U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Submission of On-Airport Proposals for Aeronautical Study	**Date:** 4/5/2023 **Initiated By:** AAS-100	**AC No:** 150/5300-20 **Change:**

1 **Purpose.**

This Advisory Circular (AC) provides guidance on submitting accurate, complete on-airport proposals so the Federal Aviation Administration (FAA) can conduct an aeronautical study.

2 **Applicability.**

The FAA recommends the guidelines in this AC for filing notice of construction or alteration located on a public use airport to satisfy 14 Code of Federal Regulations (CFR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*. This AC does not constitute a regulation, is not mandatory, and is not legally binding. This AC provides one, but not the only, acceptable means of meeting the requirements of 14 CFR Part 139, *Certification of Airports*. It will not be relied upon as a separate basis by the FAA for affirmative enforcement action or other administrative penalty. Conformity with this AC is voluntary, and nonconformity will not affect rights and obligations under existing statutes and regulations, except for projects funded under Federal grant assistance programs including, but not limited to, the Airport Improvement Program (AIP), Passenger Facility Charge (PFC) program, and Coronavirus Aid, Relief, and Economic Security Act (CARES) Airport Grants program.

3 **Related Documents.**

ACs and Orders referenced in the text of this AC do not include a revision letter, as they refer to the latest version.

4 **Where to Find this AC.**

You can view a list of all ACs at https://www.faa.gov/regulations_policies/advisory_circulars/. You can view the Federal Aviation Regulations at https://www.faa.gov/regulations_policies/faa_regulations/.

5 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.

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CONTENTS

Paragraph **Page**

CONTENTS

CONTENTS

Paragraph **Page**

FIGURES

CONTENTS

Paragraph **Page**

TABLES

CHAPTER 1. BACKGROUND AND RESPONSIBILITIES

1.1 Purpose.

1.1.1 This Advisory Circular (AC) describes the types of information, data, and supporting documents that facilitate a Federal Aviation Administration (FAA) aeronautical study. This AC is mandatory for airports projects described in the Applicability paragraph located on the cover page of this document. The FAA requires all public use airports to file notice under 14 Code of Federal Regulations (CFR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace,* for projects funded under the Federal grant assistance programs identified in the Applicability paragraph.

1.1.2 This AC uses the airport boundary, or the airport property line, to determine if the proposal is on or off airport property. A construction or alteration involving a closed area of airport property is treated as an on-airport proposal. Upon receipt of a notice of proposed construction or alteration on a public use airport from the sponsor, the FAA Office of Airports is responsible for initiating the coordination of an aeronautical study that may include the proposal's effect on:

1. Existing or planned traffic patterns of neighboring airports.
2. Existing airspace structure and projected programs of the FAA.
3. Safety of persons and property on the ground.
4. Existing or proposed manmade objects (on file with the FAA) and known natural objects within the affected area.

1.2 Regulations.

1.2.1 Any individual or entity proposing construction or alteration on a public use airport files notice with the FAA. The requirement to notify the FAA falls under Part 77.

1.2.2 This AC does not provide guidance for landing area proposals. 14 CFR Part 157, *Notice of Construction, Alteration, Activation, and Deactivation of Airports*, establishes standards and notification requirements for anyone proposing to construct or deactivate a civil or joint-use (civil/military) airport including proposals that alter the status or use of such an airport.

1.2.3 Notice required by Part 77 is pursuant to 49 United States Code (U.S.C.), Section 44718. Persons who knowingly and willingly violate the notice requirements of Part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C. § 46301(a).

1.2.4 14 CFR Part 77 requires notice for construction or alteration within the property line of the following airports and heliports:

1. A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U. S. Government Flight Information Publications.

2. A military airport under construction, or an airport under construction that will be available for public use.
3. An airport operated by a federal agency or the Department of Defense (DoD).
4. An airport or heliport with at least one FAA-approved instrument approach procedure.

1.3 **Purpose of the FAA Analysis.**

The aeronautical study determines the proposal's effects to air navigation. In addition, the aeronautical study will determine the proposal's effect on:

1. Safe and efficient use of navigable airspace, Part 77 obstruction standards, traffic patterns, instrument approach/departure procedures, visual approach surfaces, and future airport improvements.
2. Air navigation facilities or equipment, interference with navigation facilities, and air traffic control tower (ATCT) line of sight (LOS).
3. Airport design standards, runway and taxiway safety/object free areas (OFA), and object free zones.
4. Compatible land use and runway protection zones (RPZ).

1.4 **Responsibilities and Overview.**

The FAA's Office of Airports is responsible for processing, coordinating with other FAA Lines of Business (LOBs), and reviewing all on-airport proposals. The LOBs (and their respective Divisions, Branches, Sections and Units) have varying responsibilities specific to their area of expertise.

1.5 **Filing Notice.**

1.5.1 File the Notice via the FAA's Obstruction Evaluation Airport Airspace Analysis (OE/AAA) website at https://oeaaa.faa.gov, or submit a paper file by sending a completed FAA Form 7460-1 to the appropriate FAA Regional Office (RO) or Airports District Office (ADO). E-filing is preferred because:

1. It immediately assigns an aeronautical study case number.
2. It establishes an electronic communications link between the FAA and the sponsor.
3. It allows the sponsor to obtain project status notifications directly from this website.

1.5.2 The sponsor, when using the OE/AAA E-filing system, needs to provide the proper personnel contact information in the event there is a need for the filing of any notices to air missions (NOTAMs) during the project.

1.5.3 When E-filing, the FAA encourages sponsors to properly identify the project by selecting the component and development type that best describes the purpose of the

proposal. For example, if the project involves building a new hangar, the component is "hangar" and the development is "construction." List the proposal as "HANGAR-Construction" on the OE/AAA website. Correctly identifying the project eases future searches for this development.

1.6 **Analysis Process Timing.**

1.6.1 In accordance with Part 77, the sponsor provides at least 45 days' notice before the start date of the proposed construction or alteration or the date of the application for a construction permit is filed; whichever is earliest. Filing the notice 60-90 days before planned construction is highly recommended. The FAA encourages sponsors to file notices more than 90 days before planned construction, along with early coordination with the local ADO or RO for complex projects involving runways, taxiways, or navigational aid impacts. The aeronautical study process includes evaluations by various FAA LOB. There is no guarantee that a final agency determination will be issued at the end of 45 days. Part 77 does not carry provisions for waivers or exemptions. There is no method to shorten or bypass this process. Days mentioned in this section refer to working days.

1.6.2 The time necessary for the FAA to conduct a complete aeronautical study is dependent on multiple factors such as:

1. Data accuracy.
2. The proposal itself.
3. The proposed location.
4. The type and/or size of the airport.
5. Facilities on or planned for the airport (navigational, radar, communication, weather reporting, firefighting, etc.).
6. Existing or planned instrument approach/departure procedures.

1.7 **Methodology.**

1.7.1 The FAA's policy requires assigning each structure a separate aeronautical study number and conducting a separate aeronautical study. This may require evaluating several points of interest (POIs) for the aeronautical effects of a large area structure. The FAA studies each of these POIs individually and may possibly group POIs together into a single project. Refer to Appendix A and Appendix B for examples regarding selecting POIs.

1.7.2 To maximize FAA resources, coordination with the sponsor and the FAA is necessary. The FAA considers how the proposal, and its construction activity, will impact aircraft and airport operations. Follow the guidance in the appendices regarding POIs based on project type when submitting a proposal to the FAA. Consider the following items:

1. LOS from the ATCT to any aircraft movement area controlled by the ATCT.
2. The effect on electronic equipment.
3. Construction equipment on the airfield or in an aircraft movement area.
4. Haul routes.
5. Staging area and/or stockpiles.
6. Proximity to any NAVAID.
7. Frequency emission.
8. Controlled blasting.
9. Possible environmental hazards such as glare or wildlife attractants.

1.7.3 Determining the number and location of POIs for each structure and/or object is vital in submitting a filing notice for an aeronautical study with the FAA. Each POI has a specific site elevation (SE), above ground level (AGL) height, and latitude and longitude. Refer to the appendices for examples on how to determine POIs.

1.7.4 The FAA may request additional information to complete the analysis based on the unique nature of each project, and the individual airport.

1.7.5 A filing notice proposal may be the first time the FAA becomes aware of the project. It is important that sketches and exhibits are clear and display all the correct information. The type, style, and format of the sketches and exhibits are irrelevant provided it is accurate, clear, and understandable to the FAA reviewers. To assist in demonstrating this point, this AC uses various types of figures. For example:

1. Figure A-4 and Figure B-1 are hand-drawn sketches.
2. Figure A-7 and Figure D-1 are satellite images.
3. Figure A-5 and Figure A-6 are illustrative sketches.
4. Figure B-3 and Figure D-3 are photographs.
5. Figure E-1 is an airport ALP drawing.
6. The figures in this AC show various types of acceptable graphics.

1.7.6 Additionally, an in-depth analysis of the airport design surfaces is beyond the scope of this AC. Refer to AC 150/5300-13, *Airport Design*, for information on these design surfaces. Also refer to Appendix D, and Appendix E. For clarity, these design surfaces are not shown in the figures.

1.8 **Determinations.**

1.8.1 Upon completion of the aeronautical study, the FAA will issue an agency determination. Determinations do not constitute FAA approval or disapproval of the physical development involved in the proposal. The FAA's airspace determination is

with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

1.8.2 The FAA airspace determination does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

1.8.3 Determinations may contain an expiration date. If the sponsor cannot complete the proposed development 15 days prior to the expiration date, the sponsor needs to request an extension at least 15 days prior to the expiration date. The FAA may issue an extension up to an additional 12 months beyond the expiration date in the determination letter. A new notice is required if the work cannot be completed before the extension date. Determination letters that include a Flight Data Center (FDC) NOTAM are not eligible for an extension.

1.8.4 Refer to the OE/AAA web portal for sponsor guidance regarding the termination of an aeronautical study that has been E-filed. The sponsor needs to notify the appropriate FAA office, in writing, to requesting termination of an aeronautical study proposal that has not been E-filed.

1.9 **Definitions.**

The definitions in this paragraph are relevant to this AC.

