



BUREAU OF  
AVIATION

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

# Desk Reference

## Aviation Development Airport Sponsor's Guide 2012

Publication 405

August 2012



# What do you want to do?

[Learn about BOA aviation regions](#)  
[Overview BOA's licensing role](#)  
[Review the BOA annual airport inspection process](#)

**Licensing & Safety**  
page 2

[Overview local, state, and federal plans](#)  
[Understand the Statewide Airport System Plan](#)  
[Learn about Airport Master Plans](#)  
[Learn about Airport Layout Plans \(ALPs\)](#)  
[Learn about Airport Hazard Zoning](#)

**Planning**  
page 4

[Learn about JACIP](#)  
[Understand Four-Year and Twelve-Year Plans](#)  
[Check program deadlines and yearly schedule](#)

**Programming**  
page 10

[Find a grant](#)  
[Understand the grant application and award process](#)  
[Learn about grant payment requirements](#)  
[Review grant management responsibilities](#)  
[Look at the grant close-out checklist](#)  
[Learn about the Real Estate Tax Reimbursement Program](#)

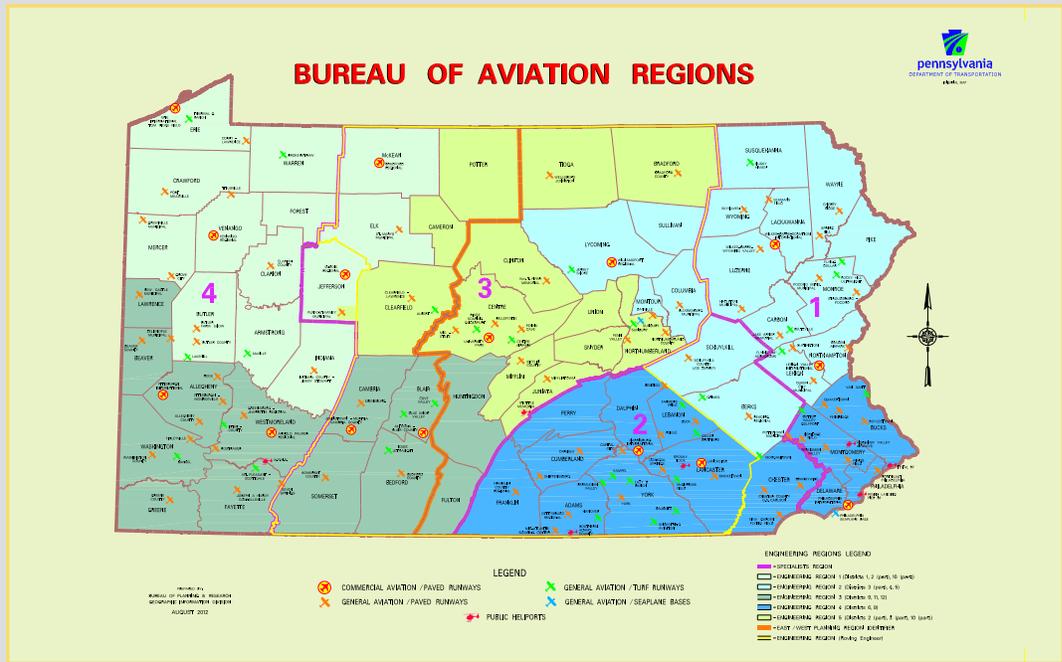
**Grants & Funding**  
page 13

[Find DBE resources](#)  
[Understand formal vs. informal procurement](#)  
[Review steps of planning projects](#)  
[Understand environmental reviews](#)  
[Review steps of design projects](#)  
[Review steps of construction projects](#)  
[Learn about land acquisition and release](#)  
[Learn about equipment procurement](#)

**Project Delivery**  
page 21

# Pennsylvania Airports

BOA has divided Pennsylvania into Regions. Each Region has a designated BOA Aviation Specialist, Airport Planner, and Project Manager who work closely with the airport sponsors on licensing, planning, and project management/delivery.



## Licensing and Safety

Airport licensing and safety are fundamental requirements. They are prerequisites for all other planning, funding, and project delivery efforts.

## Licensing

*All Pennsylvania airports, including private airstrips and heliports, must be licensed by BOA.*

Pennsylvania ranks **fourth** in the nation in the number of airports per square mile.

Licensed in Pennsylvania:

- 133 public airports
- 309 private airstrips
- 295 private heliports

as of June 2012

*For details go to:*

- Section 6.0  
Airport Licensing and Safety

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

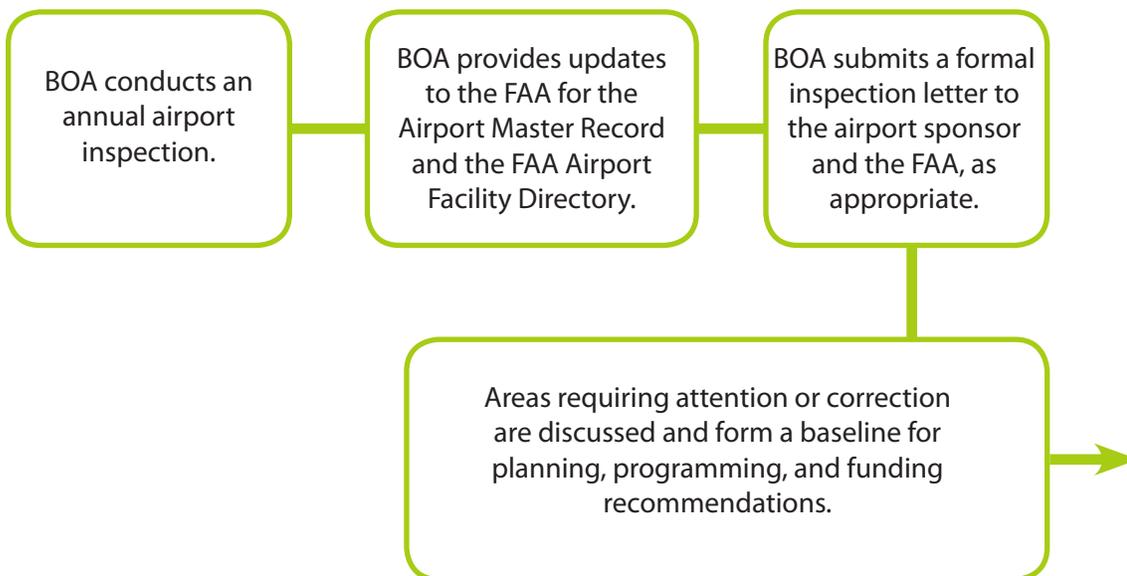
*and:*

- BOA Regions full size map on [BOA website](#)

# Safety

*BOA conducts annual safety inspections of Pennsylvania public-use airports and landing facilities to ensure compliance with state and federal standards.*

Annual Airport Inspection	
	<b>Survey of Ground-Based Facilities includes:</b>
<input type="radio"/>	Runway end and edge lighting
<input type="radio"/>	Runway markings
<input type="radio"/>	Pavement condition
<input type="radio"/>	Airport signage
<input type="radio"/>	Ramps and taxiways (condition, marking, signage)
	<b>Assessment of Navigable Airspace includes:</b>
<input type="radio"/>	Obstructions to approach and departure routes
<input type="radio"/>	Potential conflicts with surrounding land use



## The purpose of airport planning is to make an airport safer and more efficient.

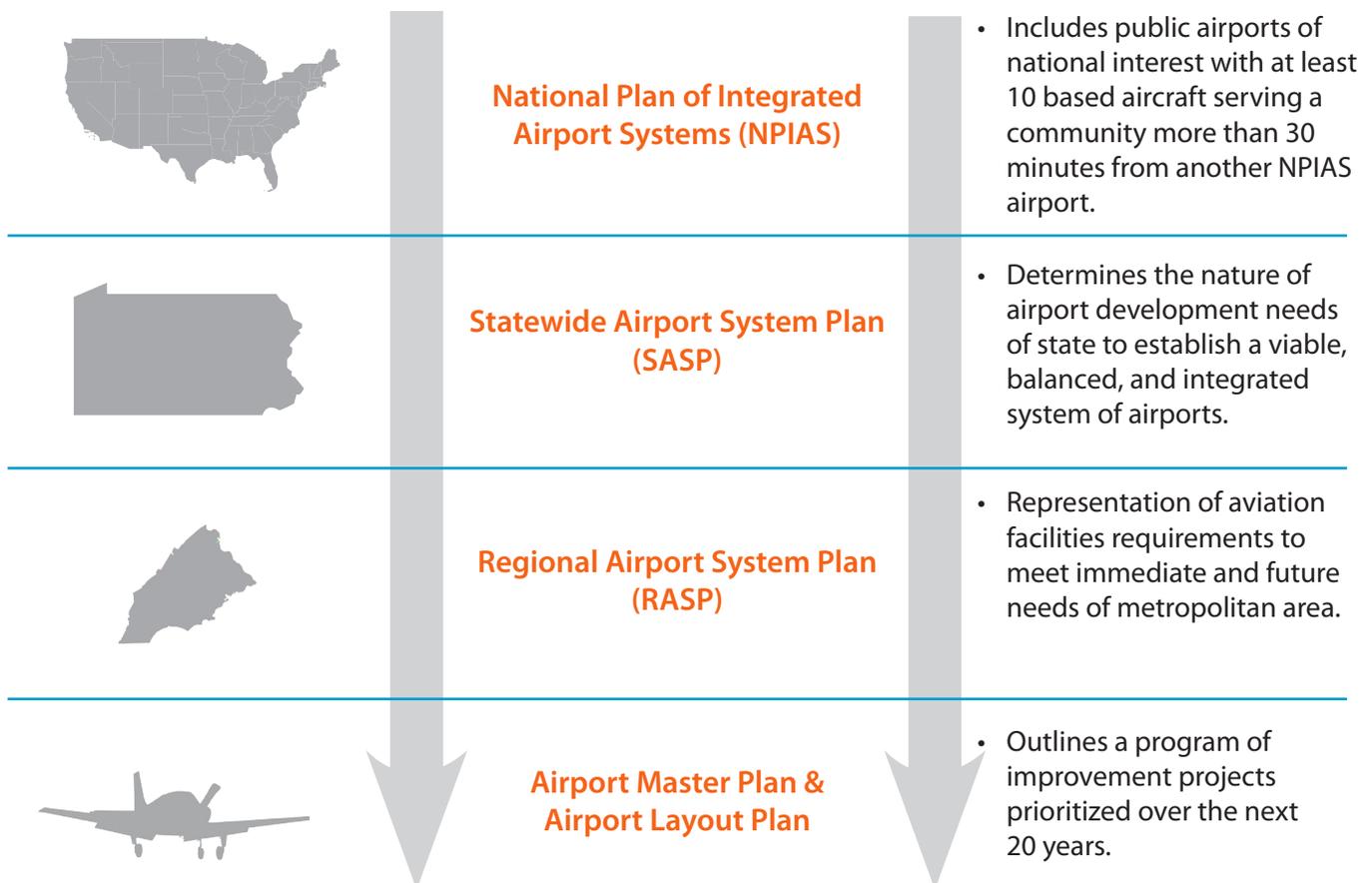
Airport planning goals:

