Aeronautics Division approved runway lighting system must be installed prior to approval for nighttime operations.

5. Subsection A – Airport Miscellaneous Requirements

Requirement Number	Table 3-5 1680-1-2-.05 Minimum Airport Standards Miscellaneous Requirements
1	Airport hazards as determined by TDOT Aeronautics Division must be marked and must also be lighted if the airport is approved for nighttime operation.
2	The licensee shall notify TDOT Aeronautics Division in writing whenever alternations, improvements, or major repairs are to be accomplished on the airport.
3	The landing area, taxiways, and ramp area must be maintained in such a manner as to assure the safe operation of aircraft.
4	The owner of a closed or abandoned airport shall remove all airport identifying markers and wind indicators and shall place upon the runway an approved “Closed” marker. This marker shall be maintained until the runway is no longer identifiable.
5	Displaced thresholds at non-paved public airports shall be marked with at least four markers on each side of the landing area where the effective length commences. The threshold markers shall be no more than five feet apart, and placed on the center line 90 degrees to the runway heading.

6. Subsection B – Heliport Definitions

Heliport Definitions	Table 3-6 1680-1-2-.05 Minimum Heliport Standards Heliport Definitions
Heliport	An area, either at ground level or elevated on a structure that is used for the landing and taking off of helicopters.
Landing and Takeoff Area	That specific area in which the helicopter actually lands and takes off, including the touchdown area.
Touchdown Area	That part of the landing or takeoff area where it is preferred that the helicopter alight.
Peripheral Area	A safety zone that provides an obstruction-free area on all sides of the landing and takeoff area.

Obstruction Clearance Plane	Imaginary planes leading outward and upward from the take-off and landing area at angles compatible with the flight characteristics of the helicopter and type of operations anticipated.

7. Subsection B – Heliport Dimensions

Table 3-7 1680-1-2-.05 Minimum Heliport Standards Heliport Dimensions	**Minimum Standard**
1. Landing and Takeoff Area	50 ft x 50 ft
2. Touchdown Area	20 ft x 20 ft
3. Peripheral Area Width	10 ft
4. Obstruction Clearance Slope	8:1

8. Subsection B – Heliport Facilities

Requirement Number	**Table 3-8 1680-1-2-.05 Minimum Heliport Standards** Facilities Requirements
1	TDOT Aeronautics Division approved wind indicator must be installed.
2	A fire extinguisher which is capable of extinguishing all classes of fire must be immediately available.
3	All heliports shall be marked with standard heliport or hospital heliport markings approved by TDOT Aeronautics Division. Markings shall be painted on paved or concrete surfaces; patio stones painted suitable colors may be used on turf areas.
4	A TDOT Aeronautics Division approved lighting system must be installed proper to approval for nighttime operations.

9. Subsection B – Heliport Miscellaneous Requirements

Requirement Number	**Table 3-9 1680-1-2-.05 Minimum Heliport Standards Miscellaneous Requirements**
1	Obstructions as determined by the TDOT Aeronautics Division must be marked and must also be lighted if the airport is approved for nighttime operations.
2	The licensee shall notify TDOT Aeronautics Division in writing whenever alterations, improvements, or major repairs are to be made.
3	The landing area must be maintained so as to assure safe operations.