1. *Above Ground Level (AGL)*. The total height of the structure or object above the ground.
2. *Above Mean Sea Level* (*AMSL*). The sum of the Site Elevation and the Above Ground Level.
3. *Aeronautical Study Number (ASN).* A unique identifier assigned to an individual point of interest. (e.g., 2019-ANE-0152-NRA).
4. *Air Operations Area* (AOA). Area of the airport primarily used or intended to be used for landing, takeoff, or surface maneuvering of aircraft, and related activities.
5. *Airport.* An area of land that is used or intended to be used for the landing and takeoff of aircraft and includes any buildings or facilities. This includes any airport, heliport, helistop, vertiport, gliderport, seaplane base, ultralight flightpark, manned balloon launching facility, or other aircraft landing or takeoff area.
6. *Airport Layout Plan (ALP).* A scaled drawing (or set of drawings) of current and future airport facilities that provides a graphic representation of the existing and long-term development plan for the airport and demonstrates the preservation and continuity of safety, utility, and efficiency of the airport to the satisfaction of the FAA.
7. *Airport Reference Point (ARP).* The approximate geometric center of all usable runways at the airport. The ARP is identified on the Airport Layout Plan.

8. *Airport Sponsor.* The entity that is legally responsible for the management and operation of an airport, including the fulfillment of the requirements of laws and regulations related thereto including any federal obligations. [Not to be confused with the term "Sponsor" defined below.]

9. *Airport Traffic Control Tower (ATCT).* The primary method of controlling the immediate airport environment is visual observation from the airport traffic control tower. The tower is a tall, windowed structure located on the airport grounds. Air traffic controllers are responsible for the separation and efficient movement of aircraft and vehicles operating on the taxiways and runways of the airport itself, and aircraft in the air near the airport.

10. *Alteration*. A change to an existing structure such as the addition of a side mounted antenna, a change to the marking and lighting, or a change to power.

11. *Apron.* For the purposes of this AC, a defined area on an airport or heliport intended to accommodate aircraft for the purposed of loading and unloading passengers or cargo, refueling, parking, or maintenance. Ramps at applicable seaplane bases are used for access to the apron from the water.

12. *Chart Supplement:* A Civil Flight Information Publication, updated every eight weeks by the U.S. Department of Transportation (DoT), the FAA, and the Aeronautical Information Service. The Chart Supplement contains an Airport/Facility Directory.

13. *Feasibility Studies.* Future airport development, constructions or alterations being planned beyond the near-term planning period of five years (> six-years). All proposed airport development within the near-term period of one-five years will not be considered a feasibility study. Per FAA JO 7400.2, "A feasibility study is a limited aeronautical review based on very broad, estimated, or general information supplied for the structure". A feasibility study allows the FAA to provide feedback to the proponent that may affect local planning decisions.

14. *Instrument Approach Procedure (IAP).* A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually. It is prescribed and approved for a specific airport by a competent authority.

15. *Movement Area.* The runways, taxiways, and other areas of an airport that are used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft including helicopters and tilt-rotors, exclusive of loading aprons and aircraft parking areas (reference Part 139, *Certification of Airports*).

16. *National Airspace System (NAS).* The common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and materials. Included are system components shared jointly with the military.

17. *Navigational Aid (NAVAID).* Electronic and visual air navigation aids, lights, and associated supporting equipment.

18. *Non-Movement Area*. Taxiways and apron (ramp) areas not under the control of air traffic
19. *Obligated Airport*. Any public use airport having agreements with the FAA. These obligations are in the sponsor's assurances in grant agreements under the Airport Improvement Program (AIP) and in real property transfers under the Surplus Property Act and other legislation. Among the obligations is the requirement to maintain a current ALP on file with the FAA. Failure to comply with the obligations may jeopardize federal financial assistance.
20. *Obstacle*. An existing object at a fixed geographical location, or which may be expected at a fixed location, within a prescribed area with reference to which vertical clearance is or must be provided during flight operation.
21. *Obstruction.* Any object the FAA determined must be properly marked, lighted, and identified in aeronautical publications so it is easily recognized by aircraft navigating through the airspace.
22. *OE/AAA Project*. Allows E-filers to group related POIs into a single project. For example, a proposed hangar building consists of four points. These points can be grouped into a single OE/AAA Project.
23. *Points of Interest (POI)*. Points which define the footprint of an area as well as identify critical locations within the area.
24. *Public-Use.* Available for use by the public without a requirement for prior approval of the owner or operator.
25. *Runway (RW).* A defined rectangular surface on an airport prepared or suitable for the landing or takeoff of aircraft.
26. *Site Elevation (SE)*. The existing ground elevation above mean sea level expressed in whole feet.
27. *Sponsor.* For the purposes of this document, a “Sponsor” is a person or company proposing action and submitting FAA Form 7460-1.
28. *Subject Matter Expert (SME)*. An individual with in-depth knowledge and experience in a specific area.
29. *Taxilane (TL).* A taxiway designed for low speed and precise taxiing. Taxilanes are usually, but not always, located outside the movement area, providing access from taxiways (usually an apron taxiway) to aircraft parking positions and other terminal areas.
30. *Taxiway (TW).* A defined path established for the taxiing of aircraft from one part of an airport to another.

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CHAPTER 2. TYPES OF AERONAUTICAL STUDIES

2.1 General.

On-airport aeronautical studies fall into one of three categories: Permanent Construction or Alteration (refer to Appendix A), Temporary Construction or Alteration (refer to Appendix B), and Planning (refer to Appendix C). These studies may also involve identifying issues affecting the ATCT LOS to the airport movement areas.

2.2 Survey Accuracy.

2.2.1 Data accuracy is a critical aspect of aeronautical studies. Experience shows that submissions often contain elevation and/or location errors. Therefore, the FAA's Flight Procedures Office applies a 4D accuracy standard code, per Table 2-1, to obstacles when evaluating effects on instrument procedures. Normally, the Flight Procedures Office applies these adjustments to those structures that may become the controlling obstacles and are applicable until Flight Procedures verifies their elevation and location by survey. If the sponsor provides a survey certification signed by the engineer/surveyor, the FAA may modify the accuracy code based on that certification. Providing the survey certification often mitigates airport operational impacts.

2.2.2 See Table 2-1 for the accuracy codes the FAA Flight Procedures Office applies to obstacles when evaluating the effects on instrument procedures.

Table 2-1. Survey Accuracy Codes

Horizontal Code Tolerance	Vertical Code Tolerance
1 +20 ft (6 m)	A +3 ft (1 m)
2 +50 ft (15 m)	B +10 ft (3 m)
3 +100 ft (30 m)	C +20 ft (6 m)
4 +250 ft (75 m)	D +50 ft (15 m)
5 +500 ft (150 m)	E +125 ft (38 m)
6 +1,000 ft (300 m)	F +250 ft (75 m)
7 +1/2 NM (900 m)	G +500 ft (150 m)
8 +1 NM (1800 m)	H +1,000 ft (300 m)
9 Unknown	I Unknown

Note: Accuracy codes are in accordance with FAA Order 8260.19.

2.2.3 Survey accuracy for projects funded by an Airport Improvement Program (AIP), or the Passenger Facility Charge (PFC) Program, must comply with the requirements of the most current version of AC 150/5300-18, *General Guidance and Specifications for Submission of Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards*.

2.3 Permanent Construction or Alteration.

1. This type of study applies to any structure, object, earthwork, or other permanent improvement that once constructed, modified, installed, or placed on or above the ground will make permanent changes to the existing topography. Typical structures or objects include buildings, hangars, aprons, taxiways, taxilanes, runways, equipment (antenna, windsock, airport beacon, etc.), fuel farms, light poles, parking lots, access roads, solar panels, and retention ponds.
2. Notification under Part 77 is not required for any object that would be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic features of equal or greater height only if located in the congested area of a city, town, or settlement. Shielding is not applicable for on-airport filing notice proposals.
3. A filing notice for the rehabilitation or restoration of an existing structure or object is typically not necessary unless the sponsor makes changes above ground, to its elevation, or to its lateral dimension. A filing notice is necessary for the temporary construction activity and/or equipment to complete the work. (See Appendix B).

2.4 Temporary Construction or Alteration.

This type of study applies to construction activity within a defined project area and may also include staging areas, construction employee parking, material stockpiles, concrete batch plant, cranes, or drill rigs. The FAA will conduct an aeronautical study similar to the study required for permanent structures. The study advises the airport sponsor of any operational impacts and mitigations to consider before allowing construction activity to proceed.

2.5 Construction Safety and Phasing Plan (CSPP).

2.5.1 Background.

The project's funding source and its location on the airport determine the requirements to prepare and/or submit a CSPP. Per AC 150/5370-2, *Operational Safety on Airports During Construction*, a CSPP is developed for each on-airfield construction project funded by the AIP. Exceptions to this requirement are projects that take place entirely outside the air operations area.

Submission of the CSPP does not relieve the airport sponsor of their obligation to provide notification to the FAA for both temporary and permanent objects under Part 77. The FAA requires this notification regardless of project funding source. The

review studies temporary construction objects including construction equipment operating within the construction area, on haul routes and in the staging area, material stockpiles, and batch plants.

2.5.2 Selection of POIs.

Submit a CSPP with one POI. Select the Airport Reference Point (ARP) or a point in the construction area, with an AGL height of one foot. This study is for the review of the plan.

2.5.3 Attachments.

Attach the CSPP to the case.

2.5.4 Describe/Remarks.

The information provided becomes part of the FAA's determination.

Reference the permanent and/or temporary construction non-rulemaking airport (NRA) case number(s), if applicable.

Example: This case is a Construction Safety and Phasing Plan for the rehabilitation of Taxiway A, AIP No. 3-XX-XXXX-XXX-2017. The associated construction equipment has been submitted as 2017-AXX-1234-NRA.

2.6 **Planning.**

This type of study applies to planning documents developed by the sponsor. Typical planning documents include, but are not necessarily limited to, ALP, ALP updates, taxiway geometry configurations, terminal/hangar area plans, and feasibility studies. The FAA reviews planning proposals and identifies potential aeronautical impacts and provides guidance, recommendation(s), and/or instruction(s) to assist the sponsor in their planning efforts.

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APPENDIX A. PERMANENT CONSTRUCTION OR ALTERATION

This appendix serves as a guide to identify the information needed by the FAA based on the type of project proposed. It is not intended to serve as step-by-step instructions on how to navigate the OE/AAA web portal. Directions on how to file electronically and navigate the OE/AAA website can be found at https://oeaaa.faa.gov by selecting the "Instructions" link.