- Determining airport purpose and role and documenting demand.
- Inventorying assets and providing graphic presentation of development/land use.
- Establishing a realistic schedule for proposed development implementation.
- Proposing an “achievable” financial plan to support proposed development.
- Justifying the plan technically and procedurally to present to the public.

## The Big Picture

*Plans are developed at the federal, state, regional, and local levels.*

Airport plans at all levels are integrated so that improvement projects at each airport help achieve cohesive progress toward larger goals. The intent is to maximize the benefits of available funding.



# Statewide Airport System Plan

*Analyzes how Pennsylvania airports measure up against key criteria and helps prioritize improvements from a system-wide view*

The Statewide Airport System Plan (SASP) is a comprehensive study that provides BOA with the tools to make decisions about the performance, enhancement, and promotion of Pennsylvania’s air transportation system. The role of each airport within the system is defined, and standards are established for airports of various types and categories. Projects that help airports get up to par are given a higher priority for funding.

**Pennsylvania Airport Standards and Criteria by Category (from 2007 SASP)**

Amenity/Service <sup>1</sup>	Commercial Service <sup>2</sup>	Advanced	Intermediate
Runway Length	5,000 ft	4,500 ft	3,800 ft
Runway Width	ARC C-II	ARC B-II	ARC B-II
Runway Strength	>60,000 lbs SW	>30,000 lbs SW	>12,500 lbs SW
Taxiway	Full parallel	Full parallel	Full parallel
NAVAIDS	200 ft & 1/2 mile	400 ft & 3/4 mile	600 ft & 1 mile
Approach Aids	Beacon, wind cone, REILS, PAPIs, MALSR	Beacon, wind cone, REILS, PAPIs, ALS	Beacon, wind cone, REILS, VGSIs
Runway Edge Lights	HIRLs	HIRLs or MIRLs	MIRLs
Weather	ASOS/AWOS	ASOS/AWOS	ASOS/AWOS
Facilities	FBO, phone, bathroom, jet fuel, repairs, ground transportation	FBO, phone, bathroom, jet fuel, repairs, ground transportation	FBO, phone, bathroom, jet fuel, repairs, ground transportation
Services	Aircraft & auto parking, storage, terminal	Aircraft & auto parking, storage, terminal	Aircraft & auto parking, storage, terminal

<sup>1</sup>Amenity/Service criteria categories are from the 2002 SASP  
<sup>2</sup>Commercial Service airports must also have a CFR Part 139 Class I, II, or III Certification

 **The SASP establishes standards and criteria for airports by category and analyzes how Pennsylvania’s airports measure up.** 

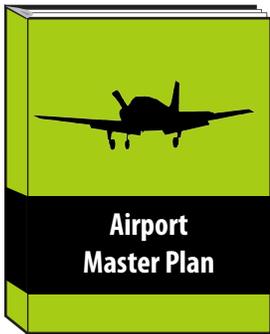
## Improvements in the “State of the System,” 2007 - 2012

Amenity/Service	Commercial Service		Advanced		Intermediate	
	2007	2012	2007	2012	2007	2012
Runway Length	100%	100%	100%	100%	43%	48%
Runway Width	100%	100%	100%	100%	62%	71%
Runway Strength	73%	80%	73%	100%	71%	95%
Taxiway	73%	87%	80%	93%	43%	67%
NAVAIDS	73%	93%	40%	47%	62%	76%
Approach Aids	67%	93%	33%	53%	52%	62%
Runway Edge Lights	100%	100%	100%	100%	71%	81%
Weather	100%	100%	100%	100%	52%	71%
Facilities	100%	100%	100%	100%	76%	95%
Services	100%	100%	100%	100%	57%	90%

Note: Details on all five airport classifications, including “Basic” and “Limited,” are provided in the full SASP, available on the BOA website.

## Required Airport-Level (Local) Plans

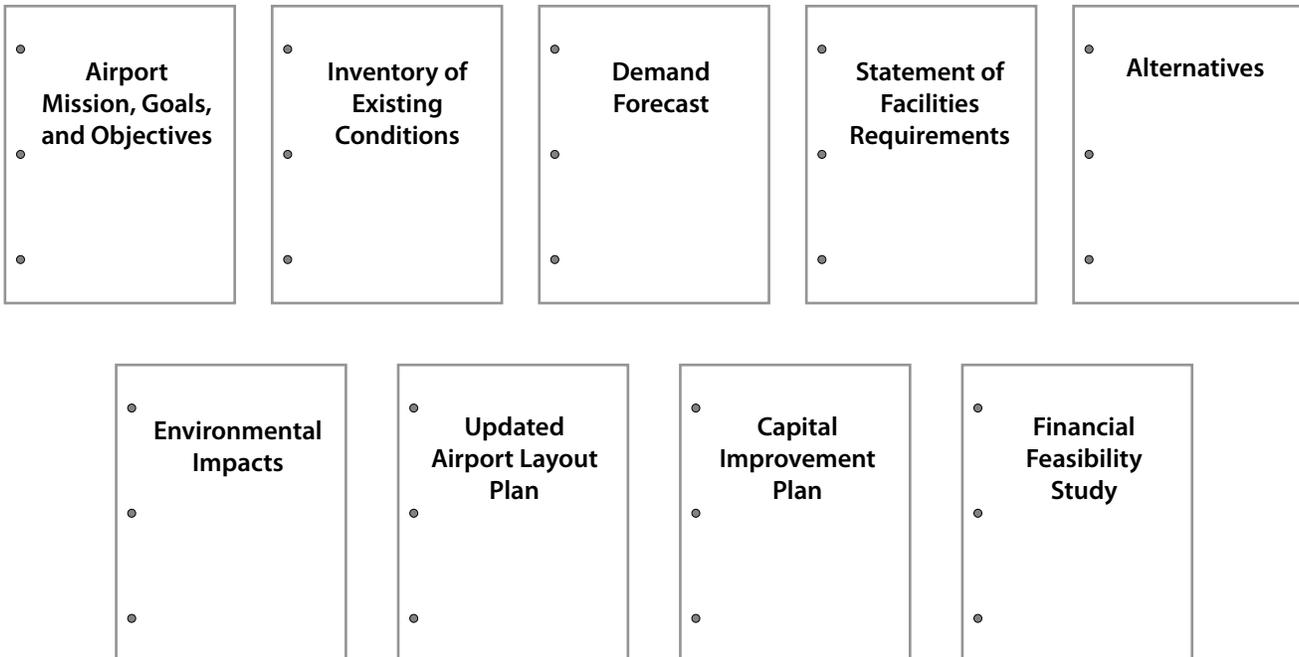
○	Airport Master Plan
○	Airport Layout Plan
<p><i>See Programming section for Capital Improvement Plan, Transportation Improvement Plan, and Four-Year Plan.</i></p>	



### Airport Master Plan

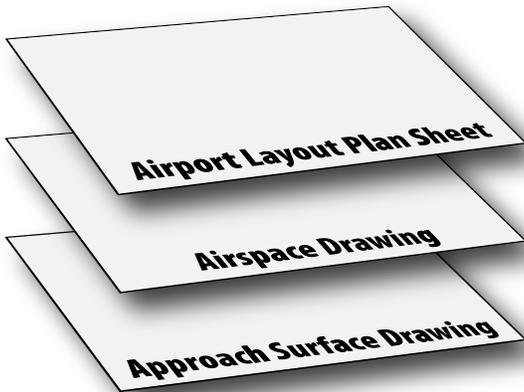
*Outlines a program of improvement projects prioritized over the next 20 years*

- developed through robust stakeholder and public involvement
- considers airport needs in the near-term (within 5 years), mid-term (within 10 years), and long-term (within 20 years)





3 to 14 sheets  
included in ALP  
drawing set:



# Airport Layout Plan (ALP)

*Depicts existing facilities and proposed development*

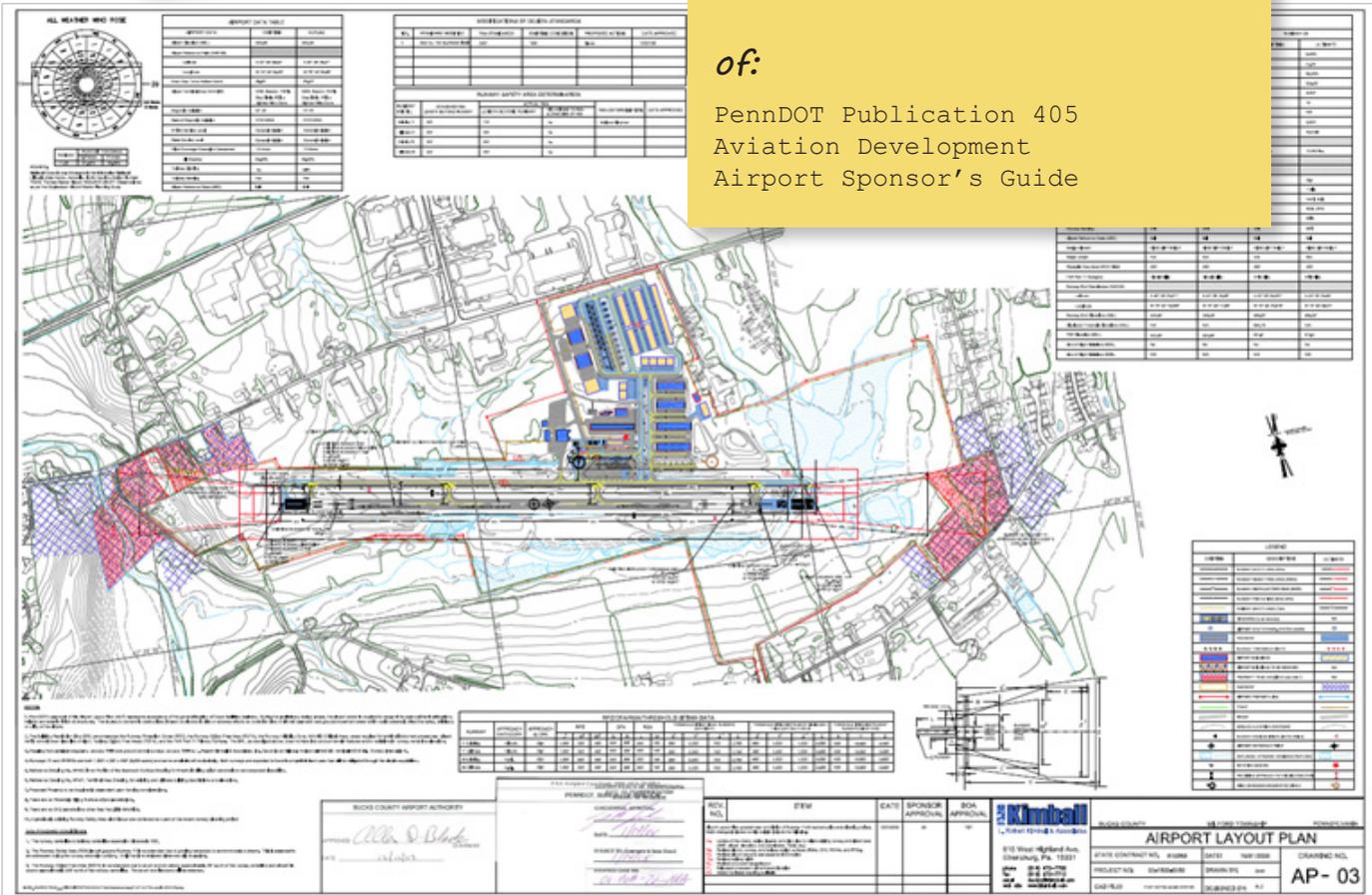
- Airport’s plan—but an official federal document
- Must be on file with BOA to be considered for funding
- Only development depicted on an approved ALP is eligible for federal funding
- Approved by the airport sponsor and the FAA/BOA via the State Block Grant Program
- A public document that is updated every 5 to 10 years
- Facilitates planning and programming, community and airport land use decisions, and protection of airspace

*For details go to:*

- Section 3.1.1  
Airport Layout Plans
- Section 3.1.2  
Airport Master Plans

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor’s Guide

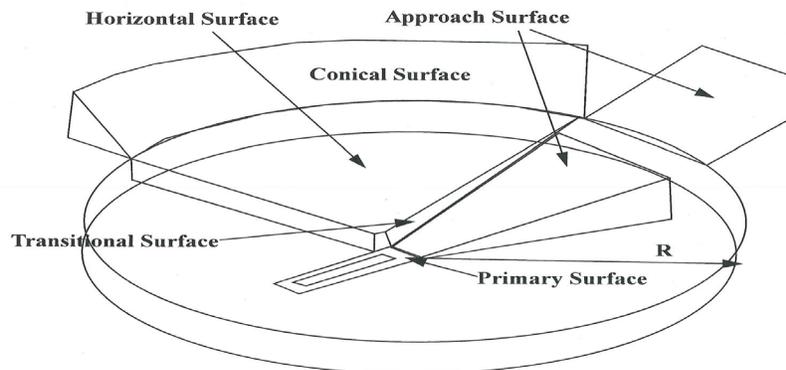


## Airport Hazard Zoning

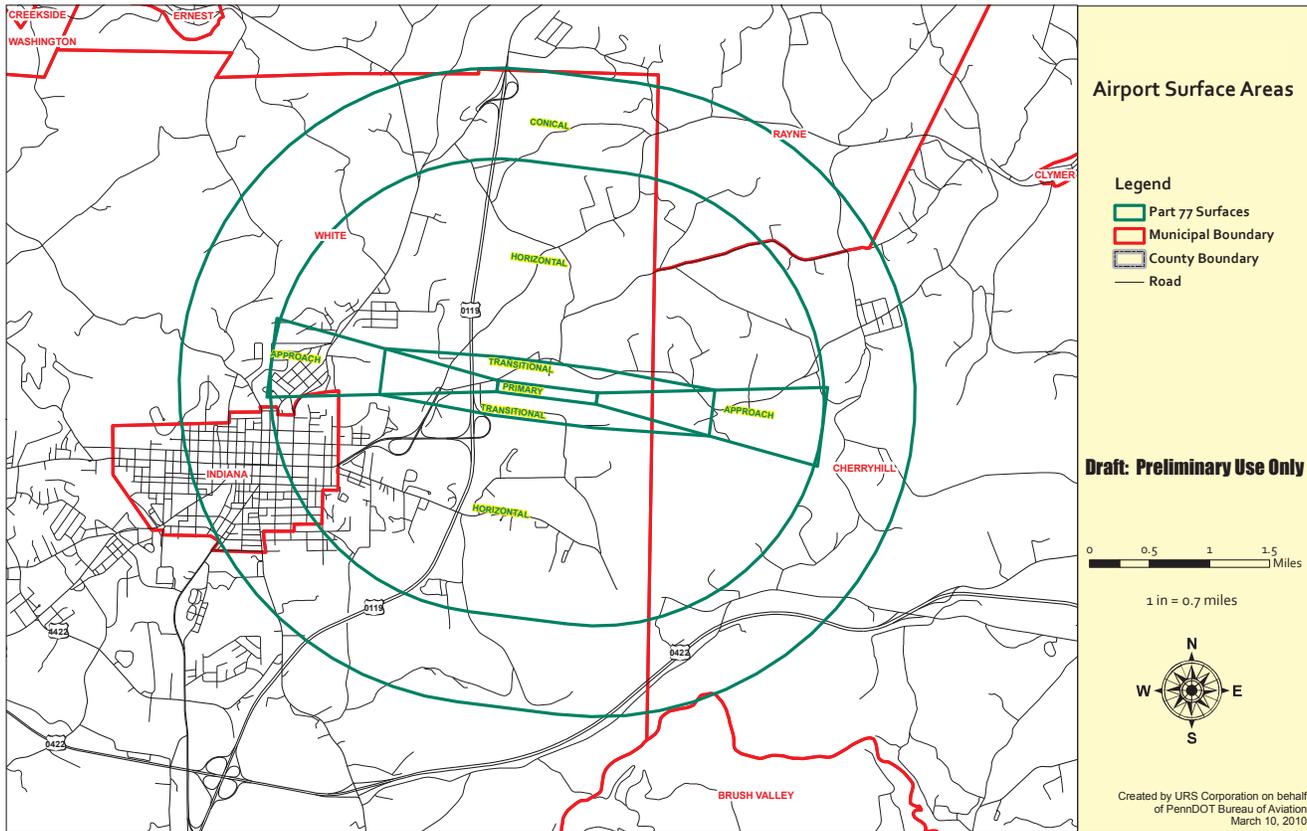
*Airport Hazard Zoning is an important planning tool designed to protect critical airspace around an airport.*

### Why is Airport Hazard Zoning important?

- To preserve Pennsylvania's links to the national air transportation network.
- To maximize the economic impact generated by local airports and the business resources they bring to a community.
- To preserve open space as a public asset and provide a measure of safety on and around the airport.
- To comply with Pennsylvania's Airport Zoning Act 164 of 1984 which requires municipalities to regulate the height of objects near airports.