Figure 4. Heliport Approach and Primary Surface Example Overhead

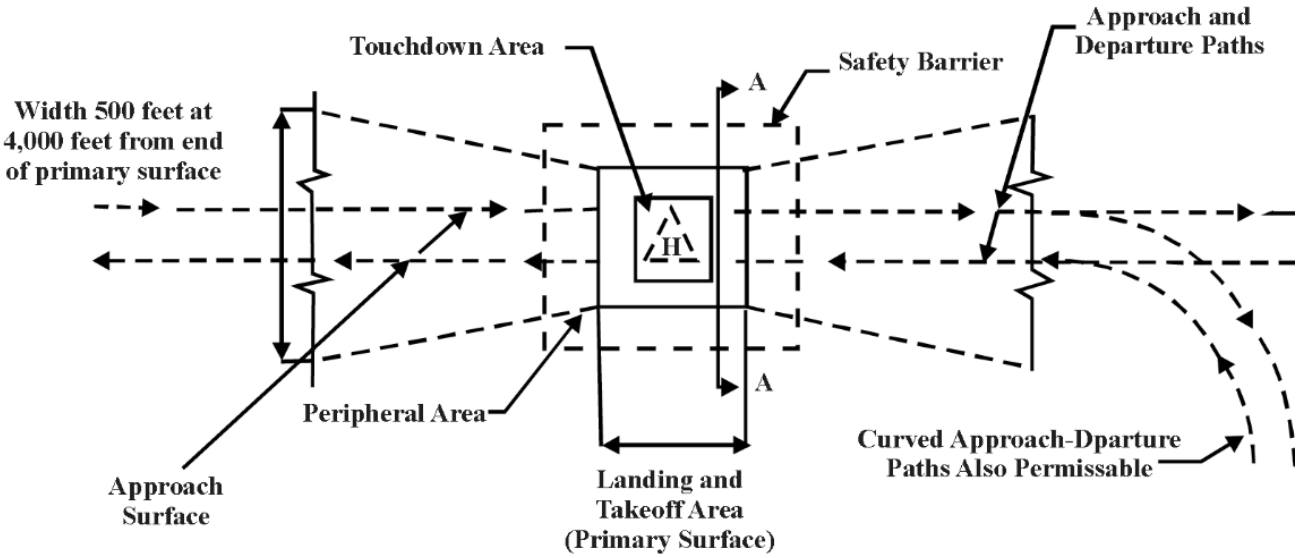
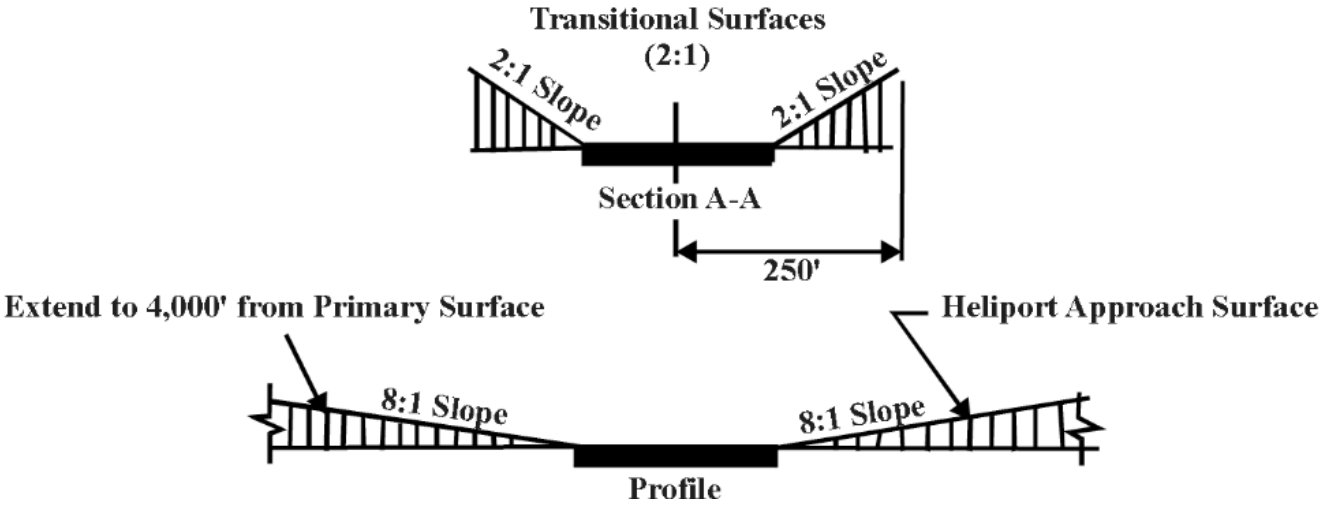


Figure 5. Heliport Approach, Transitional and Primary Surface Example Cross-Section



10. The State of Tennessee Application for Public-Use Airport Site Approval is contained in Appendix 1f.

11. The State of Tennessee Application for Heliport Site Approval is contained in Appendix 1g.

iv. State General Aviation Public Use Airport Conditional License

1. If TDOT Aeronautics Division Inspectors observe Section I Violations during State Airport Inspections preventing an Airport from meeting the requirements for continued State Airport licensure that have been adopted by TDOT Aeronautics Division, or having met those requirements previously cannot maintain compliance, TDOT Aeronautics Division may issue State Public Use Conditional Airport Licenses for a period of 120 days to allow time for the airport to take steps to meet the State Public Use Airport License requirements or may revoke any license issued, if requirements for licensure are not met or cannot be met.

2. Airport managers and/or airport sponsors must notify TDOT Aeronautics Division in writing when the noted deficiency resulting in a Section I Violation has been corrected. TDOT Aeronautics Division may issue a State Public Use License following notification of deficiency correction or may conduct a re-inspection to verify correction of the deficiency prior to issuance of a State Public Use Airport License.

3. If an airport with an existing State Public Use Conditional Airport License requires an extension to their State Public Use Conditional Airport License to correct Section I Violations and meet requirements for State Public Use Airport licensure past the initial 120 day State Public Use Conditional License expiration, the airport may request an additional 120 day State Public Use Conditional Airport License in writing to TDOT Aeronautics Division IOT meet the requirements for State Public Use Airport licensure.

4. Failure to correct the item identified within the 120 day timeframe allotted may result in the loss of the State Conditional Public Use Airport license and the right to conduct any public or commercial aeronautical activities.

5. An airport may maintain airport operations under a State Conditional Airport License provided the airport is making every attempt to correct the Section I Violations annotated during the TDOT Aeronautics Division Annual State Airport Inspection and the violation or hazard identified has not been judged by TDOT Aeronautics Division to impede the safe operation of the airport.