This AC uses the airport boundary or the airport property line to determine if the proposal is on or off airport property. The FAA treats a proposal involving a closed area of the airport property as an on-airport proposal.

All proposed development on public-use airport property, except for wind turbines and navigational aids (NAVAIDS), is subject to an airport airspace analysis (AAA) and is processed as an NRA case. The FAA processes wind turbines, either on or off an airport as an obstruction evaluation (OE) study. The FAA may first process NAVAIDS as a non-rulemaking (NR) case to review siting criteria, and then as an NRA case for airspace review. For airport-owned NAVAIDS, discuss the timing of these two processes with the FAA RO or ADO. The FAA processes on-airport solar facilities as an NRA case. Refer to the OE/AAA website for additional information.

A.1 General.

Permanent objects include a wide variety of project types including new or expanded buildings, fences, power lines, new or expanded airfield facilities (aprons, taxiways, etc.), retention ponds, and solar arrays. The examples that follow discuss:

- Determining the location and the number of POIs.
- Submitting appropriate documentation.
- Clarifying remarks for commonly studied proposals.

Latitude and longitude coordinates are entered as degrees, minutes, and seconds (NAD 83, NAD 27). Accuracy is provided to the nearest hundreth of a second, if possible. The elevation for a POI for permanent objects is the existing ground elevation. It is critical that exhibits are clear and show the project's location relative to the airfield.

A.2 Buildings (Hangars, Structures, Signs, Fuel Farms).

A.2.1 Background.

Above ground structures having walls and a roof are considered "Buildings" for the purpose of FAA aeronautical studies. In addition to conventional buildings such as hangars, terminals, hotels, and maintenance facilities, this classification also includes above ground fuel tanks. A building may involve new construction or be an expansion/addition to an existing building.

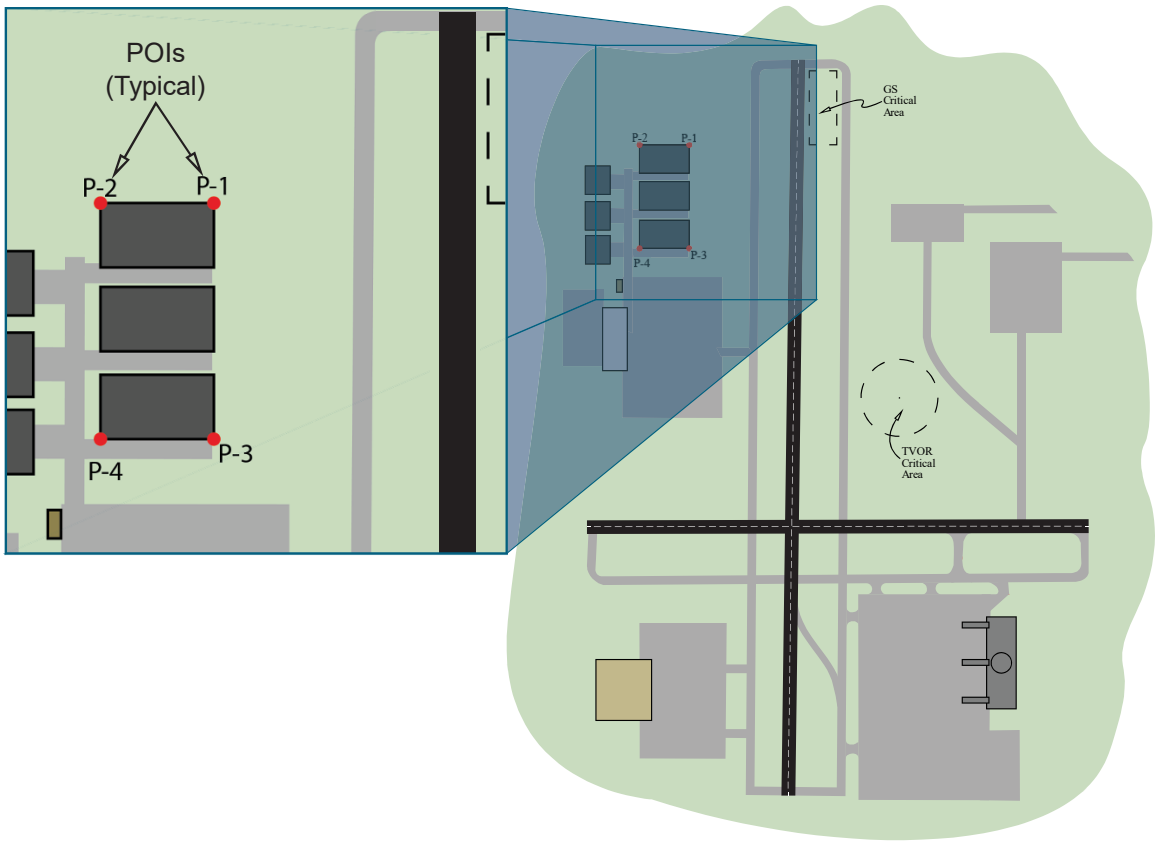
A.2.2 Selection of POIs.

The FAA needs POIs that clearly show the area of the building. Consider providing the farthest outside corners of the structure to capture the basic footprint. If the corners are not the tallest points, ensure the AGL includes the highest elevation of the structure; e.g., roof peak or appurtenances (AC units, antennas, flag poles, light poles etc.).

It may be prudent (and efficient) to file notice for all structures in the area under a single airspace project proposal. This can be done when the current conditionally approved ALP has a defined development area showing the airport's plan to construct the multiple buildings/hangars. When multiple structures are combined in a single notice (airspace project), the proposal description makes this clear. Figure A-1 depicts a multiple building example. Figure A-2 and Figure A-3 show a single building example.

The sponsor may need additional POIs for buildings located between the ATCT and the edges of existing or future safety areas and movement areas. Consider building mounted appurtenances such as mechanical units, antennas, flag poles, light poles, etc., in evaluating ATCT LOS, even if their AGL is less than the roof peak.

Figure A-1. Airport Building Example



Note 1: This example shows three proposed hangar buildings grouped together into one project proposal.

Note 2: The four POIs (P-1 to P-4) outline the area of the three proposed buildings on the airport.

Figure A-2, Figure A-3, and Figure A-4 are examples of a single building proposal with a POI data Table A-1.