**Airport hazard zoning includes identifying “Part 77 Surfaces,” shown above and on the following page. These angled geometric planes indicate the maximum height of buildings and other obstructions surrounding the airport to facilitate safe approaches and departures.**



Airports accepting aviation grant funding are required to take appropriate action, to the extent reasonable, to work with their communities to adopt airport hazard zoning and promote compatible land use.

*For details go to:*

- Section 3.1.3  
Airport Hazard Zoning and  
Compatible Land Use

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

*and:*

- [BOA website > Planning & Zoning > Airport Zoning and Compatible Land Use](#)

## Programming

Programming uses airport planning to develop a prioritized list of projects that can be completed with available funding.

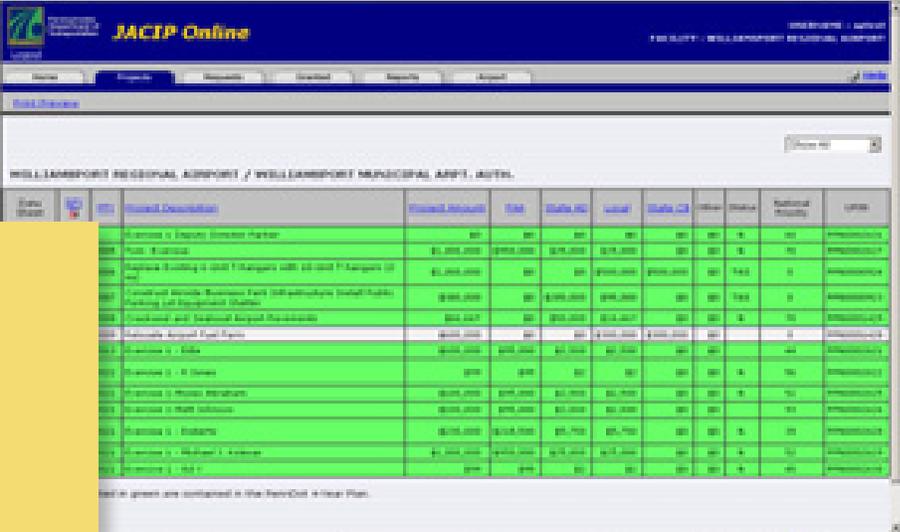
Airport programming involves collaboration among BOA, FAA, airports, and consultants to:

- Verify that proposed projects are eligible for federal/state funding.
- Ensure projects are consistent with the goals of various plans.
- Scope, score, and rank priority projects.
- Balance costs and benefits to produce the greatest value with limited funds.

## JACIP – Joint Automated Capital Improvement Program

*A web-based tool to help track Pennsylvania's aviation programming*

JACIP is used by airport sponsors, BOA, and FAA to manage their interrelated planning and programming responsibilities.



The screenshot displays the JACIP Online web application. At the top, there is a navigation menu with options like Home, Projects, Requests, Grants, Reports, and Logout. Below the menu, there is a search bar and a table of project data. The table has columns for Project ID, Project Description, Planned Amount, and various status indicators. The data is filtered to show projects for 'WILLIAMSPORT REGIONAL AIRPORT / WILLIAMSPORT MUNICIPAL AIRPT, AUSTE'.

Project ID	Project Description	Planned Amount	Year	Status	Priority	Notes
0001	Access to Boarding Gate	\$1,000,000	2014	Planned	1	
0002	Access to Boarding Gate	\$1,000,000	2015	Planned	1	
0003	Access to Boarding Gate	\$1,000,000	2016	Planned	1	
0004	Access to Boarding Gate	\$1,000,000	2017	Planned	1	
0005	Access to Boarding Gate	\$1,000,000	2018	Planned	1	
0006	Access to Boarding Gate	\$1,000,000	2019	Planned	1	
0007	Access to Boarding Gate	\$1,000,000	2020	Planned	1	
0008	Access to Boarding Gate	\$1,000,000	2021	Planned	1	
0009	Access to Boarding Gate	\$1,000,000	2022	Planned	1	
0010	Access to Boarding Gate	\$1,000,000	2023	Planned	1	

For details go to:

- Section 3.2.1 Program Management System - JACIP

of:

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

and:

- [JACIP User Guide](#)
- [jacip.dot.pa.gov](http://jacip.dot.pa.gov)

JACIP is....

- an aviation project programming tool with many automated features such as project coding and scoring capabilities.
- a simplified, user-friendly data entry port for electronic submission of Twelve-Year Plans and Datasheets.
- an Internet database application that tracks, analyzes, and reports on airport capital improvement data as well as other planning-related information such as airport facility and services inventory.
- an efficient mechanism to share real-time information on airport development needs and proposed projects included in the Four-Year Plan.
- a flexible report generator for both individual airport or statewide analysis.
- a repository of state system plan and zoning information.



# BOA Annual Programming Schedule

*The state-level Twelve-Year and Four-Year Plans (TYP/FYP) are updated and reprioritized every year.*

**START**  
The process begins in late summer



JANUARY	<b>2. Development</b> BOA uses airport TYPs & FYPs to develop the statewide Four- Year Plan, ranking projects according to the FAA’s National Priority Rating criteria and BOA’s selection criteria.
FEBRUARY	
MARCH	<b>3. Verification</b> Airport sponsors and planning partners review and comment on the draft FYP.
APRIL	<b>4. Approval</b> The updated and verified FYP is presented to PennDOT’s Program Management Committee and the State Transportation Commission for approval.
MAY	
JUNE	
JULY	★ <b>Grant offer and award process begins</b>
AUGUST	<i>Programming must be “fiscally constrained,” meaning total project costs must not exceed total expected funding.</i>
SEPTEMBER	
OCTOBER	
NOVEMBER	
DECEMBER	

**1. Planning and Submission**

BOA conducts annual mandatory planning sessions each fall with airport sponsors wishing to apply for federal and/or state aviation grant funding.

Airport sponsors develop and refine their Four- and Twelve-Year Plans, which include complete and accurate cost estimates and other project details.

★ **by December 1 - Airport sponsors submit their Four- and Twelve-Year Plans to BOA via JACIP**

- BOA administers three grant programs and a real estate tax reimbursement program.
- Grants are for public-use airports only.

## Overview of Grant Programs

Grant	State Block Grant Program (SBGP)	Aviation Development Program (ADP)	Capital Budget Program
Also Known As	Airport Improvement Program (AIP)		Transportation Assistance Program (TAP)
What is the funding source?	Taxes collected nationally on airline tickets, freight waybills, international departure fees, and aviation fuel sales deposited into the FAA Trust Fund. <sup>1</sup>	Taxes collected on jet fuel sales deposited into Pennsylvania's Aviation Restricted Account	Commonwealth's General Fund's Transportation Assistance Program
Who is eligible?	Non-primary General Aviation Airports included in the National Plan of Integrated Airport Systems	Public-Use Airports	Public-use/publicly-owned airports with active Capital Budget Act projects
How are proposed projects evaluated?	FAA Order 5100.39, Airports Capital Improvement Plan, and FAA Order 5100.38C, The Airport Improvement Program (AIP) Handbook	Provisions of the Aviation Code (74Pa.C.S. Part II), BOA's aviation grant regulations, and <a href="#">State Project Selection Criteria Guidelines</a>	Provisions of the Aviation Code (74Pa.C.S. Part II), BOA's aviation grant regulations, and <a href="#">State Project Selection Criteria Guidelines</a>
What is the funding split?	Funds may be allocated up to 90 percent of the total cost of an eligible project at an SBGP airport.	Funds may be allocated up to 90 percent of the total cost of an eligible project, or 50 percent of the non-federal share of a federally funded project. <sup>2</sup>	<ul style="list-style-type: none"> <li>• Federally eligible projects: up to 75 percent of non-federal share</li> <li>• Non-federally eligible projects: up to 50 percent of the project cost</li> </ul>
What is the deadline for requesting funding?	December 1 via JACIP	December 1 via JACIP	December 1 via JACIP
What is the funding fiscal year?	October 1 to September 30	July 1 to June 30	July 1 to June 30
When is the funding typically available?	in spring of fiscal year	July	July
When are Tentative Allocations (TAs) sent?	March/April	July	September/October
What is the length of the grant?	3 years	3 years	3 years

<sup>1</sup> Airport Improvement Program (AIP) is the source of SBGP funds.

<sup>2</sup> 90 percent funding is generally reserved for approved "Safety" related projects. "Non-safety" projects are generally limited to 50-75 percent of the project cost.