6. If an Airport fails to make satisfactory progress to correct the Section I Violations, the TDOT Aeronautics Division will provide notice to the airport licensee that the State Conditional Public Use Airport License may be revoked or denied renewal. The airport licensee will be provided an opportunity to contact TDOT Aeronautics Division for additional information on the determination. If it is determined by the division director and TDOT Aeronautics Division Inspectors (1) that there has been an abandonment of the airport as such, or (2) that there has been failure to comply with the conditions of the license or renewal thereof, or (3) that because of change of physical or legal conditions or circumstances the airport has become either unsafe or unusable for the aeronautical purposes for which the license was issued, the TDOT Aeronautics Division may revoke or refuse to renew the State Public Use Airport License.

7. The State General Aviation Conditional Public Use License is governed by three primary Tennessee State Laws contained within Tennessee Code Annotated Title 42 – Aeronautics.

a. State Law Tennessee Code Annotated 42-6-102 – Control of airport hazards is a public purpose

b. Tennessee Code Annotated 42-6-113 – Acquisition of air rights

c. Tennessee Code Annotated 42-6-103 – Airport zoning regulations for airport hazard area — Adoption — Enforcement

v. State Annual Airport Inspection Outcomes and Airport Capital Improvement Plan Projects (ACIPs)

1. The State Annual Airport Inspection is one of six primary sources of information used to assist airport managers and airport sponsors with formulating needs-based ACIPs. The State Annual Inspection report can assist airport managers and airport sponsors by systematically identifying and assessing critical airport safety, security, maintenance, and preservation requirements and associated capital needs.

a. State ACIP Priority Rankings

Priority	Table 3-10 State Airport ACIP Priorities
1	Safety
2	Security
3	Pavement Preservation/Maintenance
4	Preservation of Infrastructure
5	Compliance with Current FAA Standards
6	Planning
7	Increase Capacity/Modernization
8	Equipment
9	Landside Improvements
10	Revenue Producing

b. Under the State Block Grant Program, the Aeronautics Division reviews and provides approval for ACIP projects within Airport Layout Plans (ALPs) on behalf of FAA. Section I and II Violations identified during the course of the State Annual Airport Inspection will take priority over airport capacity and revenue producing projects. If an airport has Section I Violations and has been issued a Conditional Public Use Airport, any requests for airport improvement funds made to the TDOT Aeronautics Division may be deferred or denied consideration, pending the correction of the noted deficiency. Any airport failing to make progress resolving Section II Violations may incur reduced future project funding request prioritization. Additionally, the Tennessee Aeronautics Commission (TAC) reserves the right to withhold airport development project approval for any projects other than emergency or security related airport projects.

c. TDOT Aeronautics Division can provide technical assistance to airport sponsors and airport managers regarding airport planning efforts and resolving Airport

Inspection violations. The Aeronautics Division can provide a framework to guide future airport development by identifying airport manager needs, establishing a schedule for implementation, and developing a financial plan to support the implementation schedule.

vi. Airport Inspection Sponsor Report

1. TDOT Aeronautics Division may present Airport Inspection Reports directly to airport sponsors if TDOT Aeronautics Division judges the airport manager is unable to address deficiencies in a timely and satisfactory manner and the deficiency creates a hazard to continual commercial and public aeronautics operations.

2. TDOT Aeronautics Division may send correspondence related to Airport Inspections directly to the airport sponsor. Additionally, TDOT Aeronautics Division may hold meetings with airport sponsors to discuss airport safety concerns and develop a strategy to address inspection outcomes.

vii. Inspection and Licensing Knowledge Management and Records Keeping

1. TDOT Aeronautics Division Inspectors will maintain digital copies of all completed Airport Inspections Reports, Airport Licenses, letters and/or emails sent to the airport manager and/or airport sponsors on the TDOT Aeronautics Division shared drive in the Program Monitoring folder under the appropriate airport or municipality.

2. Airport managers and airport sponsors may request digital copies of airport records and correspondence from TDOT Aeronautics Division as required.

Appendices

1. TDOT Aeronautics Division and State Forms

a. State of Tennessee Title VI Compliance Poster

b. State of Tennessee Airport Inspection Checklist

c. The State of Tennessee Department of Revenue Tennessee Taxpayer Access Point (TNTAP) Checklist

d. State of Tennessee Helipad Safety Inspection Checklist

e. State of Tennessee Application for Public Airport/Heliport License

f. State of Tennessee Application for Public-Use Airport Site Approval

g. State of Tennessee Application for Heliport Site Approval Form

h. State of Tennessee Comptroller's Office Fraud, Waste or Abuse Poster

2. Federal Aviation Agency Quick References

a. FAA Southern Region Airports Division Quick Reference Guide to Airfield Standards

b. FAA FAR Part 77 Approach Dimensions Quick Reference