Figure A-2. Building Site Diagram

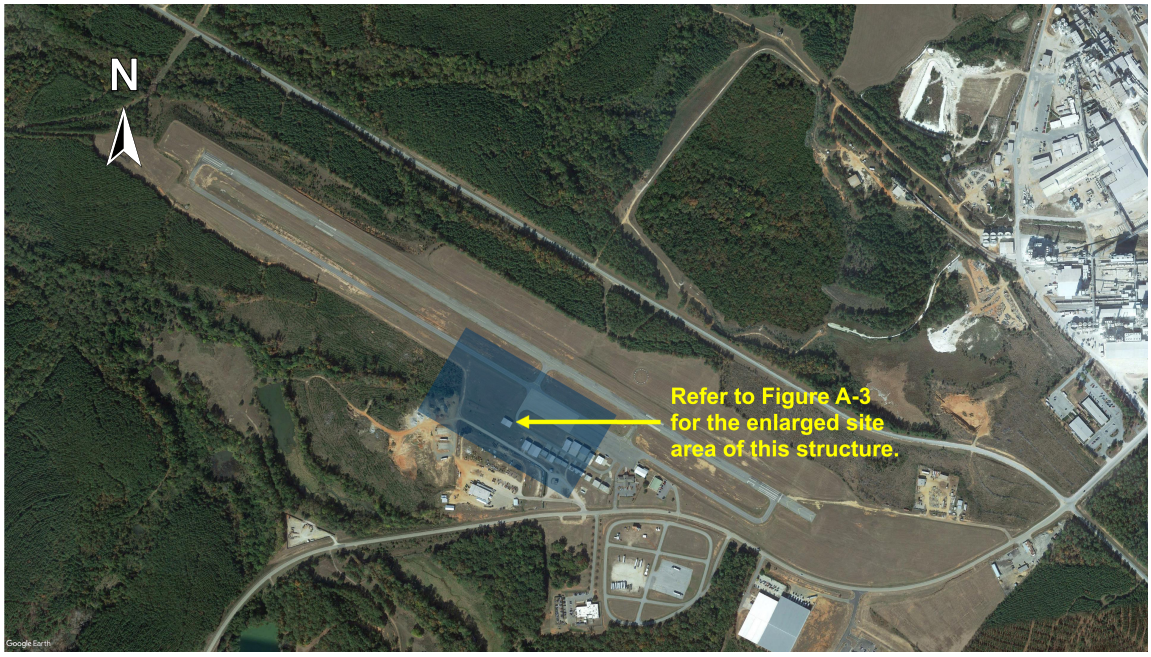


Figure A-3. Building Site Diagram – Enlarged Area

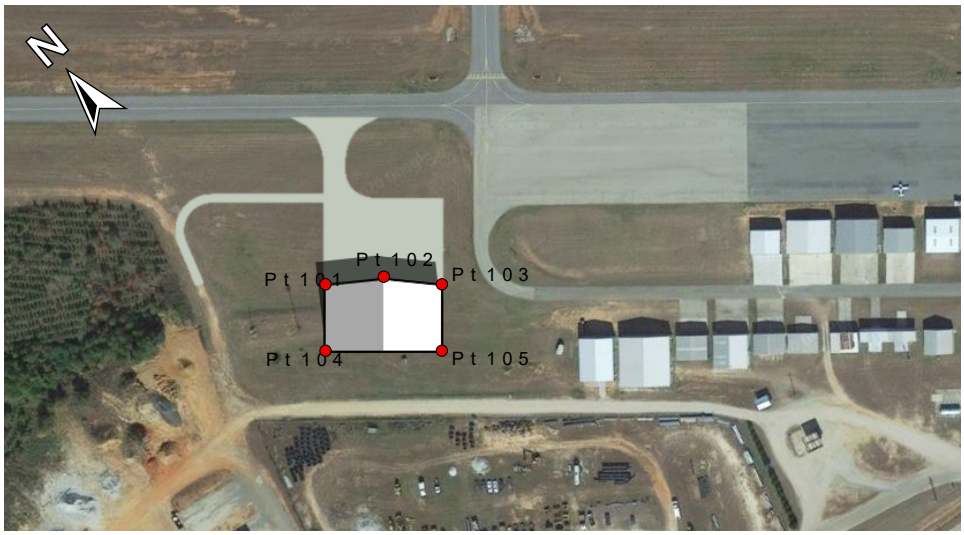
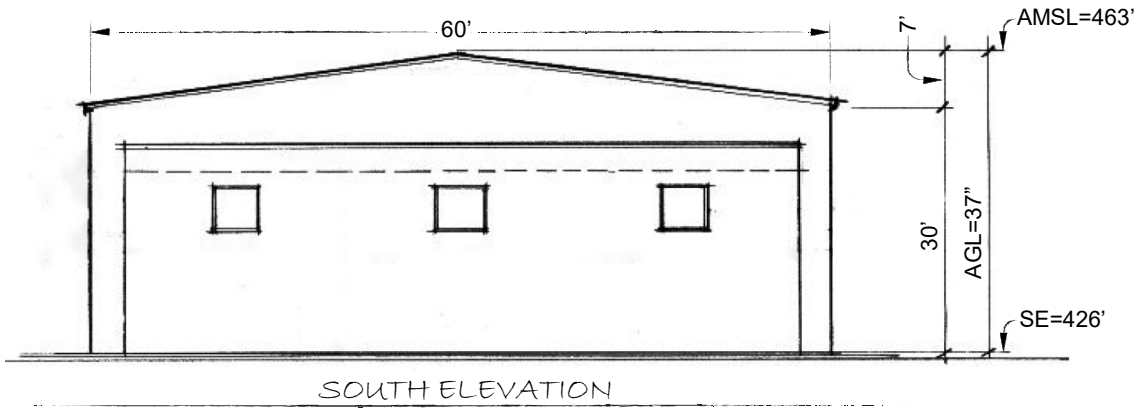
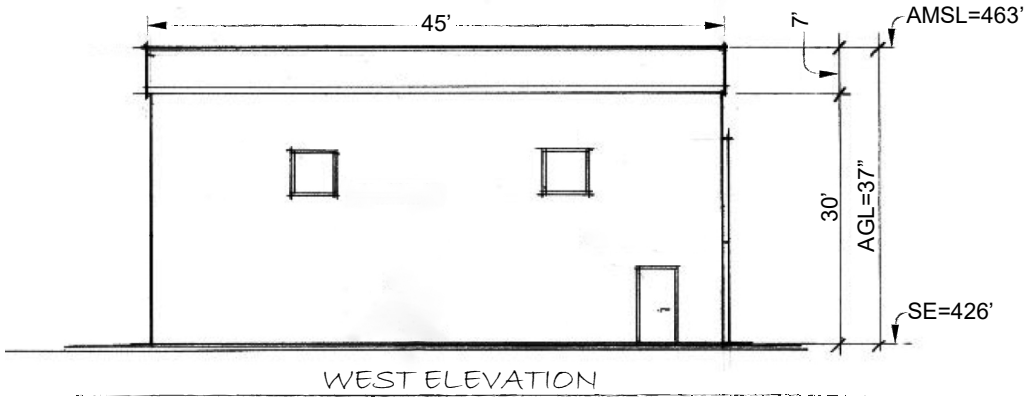


Table A-1. POI for the Building

POI	SE	AGL	Latitude	Longitude	Altitudes Above Mean Sea Level (AMSL)
101	426	30	32-57-54.29	82-50-17.38	456
102	426	37	32-57-54.01	82-50-14.42	463
103	426	30	32-57-53.44	82-50-15.84	456
104	426	30	32-57-53.54	82-50-17.91	456
105	426	30	32-57-52.79	82-50-14.44	456

Figure A-4. Building Elevation Drawing





Note: A sketch showing the building elevation to include with the proposal.

A.2.3 Attachments.

Attach a dimensioned plan and elevation drawing of the proposed building(s) as well as a site plan, aerial photo, or ALP showing the location and orientation of the proposed building similar to Figure A-2, Figure A-3, and Figure A-4.

A.2.4 Description/Remarks.

The information provided becomes part of the FAA's determination.

Describe the structure and its purpose. Provide a physical description (building materials), general footprint dimensions, the type of roof (flat, sloped, gable, hip etc.), and if there are any appurtenances (antennas, flagpole, lights, air conditioning, etc.). Describe unique materials (metals, glass, etc.) that may require analysis to determine effects on pilots/ATCT regarding glare and frequency interference.

Example 1.
Proposal for a new corporate hangar development eventually containing three corporate hangars. Hangars consist of all steel frame construction with metal skin and gabled roofs with a maximum 4:12 pitch. The overall footprint is 150′ × 450′. Proposed and filed under separate study are any future roof appurtenances exceeding the limits of the coordinates provided or any broadcast antennas. The POIs provided delineate the footprint of the hangars at the maximum roof height (gables) (Figure A-1).

Example 2.
Proposal for a new corporate hangar. The hangar's construction is a steel frame, brick exterior with a general footprint of 60′ × 45′. The roof has a 1:6 pitch/slope. There are no appurtenances on the roof (Figure A-2, Figure A-3, Figure A-4).

A.3 **Apron.**

A.3.1 Background.

An apron is typically located in the non-movement area of an airport near or adjacent to the terminal area. The apron accommodates aircraft during loading and unloading of passengers and or cargo. Activities such as fueling, maintenance, and short/long-term parking take place on an apron. Apron layouts depend on aircraft gate positions, aircraft, ground vehicle circulation needs, and aircraft clearance standards. A well laid-out apron minimizes runway incursions and effectively expedites aircraft services. Refer to AC 150/5300-13 for a more detailed discussion regarding aprons. A stationary aircraft may have the same impact to the ATCT LOS, electromagnetic interference, etc., as a permanent structure.

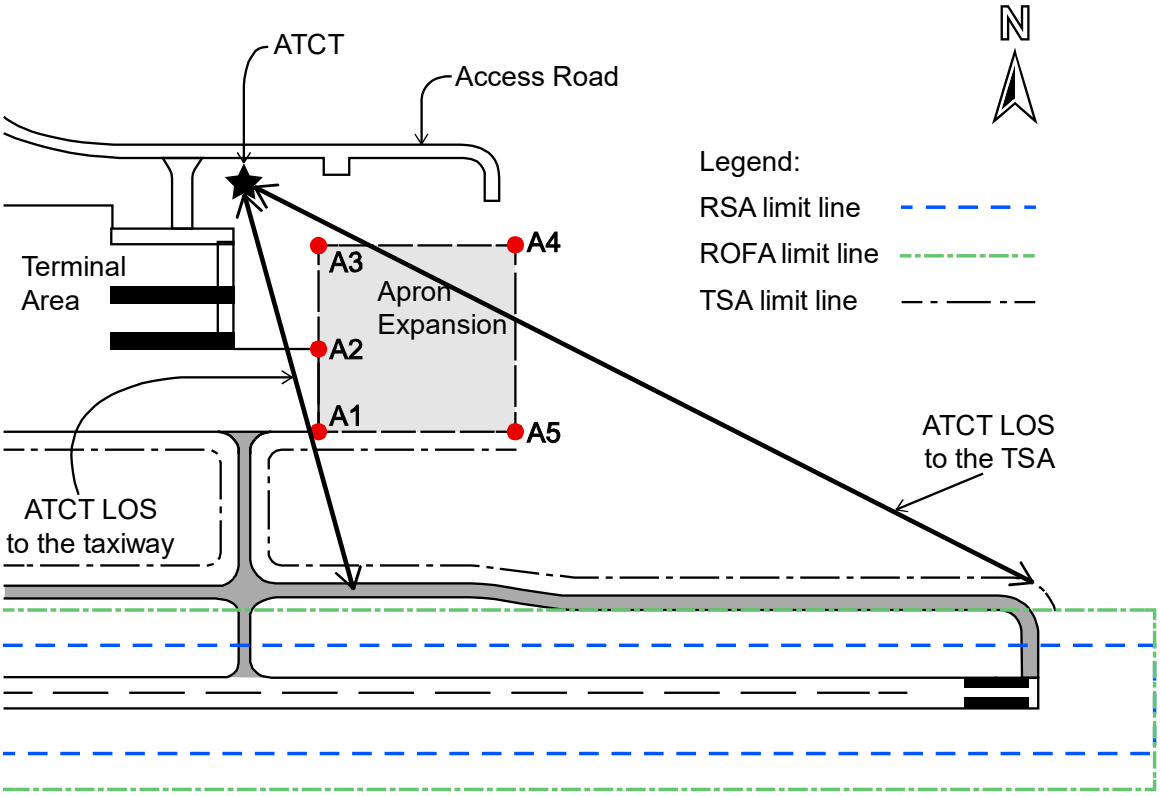
A.3.2 Selection of POIs.

The FAA evaluates aprons and apron extension projects as area studies just as it would a building. Submitting the appropriate POIs along the apron perimeter is necessary in conducting the analysis. Include POIs for the major corners of the apron and additional centerline points where the apron meets any taxiway/taxilane. The appropriate elevation (AGL) is the tail height of the most demanding aircraft that regularly uses the apron.

A.3.3 Attachments.

The attachment(s) for apron proposals provides any pertinent information such as distances from runways and taxiways. Graphically showing applicable airport design surfaces, for example the safety areas and OFAs, helps expedite the aeronautical study. Refer to AC 150/5300-13 for information on airport design surfaces. Figure A-5 is a generic sketch for an apron proposal.

Figure A-5. Apron Expansion – With LOS Consideration



Note: See Table A-2 for POI data elements.

Table A-2. POIs for Apron Expansion Project

POI	SE	AGL	AMSL	Latitude	Longitude
A 1	125	40	165	XX-XX-XX.X	YY-YY-YY.YY
A 2	126	40	166	XX-XX-XX.X	YY-YY-YY.YY
A 3	127	40	167	XX-XX-XX.X	YY-YY-YY.YY
A 4	127	40	167	XX-XX-XX.X	YY-YY-YY.YY
A 5	125	40	165	XX-XX-XX.X	YY-YY-YY.YY

Note: The critical aircraft using this apron has a tail height of 40 feet.

A.3.4 Description/Remarks.

1. The information provided becomes part of the FAA's determination.
2. Describe the apron and its proposed operational use.
3. Provide the critical aircraft that will use the apron on a regular basis.