## Eligible Projects

*Projects eligible for funding under BOA-administered aviation grant programs generally include:*

<p><b>Planning</b></p>	<ul style="list-style-type: none"> <li>• Airport Master Plans</li> <li>• Airport Layout Plans</li> <li>• Feasibility studies</li> <li>• Benefit/cost analyses</li> <li>• Environmental studies</li> <li>• Noise and land use studies</li> <li>• Wildlife hazard assessments</li> </ul>
<p><b>Airport Development and Improvement</b></p>	<ul style="list-style-type: none"> <li>• Construction, Improvement, or Repair of airport facilities, such as runways, taxiways, aprons, lighting, public areas of terminal buildings, other building structures for airport operational use, access roads, and airport navigational facilities</li> <li>• Safety-related projects such as obstruction removal</li> </ul>
<p><b>Land Acquisition</b></p>	<ul style="list-style-type: none"> <li>• Land acquisition required for eligible airport development</li> <li>• Land interests required for approach and clear zone purposes</li> </ul>
<p><b>Pavement Maintenance/ Rehabilitation</b></p>	<ul style="list-style-type: none"> <li>• Crack sealing</li> <li>• Patching</li> <li>• Seal coating</li> <li>• Pavement repairs</li> <li>• Joint sealing, including sealing equipment</li> </ul>

### *Ineligible projects:*

- Emergency planning
- Landscaping, unless an incidental part of an eligible project
- Buildings for non-aviation use
- Routine airport or building maintenance projects other than the pavement maintenance or rehabilitation noted above

# dotGrants

*PennDOT's web-based tool to manage grant offers, awards, and payments*



*The electronic grant management system was designed to assist applicants in effectively organizing and managing online grant and grant-like requests for funding, allocation, and distribution.*

*To access dotGrants go to:*

- [www.dot34.state.pa.us](http://www.dot34.state.pa.us)

*For details go to:*

- Section 4.1.1  
Grant Management System

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

# Grant Tentative Allocation and Award Process

**Project datasheet includes:**

- Narrative with project description, purpose and need, method of accomplishment, and anticipated benefits
- Refined cost estimate
- Sketch depicting proposed development

**Tentative Allocation prerequisites include:**

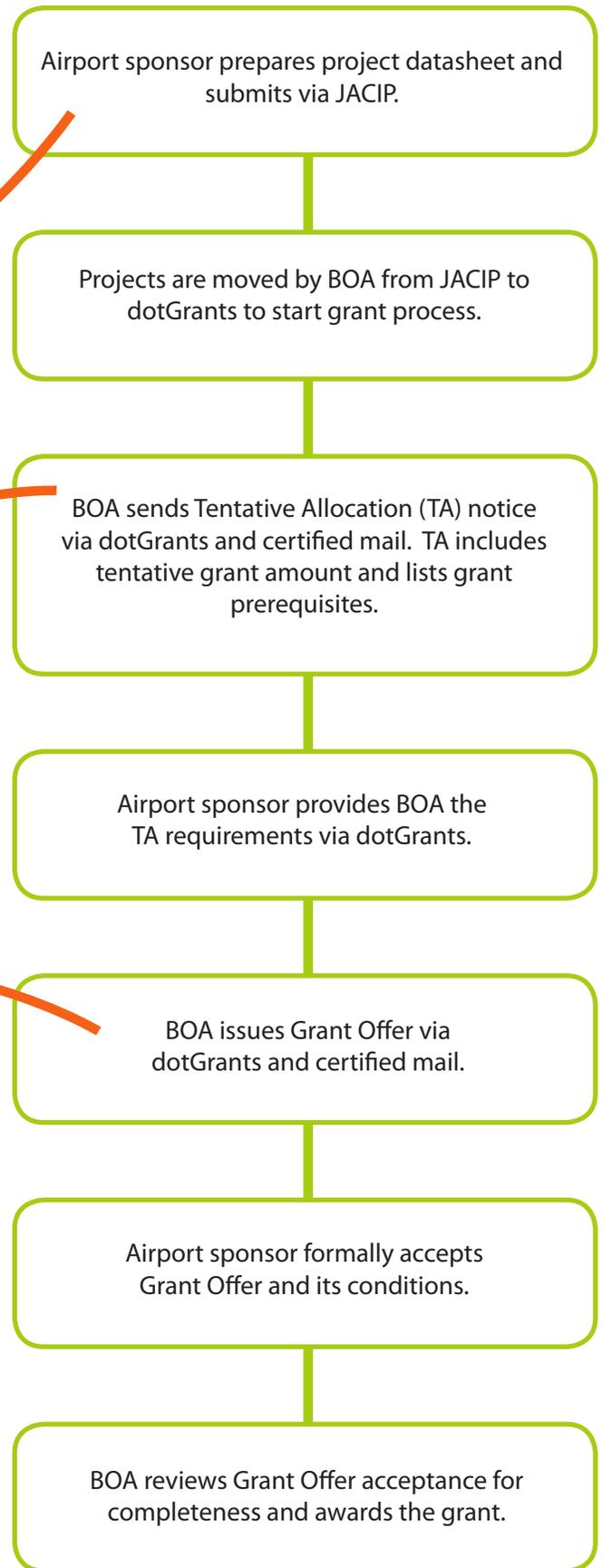
- Environmental clearances received
- 7460 airspace determination complete
- Local permits secured
- Other prerequisites, including bids, completed

**Grant Offer includes:**

- Grant Agreement
- Forms: Prospectus, Project Cash Flow, Project Schedule
- Federal and State Grant Assurances

*Actual signatures are required only on the authorization resolution letter.*

*Electronic signatures are accepted for all other grant documents.*



# Grant Payments

As project costs are incurred, Airport Sponsor submits Request for Reimbursement (RFR) via dotGrants.

typically within 30 days

BOA approves RFR and makes electronic payment.

Airport sponsor must pay its consultants and contractors within 30 days of receipt of payment.

Request for Reimbursement includes:

- Invoice Certification Form
- Project Cost Summary Form
- Indication of whether it is the final payment
- Payment Voucher Form

*Additional documentation is required for planning, development, land acquisition, and force account reimbursement requests.*

*For details go to:*

- Section 4.1.2 Datasheet and Tentative Allocation
- Section 4.1.3 Grant Offer/Agreement
- Section 4.1.4 Grant Payments

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

## Grant Management

*Airport sponsors must keep detailed records on costs, grant funding received, and how the money was spent. BOA or the FAA may audit project records.*

<input type="radio"/>	Maintain project-specific accounting records.
<input type="radio"/>	Establish separate non-interest-bearing bank account (grant money doesn't mix with operating funds).
<input type="radio"/>	Retain all project financial documents for three years.
<input type="radio"/>	Keep records demonstrating compliance with grant requirements for involvement of Disadvantaged Business Enterprises, Minority-Owned Business Enterprises, and Woman-Owned Business Enterprises (DBE/MBE/WBE).

*For details go to:*

- Section 4.2 Grant Management

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

## Grant Close-Out

*Certain items must be submitted to BOA at administrative close-out of the project:*

<input type="radio"/>	Record drawings (for construction projects)
<input type="radio"/>	Certifications—Sponsor Certification of Real Property Acquisition and/or Sponsor Certification for Construction Project Final Acceptance
<input type="radio"/>	Revised Property Map and copy of recorded deeds (for land/easements)
<input type="radio"/>	Summary of test results
<input type="radio"/>	Property accountability (inventory of equipment purchased with a grant)

*For details go to:*

- Section 4.2.3  
Grant/Project Close-Out
- Appendix 8.5  
Grant Assurances - Federal
- Appendix 8.6  
Grant Assurances - State

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

# Real Estate Tax Reimbursement Program

*Allows for annual reimbursement of local real estate taxes paid by qualifying public airport owners*

## How to Apply

### What can be reimbursed?

Local real estate taxes on the portion of airport property with direct aviation use

### What is the funding source?

PA Aviation Restricted Account, which is funded through the aviation fuels sales tax

### What is the deadline?

February 1 for taxes paid in the previous calendar year

### For details go to:

- Section 2.2.4 Real Estate Tax Rebate Program

### of:

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

Airport sponsor submits a reimbursement request via dotGrants, including:

- Sketch delineating aviation-related areas
- A figure of the total acreage for which reimbursement is requested
- Copies of county, municipal, and/or school district tax receipts

BOA issues Grant Offer via dotGrants.

Airport sponsor formally accepts Grant Offer and its conditions.

Airport enters into a Grant Assurance agreement with BOA.

Project delivery means moving forward to complete a capital improvement project, from detailed planning through design and construction.

## Disadvantaged Business Enterprise (DBE) Requirements

*Airport sponsors must comply with state and federal requirements for involving disadvantaged businesses in project delivery. Compliance is a condition of grant funding.*

Program and Source of Information	
○	<b>Disadvantaged Business Enterprise (DBE)</b> <i>FAA Office of Civil Rights and                      PennDOT Bureau of Equal Opportunity, DBE/Title VI Division</i>
○	<b>DBE, Small Business Element (SBE)</b> <i>PennDOT Bureau of Equal Opportunity, DBE/Title VI Division</i>
○	<b>Minority-Owned/Woman-Owned Business Enterprise (MBE/WBE)</b> <i>Pennsylvania Department of General Services (DGS),                      Bureau of Small Business Opportunities</i>
○	<b>Equal Employment Opportunity (EEO)</b> <i>PennDOT Bureau of Equal Opportunity</i>

**PennDOT’s Bureau of Equal Opportunity can provide overall compliance information.**

## Procurement

*Professional services such as planning, engineering, construction, legal, appraisal, or audit are either procured through formal or “informal” selection.*

Formal Selections for Professional Services <i>Airport sponsor must:</i>	
<input type="radio"/>	Establish a selection board.
<input type="radio"/>	Develop selection criteria with rating factors.
<input type="radio"/>	Publish a solicitation announcement.
<input type="radio"/>	Engage a consultant to develop an Independent Fee Estimate (IFE).
<input type="radio"/>	Shortlist and rank qualified firms.
<input type="radio"/>	Begin negotiations with first choice firm, using IFE as starting point.
<input type="radio"/>	Submit a record of negotiations to BOA.
<input type="radio"/>	Submit a draft Engineering Services Contract for BOA review and revise as needed.
<input type="radio"/>	Submit executed Engineering Contract and Engineering Contract Checklist to BOA.

Contracts may qualify for informal selection if less than \$100,000 and not part of a larger contract.

“Informal” Selections for Professional Services <i>Airport sponsor should:</i>	
<input type="radio"/>	Develop a scope of services.
<input type="radio"/>	Identify three firms or suppliers.
<input type="radio"/>	Negotiate with best qualified firm.
<input type="radio"/>	Submit proposed contract to BOA for approval.

*All contracts must contain specific provisions to meet funding requirements. Contracts and agreements should always be approved by BOA before being executed.*

*For details go to:*

- Section 5.1  
 Consultant Selection -  
 Engineering Agreements

*of:*

PennDOT Publication 405  
 Aviation Development  
 Airport Sponsor’s Guide

## Initial Administrative Steps

### Planning Projects

Airport planning projects may include:

- Master Plan Reports
- Airport Layout Plan Updates
- Site/Alternatives Selection Studies
- Environmental Studies
- Obstruction Studies
- Benefit/Cost Analysis
- FAR Part 150 Noise Studies (FAA retains oversight)

*For details go to:*

- Section 5.2  
Planning Projects
- ALP Checklist

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide



### Technical Steps for Master Plan/Airport Layout Plan Projects



Forecasts are a formal step in the process and must be approved by BOA before the sponsor can proceed to the next step.

*For details go to:*

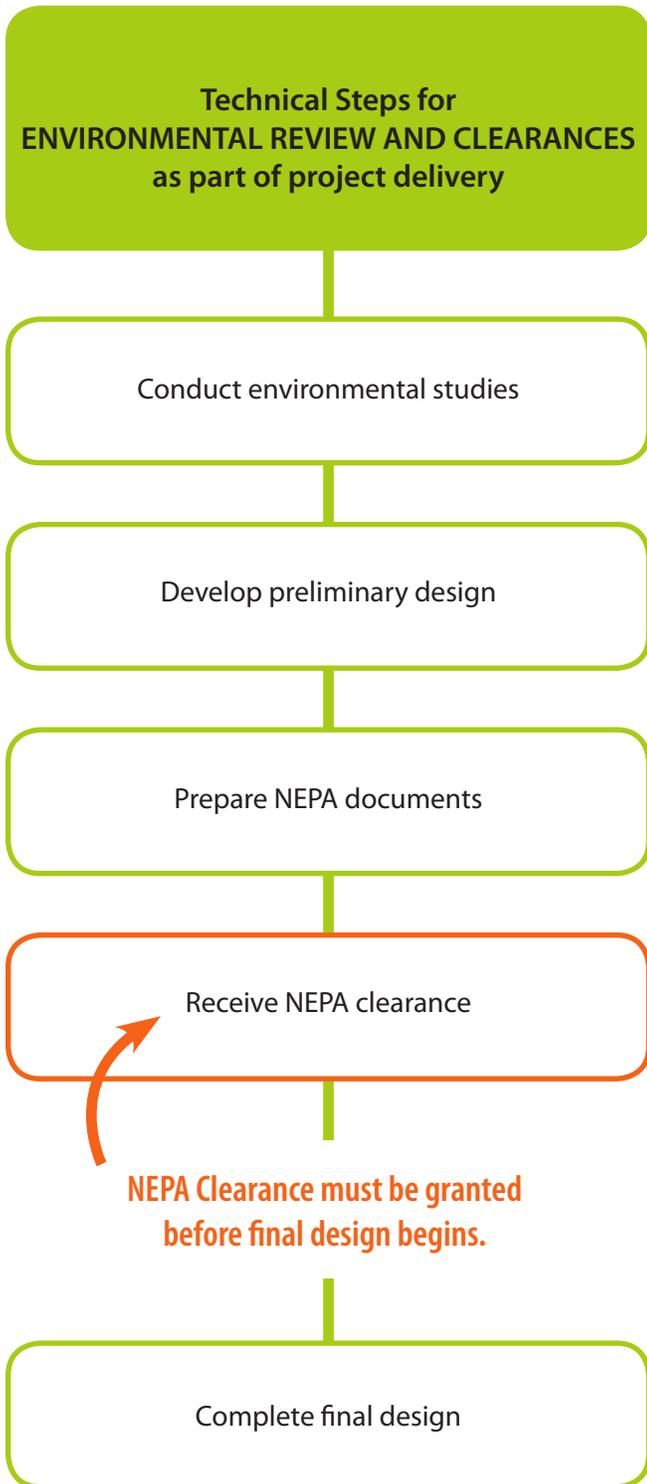
- Section 5.2  
Planning Projects

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

All ALPs must be developed in accordance with FAA's new GIS guidelines.

ALPs are official documents that must be "approved" by the FAA or SBGP designee. Changes to airfield and ALP must be annotated with an official Pen & Ink change and approved by BOA.



## Environmental Review

*All actions that are federally funded must undergo environmental review according to the provisions of the National Environmental Policy Act of 1969 (NEPA).*

Environmental reviews fall into three categories, from relatively simple to in-depth, depending on the severity of environmental impact expected:

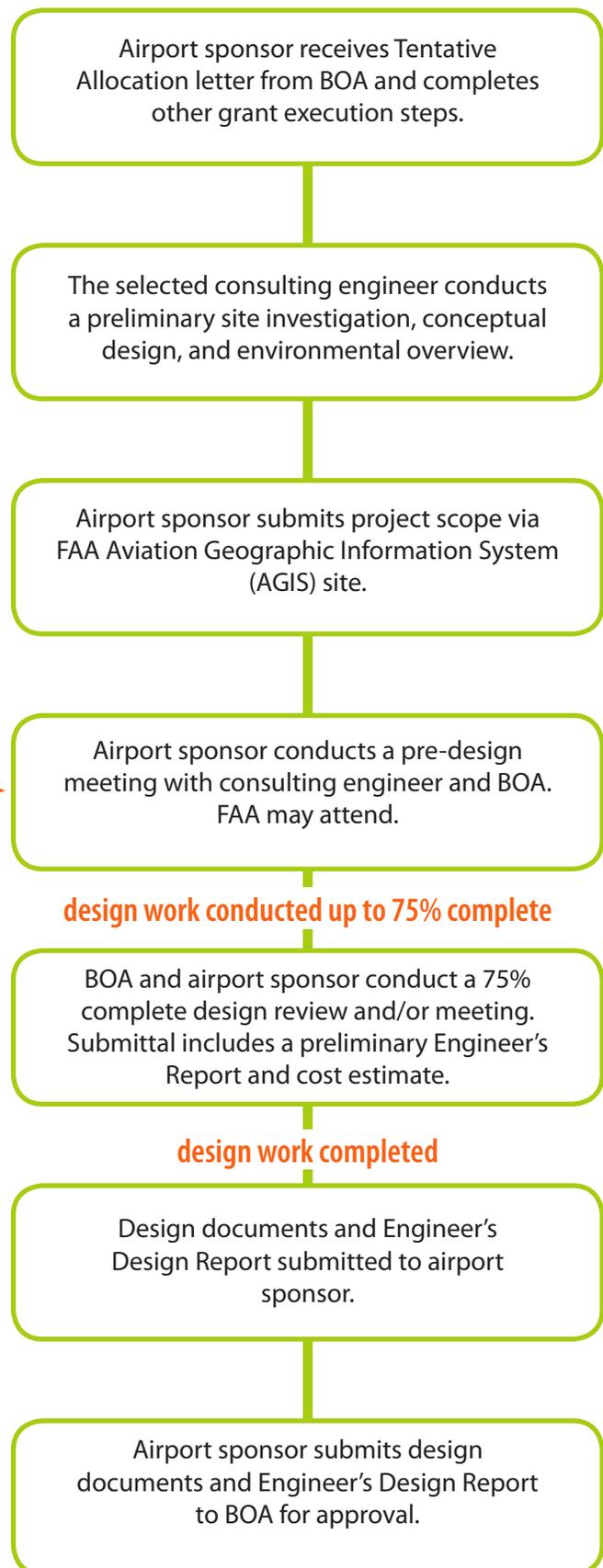
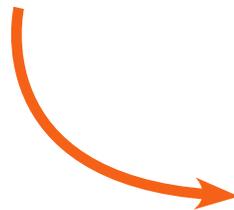
- **Categorical Exclusion** - Granted to actions or projects that do not individually or cumulatively have a significant effect on the human environment.
- **Environmental Assessment** - Prepared for actions that do not qualify for a Categorical Exclusion and do not appear to have significant impacts that would require an Environmental Impact Statement.
- **Environmental Impact Statement** - An EIS is prepared for proposed major federal actions or projects significantly affecting the environment. Following an EIS, a Record of Decision (ROD) is issued allowing the project to move forward under specified conditions or disallowing the project.

*A periodic review or audit of an airport's overall environmental compliance program is vital for maintaining compliance with NEPA and continuing to qualify for federal funding.*

## Design Projects

*Design projects involve specific milestones.*

The purpose of the pre-design meeting is to discuss the scope of work, design approach, methods, funding eligibility, safety considerations, schedule for design reviews and deliverables, and other items necessary for a successful project.



### *For details go to:*

- Section 5.4  
Design Projects

### *of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

## Engineer’s Design Report

*An Engineer’s Design Report is required for each BOA-funded airport development project as established in the consulting engineer’s scope of work.*

Engineer’s Design Report - The Big Picture	
○	Cover letter transmitting the report to BOA, highlighting any modifications that require approval.
○	General analysis of the project.
○	Reason for the design choices.
○	Explanation and justification of modification of FAA and/or PennDOT standards, if applicable.
○	Detailed construction cost estimate for each line item.