A.4 **Taxiways/Taxilanes.**

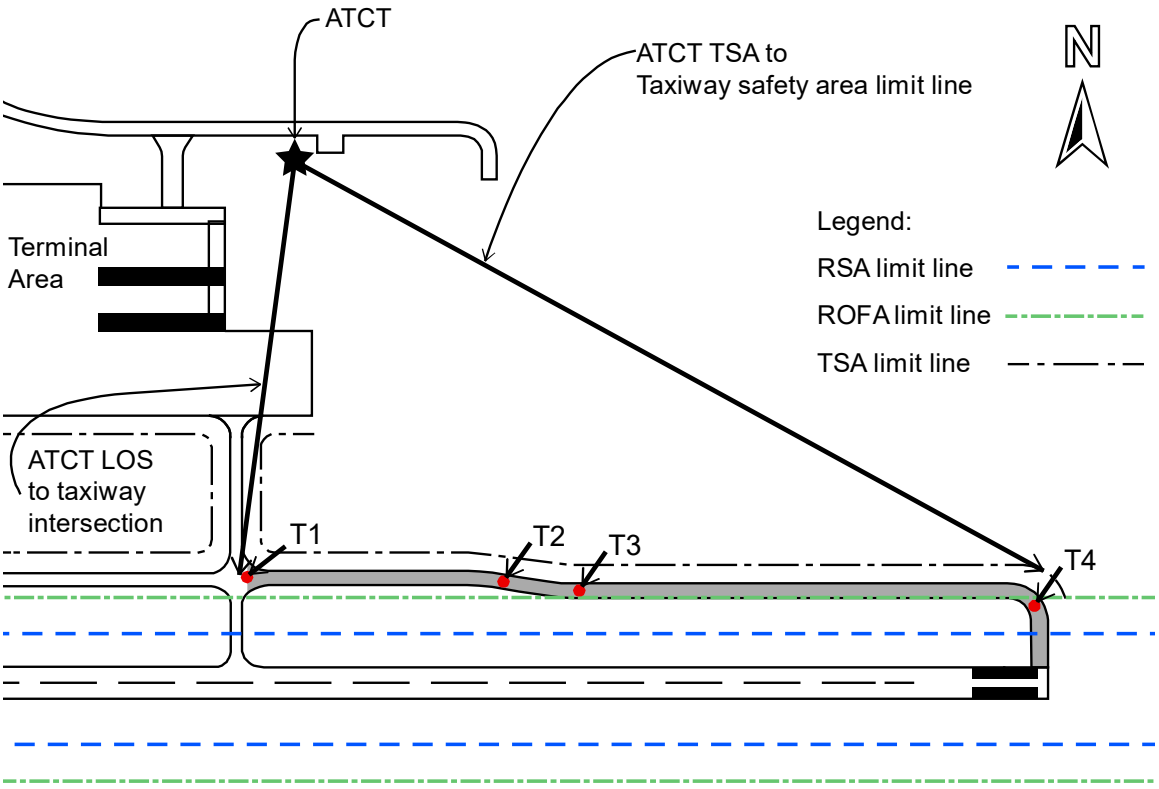
A.4.1 Background.

Taxiways are defined paths established for the taxiing of aircraft from one part of an airport to another. Taxilanes are taxiways designed for low speed and precise taxiing. The ALP typically illustrates planned taxiways and taxilanes.

A.4.2 Selection of POIs.

The FAA evaluates taxiways and taxilanes as a series of points. Provide at least two POIs along the centerline that clearly define the end points and orientation. Include additional points if the taxiway includes turns, shifts, or is near a FAA or airport facility (e.g., NAVAID critical areas, runway approach surfaces, etc.). The ground/site elevation is the proposed centerline elevation. For the centerline POIs, the sponsor indicates the SE as the aircraft tail height of the most demanding aircraft expected to use the taxiway on a regular basis, or at least 500 operations per year. Figure A-6 is a sample illustration of a taxiway proposal.

Figure A-6. Taxiway Example with LOS Consideration



Note: The critical aircraft using this taxiway extension has a tail height of 40 feet.

Table A-3. POIs for Taxiway Example

POI	SE	AGL	AMSL	Latitude	Longitude
T1	123	40	163	XX-XX-XX.X	YY-YY-YY.YY
T2	124	40	164	XX-XX-XX.X	YY-YY-YY.YY
T3	124	40	164	XX-XX-XX.X	YY-YY-YY.YY
T4	125	40	165	XX-XX-XX.X	YY-YY-YY.YY

A.4.3 Attachments.

Include a plan view drawing of the taxiway showing the taxiway safety area and OFAs and intersections. Refer to AC 150/5300-13 for taxiway safety and OFA dimensions.

A.4.4 Description/Remarks.

The information provided becomes part of the FAA's determination.

Describe the taxiway/taxilane and provide the Airplane Design Group (ADG) and the Taxiway Design Group (TDG). Refer to AC 150/5300-13. Provide a list of the critical aircraft that will use the apron on a regular basis.

A.5 **Runways.**

A.5.1 Background.

Runways provide a surface for the takeoff and landing of aircraft. The physical location of the runway is critical and is defined by the location of the runway threshold, runway end, and end of pavement, generally the same point. Coordinates identify all runway end points (latitude and longitude) and elevation (above sea level). The FAA Office of Airports is the steward of airport data and maintains this runway information through the Airports Geographic Information System (AGIS) Survey Module in the Airports Data and Information Portal (ADIP). This data also exists as part of the plan on file (for example the ALP) and serves to protect the future airspace needs of the airport.

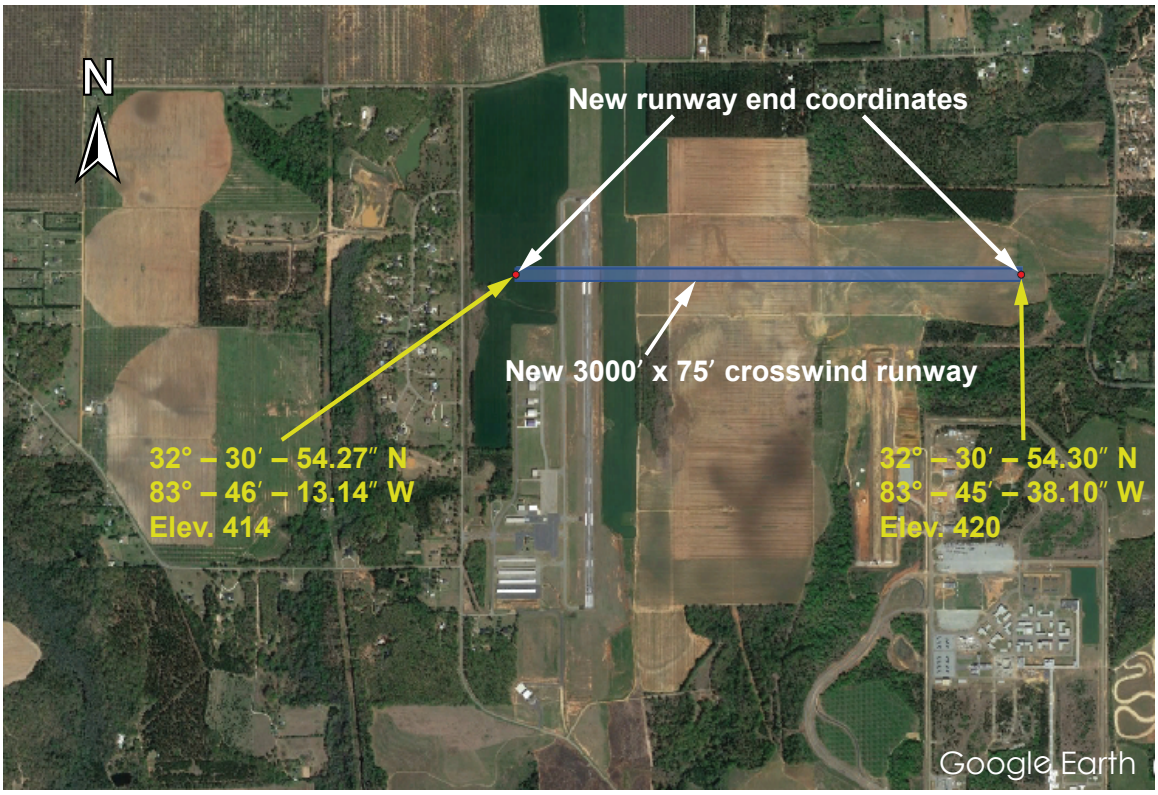
It is critical to notify the FAA well in advance, at least two years, of any proposed changes to an instrument runway that will shift, extend, shorten, relocate, or realign the runway. This advance notice is necessary for the airport sponsor and the FAA to complete the coordination for all applicable changes such as: instrument approach procedures, publications, movement areas, ATC procedures, etc.

The Aeronautical study does not initiate the development of a new/amended instrument approach procedure nor does the OEAAA portal supplant the requirement for submitting data through the AGIS Survey Module found within ADIP. Separate coordination is required if the proposed runway adjustment or addition impacts the airport's roadways, communities, jurisdictions, and/or property owners, a local coordination plan is to be documented in the filing notice. This coordination plan includes applicable local requirements.

A.5.2 Selection of POIs.

A.5.2.1 The FAA evaluates new runways as a pair of points at the runway ends.