### Engineer’s Design Report typically addresses:

- Project data
- Site information
- Description of work
- Vertical alignment and transverse grades
- Condition of existing pavement
- Subsurface conditions
- Summary of test data
- Pavement design
- Site preparation
- Bulletins and Advisory Circulars
- Drainage design
- Structural design
- Lighting
- Runway marking
- Turfing
- Modification to Standards
- Sequence of Construction
- Sources of Material
- Availability of contractors
- Non-SBGP or ADP items
- Work by others
- Engineer’s estimate
- Environmental considerations
- Contract time
- Liquidated damages
- Construction inspection and testing

*A timely Engineer’s Report allows BOA to review and coordinate the design rationale, assumptions, standards, and modifications early in the design phase, and allows the engineer to make revisions without delaying the schedule.*

## Modification of Airport Design Standards (MOS)

*If the site or other considerations make conforming with state and federal standards impossible or unreasonable, modification of standards (MOS) may be requested through this process.*

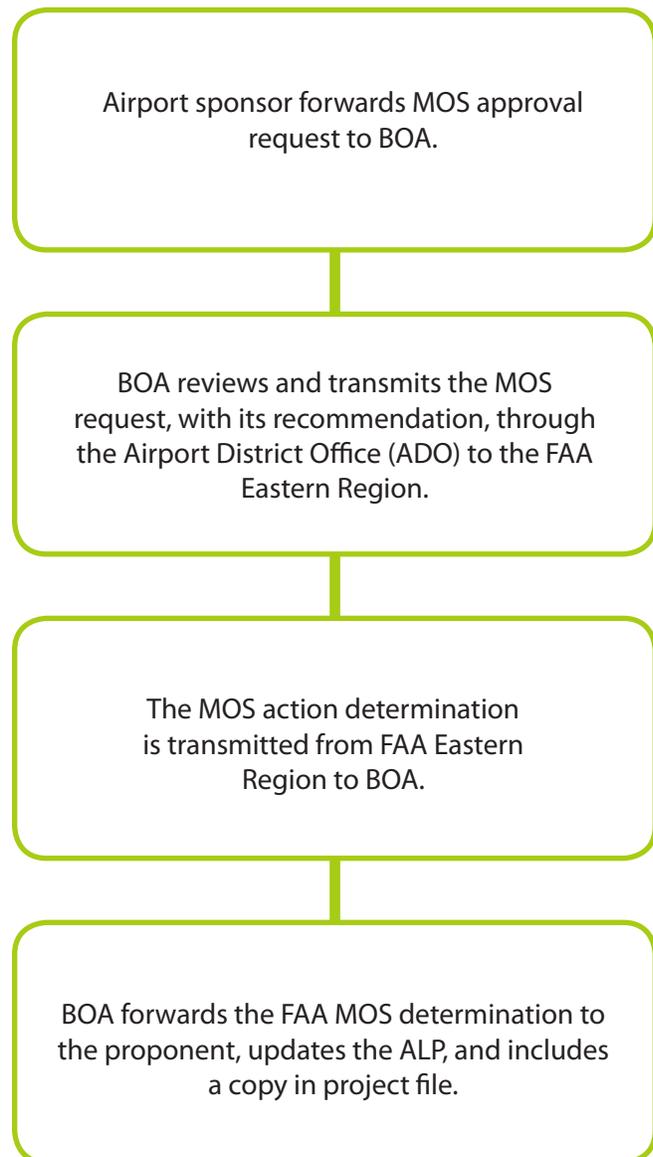
*The responsibility for project design in conformance with FAA and/or PennDOT standards and requirements rests with the airport sponsor and its consulting engineer.*

*For details go to:*

- Section 5.4.3  
Engineer's Design Report
- Section 5.4.4  
Modification to Design or Construction Standards

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide



## Construction Projects

*Steps can vary, but typically include:*



The BOA Design and Construction Project Checklist helps airport sponsors follow the steps in design and construction projects.

The checklist is intended for use with projects such as:

- Runway rehabilitation and construction
- Taxiway rehabilitation and construction
- Apron rehabilitation and construction
- SRE buildings
- Fuel facilities
- Hangars
- ARFF buildings
- Terminals
- RW/TW lighting
- NAVAIDS
- Obstruction removal
- Lighting and marking of obstructions
- Storm water management
- Access roads
- Utilities
- Waste water treatment plants
- Environmental mitigation projects
- Beacons
- Airfield marking
- Fencing
- AWOS

# Construction Safety

Construction Safety BEFORE CONSTRUCTION	
<input type="radio"/>	Develop Safety and Phasing Plan in accordance with FAA standards, include the plan in design documents, discuss at pre-design meeting
<input type="radio"/>	Airport Sponsor Certification for Project Plans and Specifications (BOA form)
<input type="radio"/>	Submission of FAA Notice of Proposed Construction or Alteration (7460), receipt of FAA Airspace Determination
<input type="radio"/>	Coordination with FAA, BOA, owner, ATA, airlines, tenants
<input type="radio"/>	Identify individual responsible for maintaining Notices to Airmen (NOTAM)
Construction Safety DURING CONSTRUCTION	
<input type="radio"/>	<p>Proactive coordination, using approaches such as:</p> <ul style="list-style-type: none"> <li>• Pre-construction meeting</li> <li>• Owner/Tenants/Operations/FAA ATC/AF coordination meetings</li> <li>• Airlines/cargo coordination meetings</li> <li>• Weekly construction meetings</li> <li>• Contingency plans</li> <li>• Periodic construction progress reports to FAA and/or BOA as determined at the pre-construction conference</li> <li>• NOTAMS maintenance</li> <li>• Implementation/follow-up of safety and phasing plans</li> </ul>
Construction Safety AFTER CONSTRUCTION	
<input type="radio"/>	Inspection of work prior to opening
<input type="radio"/>	Coordination with FAA, BOA, owner, tenants
<input type="radio"/>	Cancellation of NOTAMs
<input type="radio"/>	Update of signage plans/airfield charts



**A Safety and Phasing Plan should address impacts to:**

- FAA Air Traffic Control (ATC)
- FAA Navigational Aids (NAVAIDS)
- Airlines
- Air National Guard/Army National Guard operations
- Airfield operations
- Part 77 Surfaces

## Preconstruction Conference

### Who attends the pre-construction conference?

- A representative of the airport sponsor
- The airport manager, or operations officer, and Air Rescue firefighting personnel, where applicable
- Local permitting/approval agencies such as DEP, County Conservation District, planning commission, etc.
- The Project Manager/Engineer for the airport sponsor's consulting engineer
- The Resident Project Representative who will be on site during construction
- The contractor's and subcontractor's superintendents
- The testing lab representative, as appropriate
- Airport users, including:
  - FBOs, where applicable
  - Airline station managers, where applicable
  - An Air Transport Association (ATA) representative, where applicable
  - Military representative, where applicable
  - Airport users association representative
  - FAA representatives, where applicable
  - BOA Regional Project Manager

### What topics are covered?

- Scope
- Agenda
- Airport Sponsor/Consulting Engineer/Contractor/Funding Agency Responsibilities
- Execution of Contract
- Insurance Certificates
- Project Staffing
- Civil Rights Requirements
- DBE Requirements
- Subcontracting Approvals
- Material/Supplier Approvals
- Inspection and Testing Procedures
- Project Schedule
- Limits of Work
- Utilities (invite impacted utility companies)
- Water Supplies/Usage
- Project Estimates (dollars/time)
- Maintenance of Traffic (on-airfield and off-airfield)
- Safety
- Environmental Considerations and Mitigation
- Labor Compliance
- Unique Special Provisions (responsibility for issuance of NOTAMS)

## Resident Project Representative (RPR) Role

The airport sponsor’s engineer normally provides general observation for the construction phase of the project, and the airport sponsor must assure that the Resident Project Representative provides the full time observation needed, as applicable, during the project.

<input type="radio"/>	Monitor performance of the contractor, require correction of work that does not meet requirements of plans and specifications, and report serious problems to the airport sponsor and consultant.
<input type="radio"/>	Determine test locations, coordinate and observe testing.
<input type="radio"/>	Interpret plans and specifications.
<input type="radio"/>	Resolve minor problems.
<input type="radio"/>	Maintain project records.
<input type="radio"/>	Review and approve requests for payments to the contractor.
<input type="radio"/>	Conduct day-to-day construction observation.
<input type="radio"/>	Prepare Construction Progress and Inspection Reports.
<input type="radio"/>	Maintain a Resident Project Representative’s daily diary.
<input type="radio"/>	Maintain up-to-date records on amount of work performed and quantities of materials in place in accordance with contract.
<input type="radio"/>	Ensure the airport sponsor is provided weekly contractor pay-rolls for periodic review to ensure correct wages are being paid.
<input type="radio"/>	Contact the airport sponsor’s consulting engineer for advice and assistance when needed and when major problems arise.
<input type="radio"/>	Recommend to the consulting engineer when a change order or supplemental contractor agreement is required.
<input type="radio"/>	Ensure the contractor is following his Quality Control Plan.

*Construction oversight is one of the most critical elements for effective project management.*

# Airport sponsor construction management responsibilities

The airport sponsor is responsible for monitoring engineering and contractor performance during the project to assure that time schedules are being met, performance goals are being achieved, and there is compliance with all terms and conditions of the contractual agreements.

<input type="radio"/>	Notify BOA of any conditions or events that may affect the project schedule.
<input type="radio"/>	Notify BOA if project costs are anticipated to be over or under the budget by more than \$5,000 or 5% of the grant agreement amount.
<input type="radio"/>	Notify BOA if faulty design or construction is discovered and take the following action: <ul style="list-style-type: none"><li>• Determine the cause of the problem.</li><li>• Require the contractor to correct deficiencies.</li><li>• Report contractor's progress in correcting deficiencies to BOA.</li></ul>
<input type="radio"/>	Submit any proposed change orders or supplemental agreements to BOA for approval prior to execution or work initiation.

### *For details go to:*

- Section 5.5.7  
Construction Management  
Procedures

### *of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

During construction, BOA will monitor:	
○	Job Mix Formula reports and approvals (JMFs are approved in writing by the airport sponsor’s consulting engineer).
○	Test results and summary included in the progress report. Copies of test results must be submitted to BOA before final acceptance.
○	That the contractor’s quality control plan is reviewed and approved by the airport sponsor’s consulting engineer, and the Resident Project Engineer is verifying that the contractor is following the plan.
○	BOA Regional Project Manager will conduct site visits to check: <ul style="list-style-type: none"> <li>• construction progress</li> <li>• safety phasing precautions</li> <li>• contractor methods</li> <li>• status of NOTAMs</li> <li>• erosion and dust control measures</li> <li>• Resident Project Representative records</li> <li>• wage rates and EEO information posted</li> </ul>
○	That the consulting engineer’s project manager is making regular site visits and submitting proper records and documentation.

*For details go to:*

- Section 5.5.7  
Construction Management  
Procedures

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor’s Guide

## Final Inspections and Certification

*A final inspection is required for all development projects.*

### Who attends the final inspection?

- Representative of the airport sponsor and/or airport management
- Airport sponsor’s consulting engineer and RPR
- Representatives of the FAA (where applicable)
- Contractor (possibly major subcontractors)
- BOA Regional Project Manager and Regional Planner or Aviation Specialist as appropriate

Records Reviewed at Final Inspection	
<input type="radio"/>	A summary of acceptance test results, including contractor penalties, bonuses, etc.
<input type="radio"/>	A record of the contract performance time and liquidated damages incurred or extension granted.
<input type="radio"/>	A financial summary of the total expected costs by category (administrative costs, engineering costs, construction, etc.)

After Final Inspection <i>The airport sponsor submits to BOA:</i>	
<input type="radio"/>	Final inspection report
<input type="radio"/>	Airport Sponsor Certification for Construction Project Final Acceptance (BOA form)
<input type="radio"/>	Acceptance of Construction Work by Airport Sponsor (BOA form)

## Land Acquisition

*Acquiring land for airport projects requires professional services and specific administrative steps in addition to the actual purchase of land.*

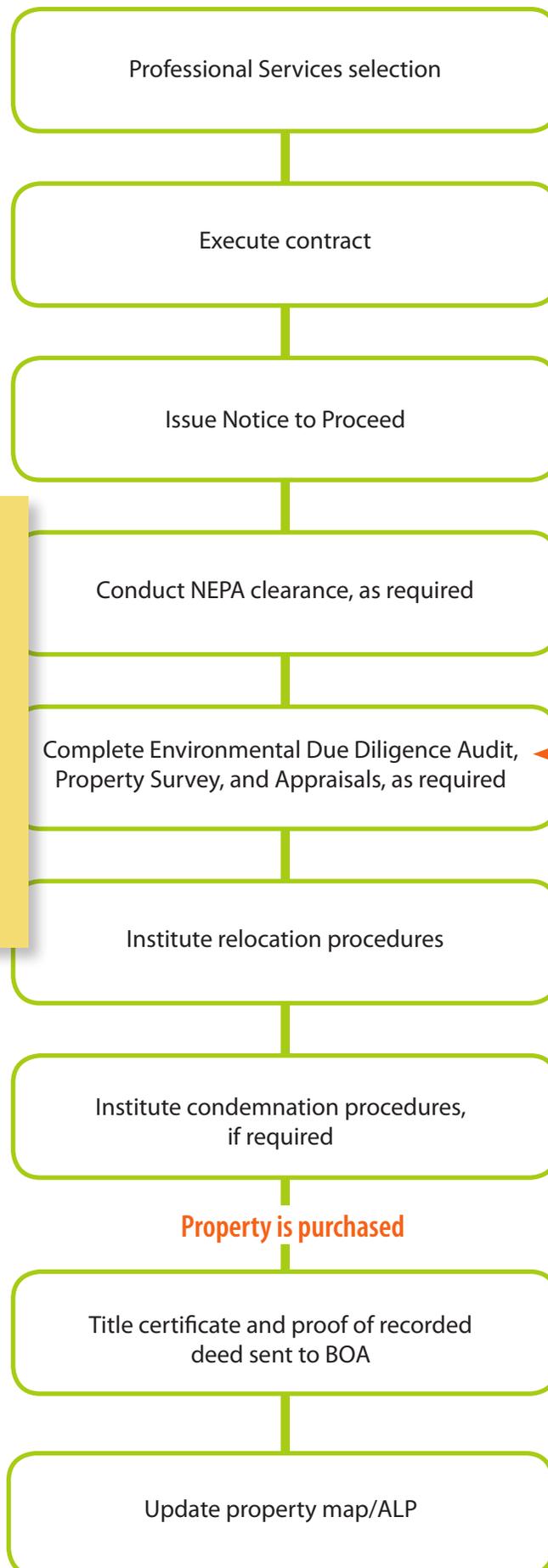
*For details go to:*

- Section 5.6 Land Acquisition - Land Release
- Land Acquisition Project File Checklist (Appendix 8.4.4)

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

*Use of federal funds for land obligates the airport to operate and remain open as an airport in perpetuity.*



**Two independent appraisals and one review appraisal are required.**

## Land Release

*Sale of airport property that is no longer needed must be executed according to these steps:*



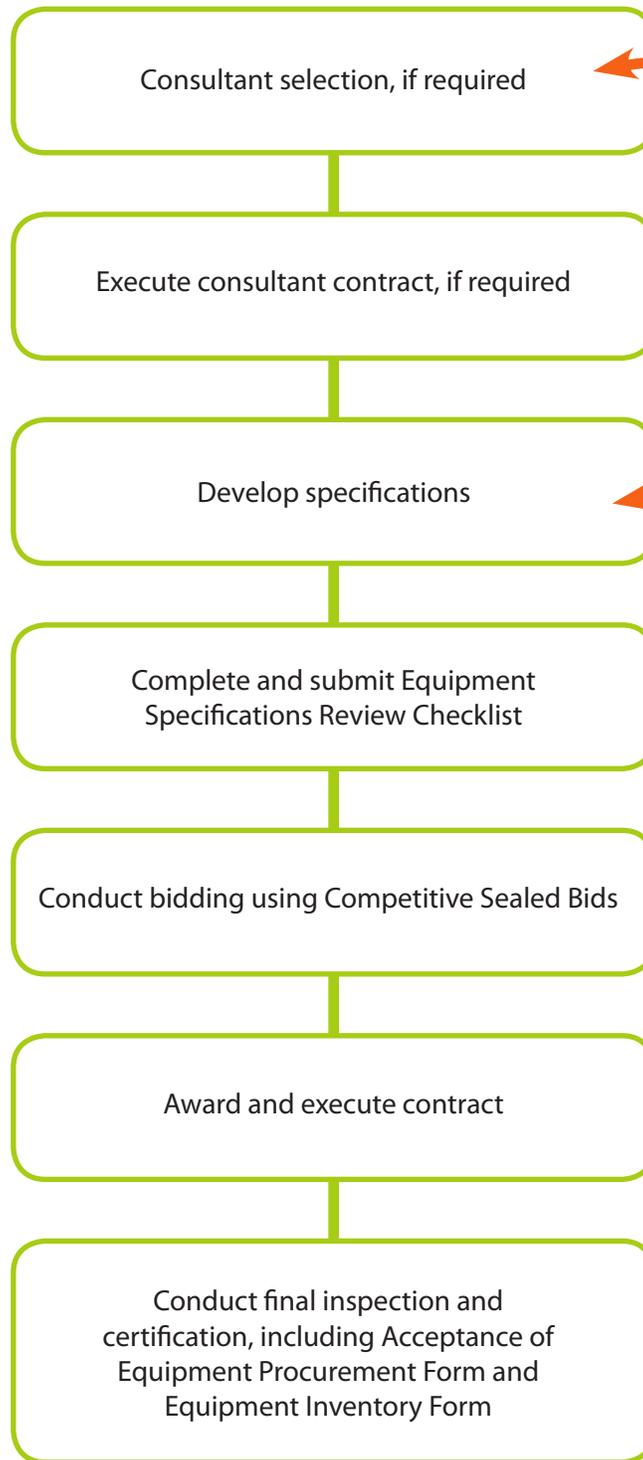
**Property must be sold at Fair Market Value. Deed restrictions prevent land uses that conflict with airport operations.**

# Equipment Acquisition

Grant-funded equipment purchases may include:

- Safety equipment, such as ARFF (Airport Rescue and Fire Fighting) vehicles
- Security equipment required by FAR Part 107
- Snow and ice control equipment
- Friction measuring devices

Normally equipment requiring installation is part of a construction contract.



Normally airports use a direct procurement method, but in some cases a consultant may be involved.

Reference the appropriate FAA Advisory Circulars in developing specs. Ensure that specifications encourage several bids.

*For details go to:*

- Section 8.4.3 Equipment Acquisition
- [COSTARS](#)

*of:*

PennDOT Publication 405  
Aviation Development  
Airport Sponsor's Guide

***BOA recommends that the Cooperative Purchasing Program (COSTARS) be the first option for equipment acquisition.***

Detailed information is provided in  
PennDOT Publication 405  
*Aviation Development Airport Sponsor's Guide*