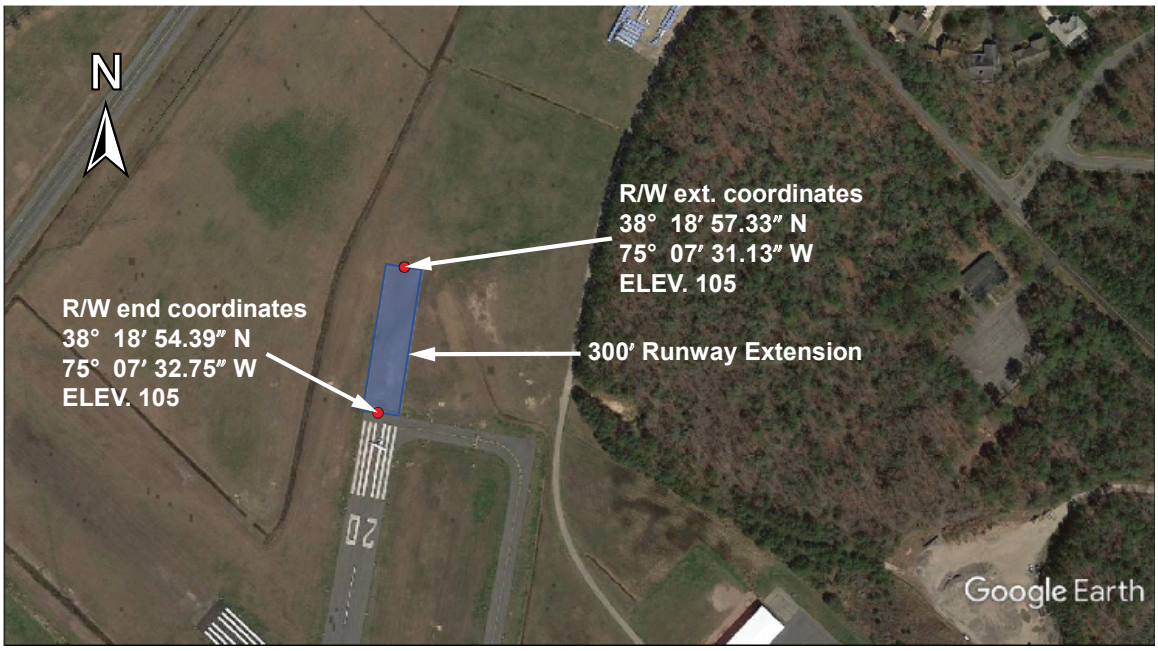
Figure A-7. Example of New Runway



Note: Two POIs are necessary that identify the new runway ends.

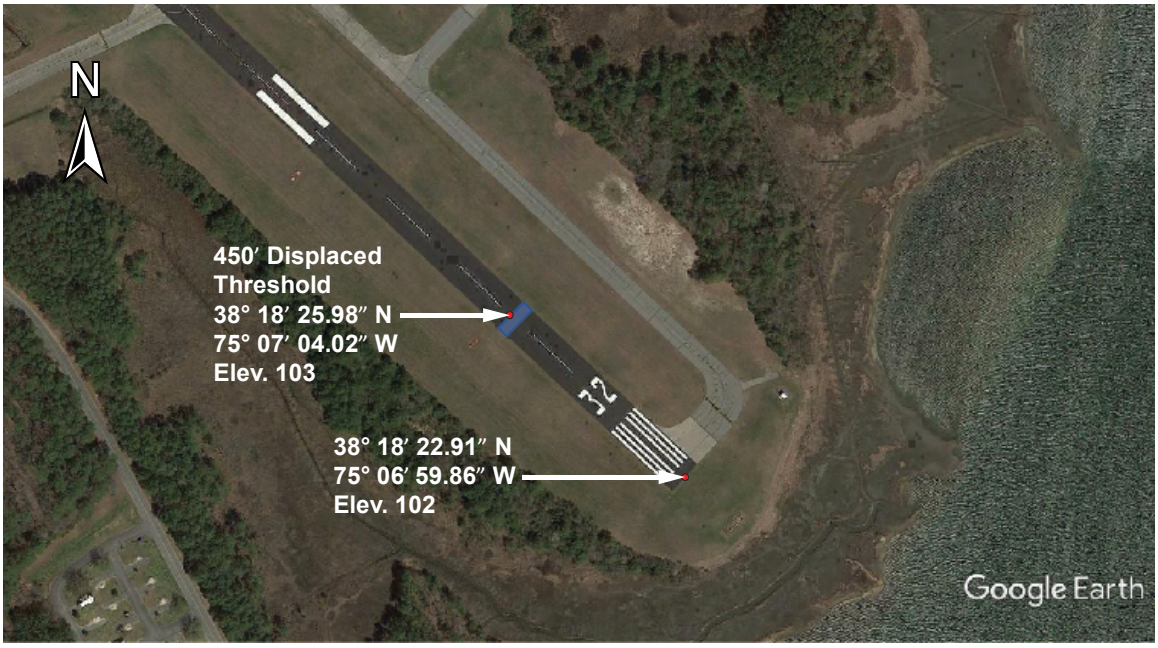
A.5.2.2 The FAA evaluates runway extensions as a single point. Select the new runway end point along the extended centerline.

Figure A-8. Example of Extended Runway



A.5.2.3 The FAA evaluates displaced thresholds as a single point. Provide the new threshold point along the centerline of the runway.

Figure A-9. Example of Displaced Threshold



A.5.2.4 The ground/site elevation is the proposed centerline elevation.

A.5.3 Attachments.

Include a plan view drawing of the runway, showing the applicable design standards and intersections with intersecting pavements. To provide the reference attachments, use copies of the ALP drawings, if practicable.

A.5.4 Description/Remarks.

1. The information provided becomes part of the FAA's determination**.**
2. Describe the proposed width, aircraft design group, and aircraft approach category. Refer to AC 150/5300-13.
3. Identify the critical aircraft for the new runway or runway extension.

A.6 Traverse Way (Roads, Railroads, Light Rail Transit Vehicles, etc.).

A.6.1 Background.

A traverse way is the infrastructure to allow mobile objects to travel through, over, or under it. On an airport, a traverse way may be a road (controlled or public), a railroad, light rail transport vehicles, or even a waterway. It could be at grade, below grade, or elevated. Per Part 77, when submitting points for a traverse way:

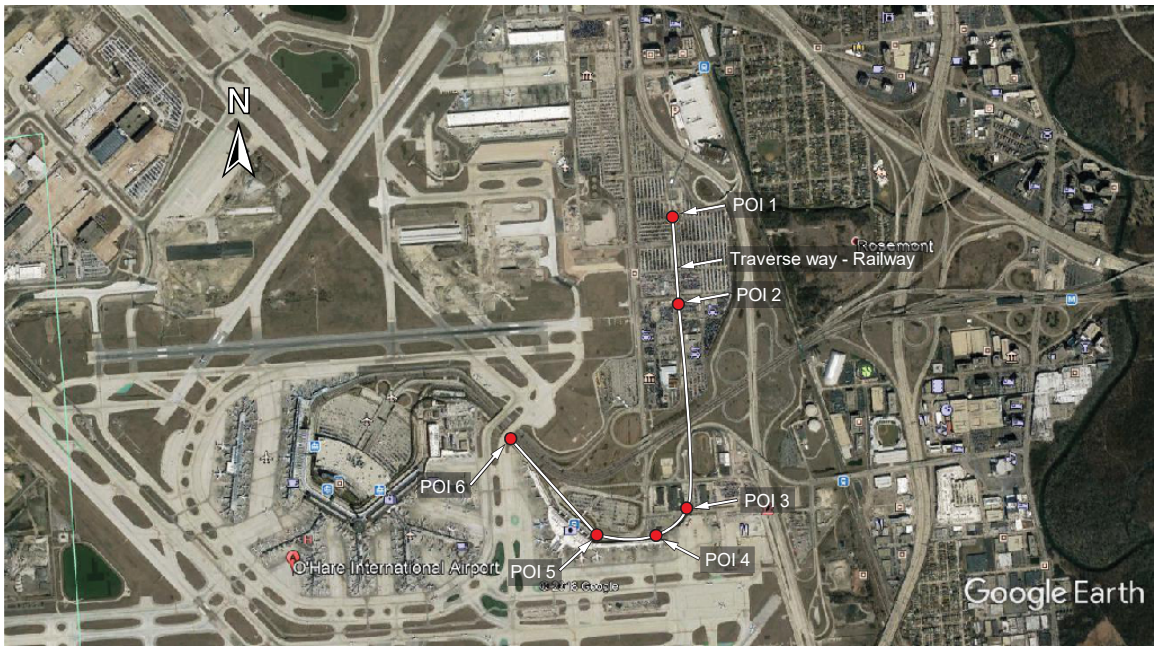
1. The FAA typically analyzes a privately controlled (on-airport) road as a 10-foot above ground level obstacle, or height of the highest mobile object that would normally traverse the road, whichever is greater.
2. The FAA typically analyzes publicly accessible roadways as a 17-foot above ground level obstacle for an interstate highway, and as a 15-foot above ground level obstacle for other public roadways.
3. The FAA analyzes railroads and light rail transport vehicles as a 23-foot above ground level obstacle.
4. The FAA analyzes waterways and other traverse ways not mentioned, based on the height of the highest mobile object that would normally traverse it. Examples of mobile objects include cruise ships, sailboat masts, and oil rigs.

The movement of vehicles and people on an airfield may affect airport operations. The proposed location of a traverse way on an airfield is vetted for existing and future activity and operations. Refer to Appendix D, Figure D-5 for a graphical depiction of height allowances of traverse way around airports.

A.6.2 Selection of POIs.

Traverse ways are typically evaluated as a series of points along the path. Submit the planned traverse way proposal. The FAA specialist will determine the critical points needed for further analysis. Figure A-10 is an example of a traverse way, in this case a light rail system, crossing an extended runway centerline in addition to changing directions near the airport.

Figure A-10. Traverse Way - Light Rail Transport Vehicles Example



Note: See Table A-4 for POI data elements.

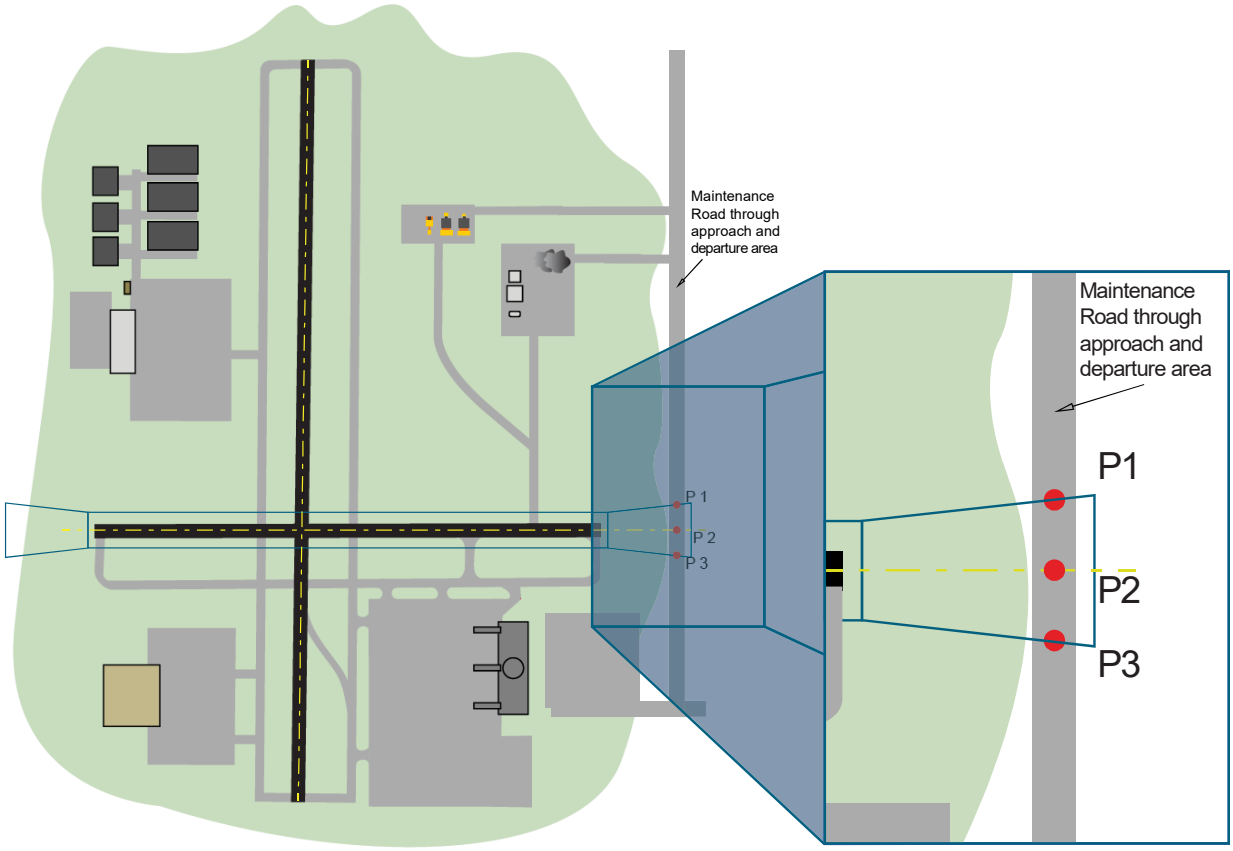
Table A-4. POIs for Light Rail Transport Vehicle Traverse Way

POI	SE	AGL**	AMSL	Latitude	Longitude
1	600	23	623	XX-XX-XX.XX	YY-YY-YY.YY
2*	610	23	633	XX-XX-XX.XX	YY-YY-YY.YY
3	610	23	633	XX-XX-XX.XX	YY-YY-YY.YY
4	610	23	633	XX-XX-XX.XX	YY-YY-YY.YY
5	609	23	632	XX-XX-XX.XX	YY-YY-YY.YY
6	605	23	628	XX-XX-XX.XX	YY-YY-YY.YY

Note: *POI located on extended runway centerline.
Note: ** Height of finished grade after construction plus the height of the transport vehicle. No light poles or signage will be higher than the transport vehicle.

Figure A-11 is an example of a traverse way. In this instance, a maintenance perimeter road crossing the airport's approach and departure surface.

Figure A-11. Traverse Way Perimeter Road Example



Note: Table A-5 provides POI data elements.

Table A-5. POIs for a Traverse Way in an Approach/Departure Area

POI	SE	AGL	AMSL	Latitude	Longitude
P1	250	15	265	XX-XX-XX.X	YY-YY-YY.YY
P2	249	15	264	XX-XX-XX.X	YY-YY-YY.YY
P3	250	15	265	XX-XX-XX.X	YY-YY-YY.YY

Note: AGL includes height of the finished grade after construction plus 10' or the height of the highest mobile object that would normally traverse the road, whichever is greater. In this example the highest mobile object was determined to be 15', and no light poles or signage higher than 15'.

A.6.3 Attachments.

A plan view drawing of the traverse way showing the proposed traverse way with relation to the runways and taxiways.

A.6.4 Description/Remarks.

1. The information provided becomes part of the FAA's determination.
2. Describe the traverse way and its planned use (airport only or public) and whether it is controlled by the ATCT. Provide a physical description, and if it will be at grade or elevated and if there are any appurtenances (support structures, lighting, etc.).

A.7 **Fencing/Overhead Lines.**

A.7.1 Background.

Typical airport fencing is constructed around the perimeter to both define the airport boundary and to protect the airfield from unauthorized entry by people or wildlife. The FAA analyzes overhead lines (e.g., electrical, communication, etc.) on an airport similar to a fence. Multiple POIs are essential for these types of structures.

A.7.2 Selection of POIs.

Fencing, fence gates, and overhead lines vary in type, location, and purpose. Therefore, the POIs submitted for evaluation differ among cases.

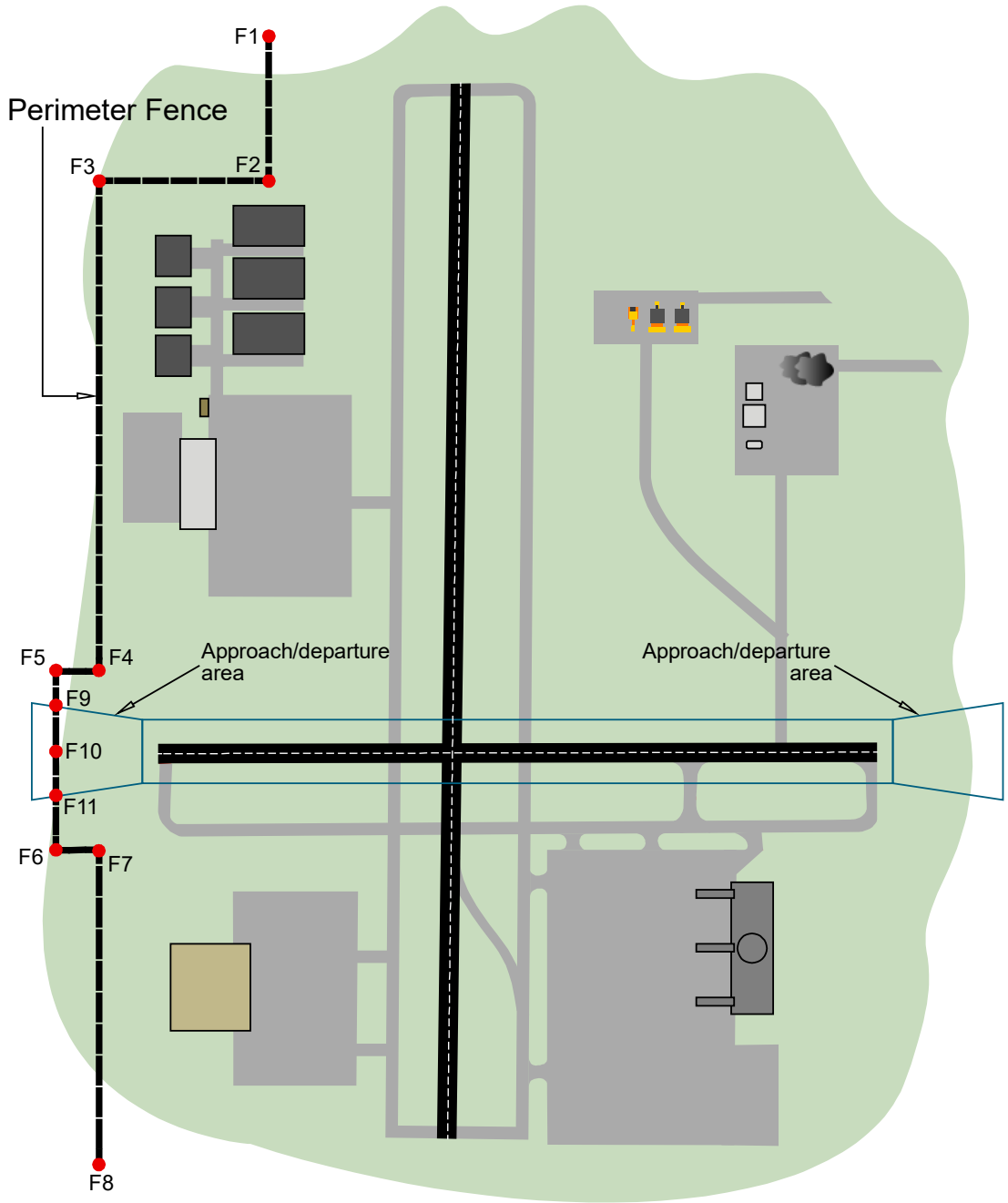
POIs are necessary for the following:

- Change in alignment
- Significant change in grade
- Airport Design Surfaces
- NAVAID Critical Areas

Below are two examples to assist in determining the POIs of an aeronautical study involving a fence line (Figure A-12 and Figure A-13). Aeronautical studies involving overhead power or transmission lines are evaluated, similarly, in examples regarding fencing, provide data for each POI (Figure A-14).

A fence line crossing the approach or departure area of a runway can be significant to airport operations. This example identifies POIs at the edges and centerline of the runway approach surfaces

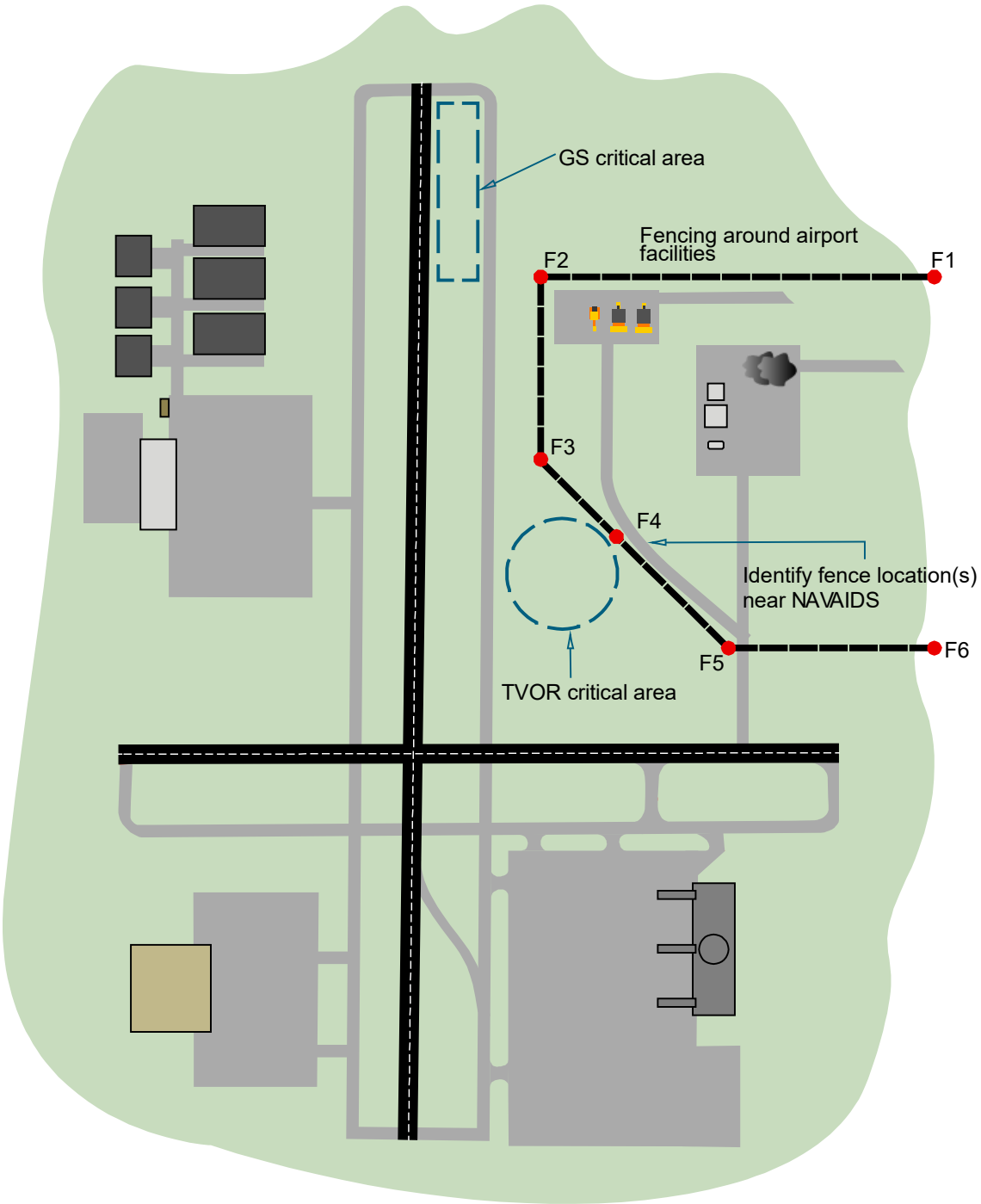
Figure A-12. Straight Line Fence Segments Example



Note: This is an example of a perimeter fence with each POI marking the change in direction of the fence line. There is no need for a POI at each fence post.

Note: Additional POIs are necessary at the edges of the approach/departure surfaces and the extended runway centerline (refer to the location of POIs F9, F10, and F11).

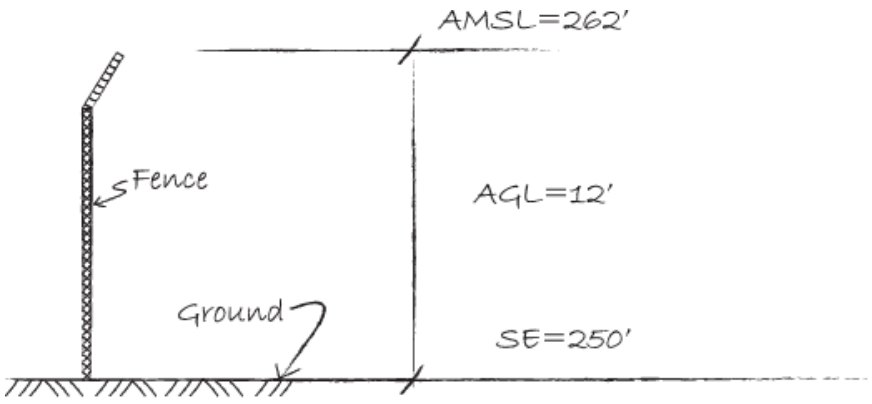
Figure A-13. Enclosed Fence Example



Note: This example illustrates the importance of a POI at each fence line change in direction, in addition to a POI at the nearest location to a NAVAID critical area.

Note: At airports with an ATCT, consider the LOS interference with the Airport movement areas and airport safety areas.

Figure A-14. Fence Profile



A.7.3 Attachments.

Provide the following information for all fencing types and overhead lines:

1. Drawing of typical section showing (fence, overhead line, etc.) details.
2. Site plan showing location of fence or overhead line in relation to runway(s) and taxiway(s). Indicate the POIs on the drawing. Show airport topography, if possible.

A.7.4 Description/Remarks.

The information provided becomes part of the FAA's determination. Three examples of descriptive statements, follow.

A.7.4.1 **Example 1.**

Airport security fencing around facility areas. The fence construction will be 10′ tall chain link with a 2′ three-strand barbed wire topper (12′ total height) with steel posts. The fence will extend XXX′ and will tie into an existing fence at each end (Figure A-12).

A.7.4.2 **Example 2.**

The airport would like to construct a wildlife fence along the airport boundary line. The fence construction will be 8′ tall woven wire with wooden posts. The airport submitted points for the corners of the fence along with an additional point where the fence is on top of a hill on the south side of the runway (Figure A-14).

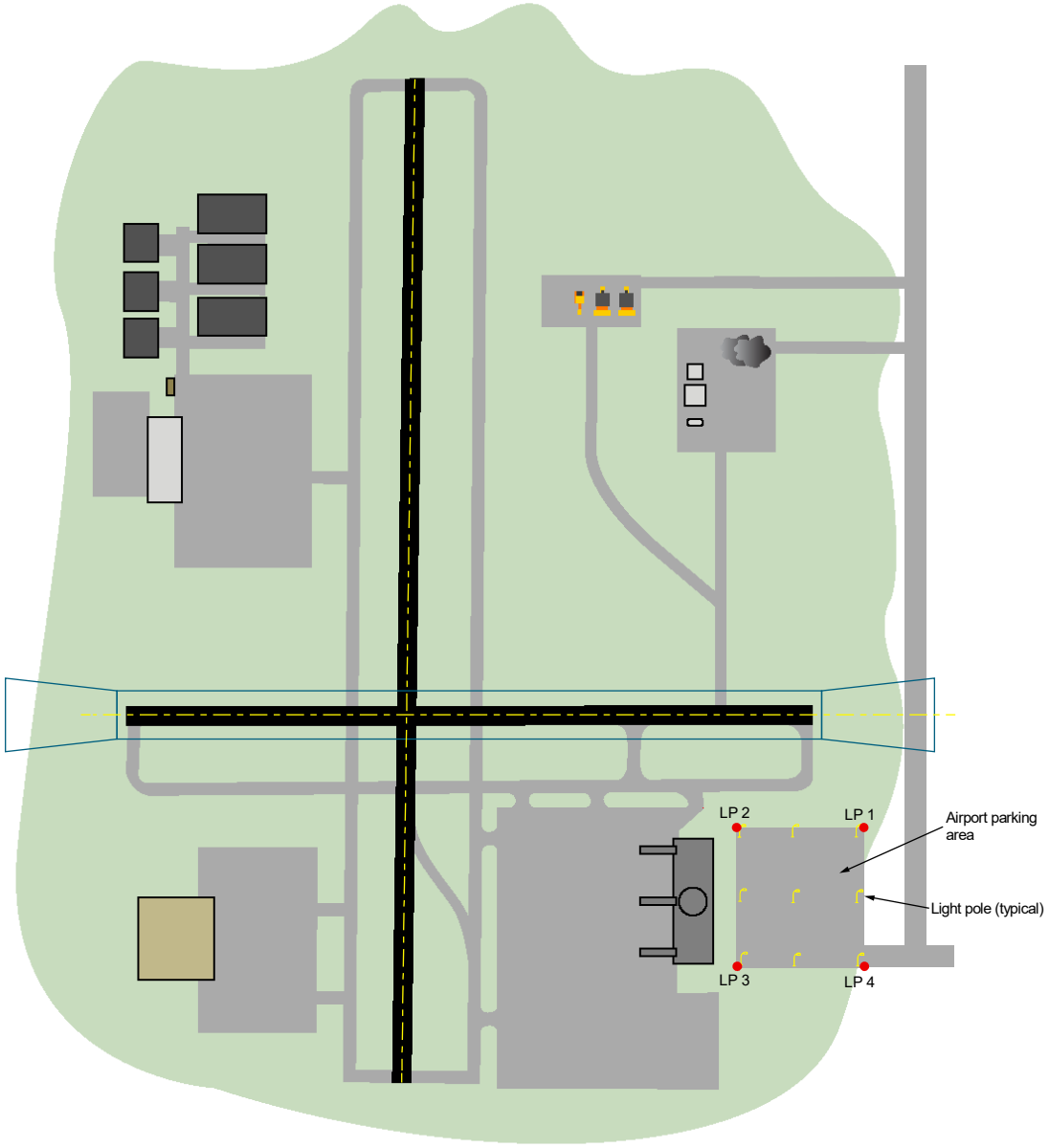
A.7.4.3 **Example 3.**

The airport would like to construct a wildlife fence along the airport boundary line. In the terminal area, the fence will be a security fence constructed of 8′ chain link with a 2′ three-strand barbed wire topper (10′ total height) with steel posts and will extend for XXX′ on each side of the terminal building. The remainder of the fence will be a wildlife fence constructed of 8′ tall woven wire with steel posts (Figure A-14).

A.8 Airport Light Poles.

If the footprint of the light pole area is clearly identified, as with a filing notice involving airport fencing, a POI showing each light pole is not necessary. Reduce the number of POIs to only those identifying the perimeter of the light pole area.

Figure A-15. Light Poles



Note: POIs are only necessary to clearly identify the perimeter of the light pole area.

A.9 **Grading/Topography.**

A.9.1 Background.

Earthwork or grading such as retention ponds, ditches, or drainage channels may affect airport operations, navigation, communication equipment, create a wildlife attractant, or violate airport design standards. Such proposed changes in topography will necessitate a filing notice. Pre-coordinate with the appropriate ADO or RO to determine if a filing notice is necessary. Provide a documented local coordination plan with the filing notice if the proposed grading or topography impacts the airport's adjacent roadways, communities, jurisdictions and/or property owners.

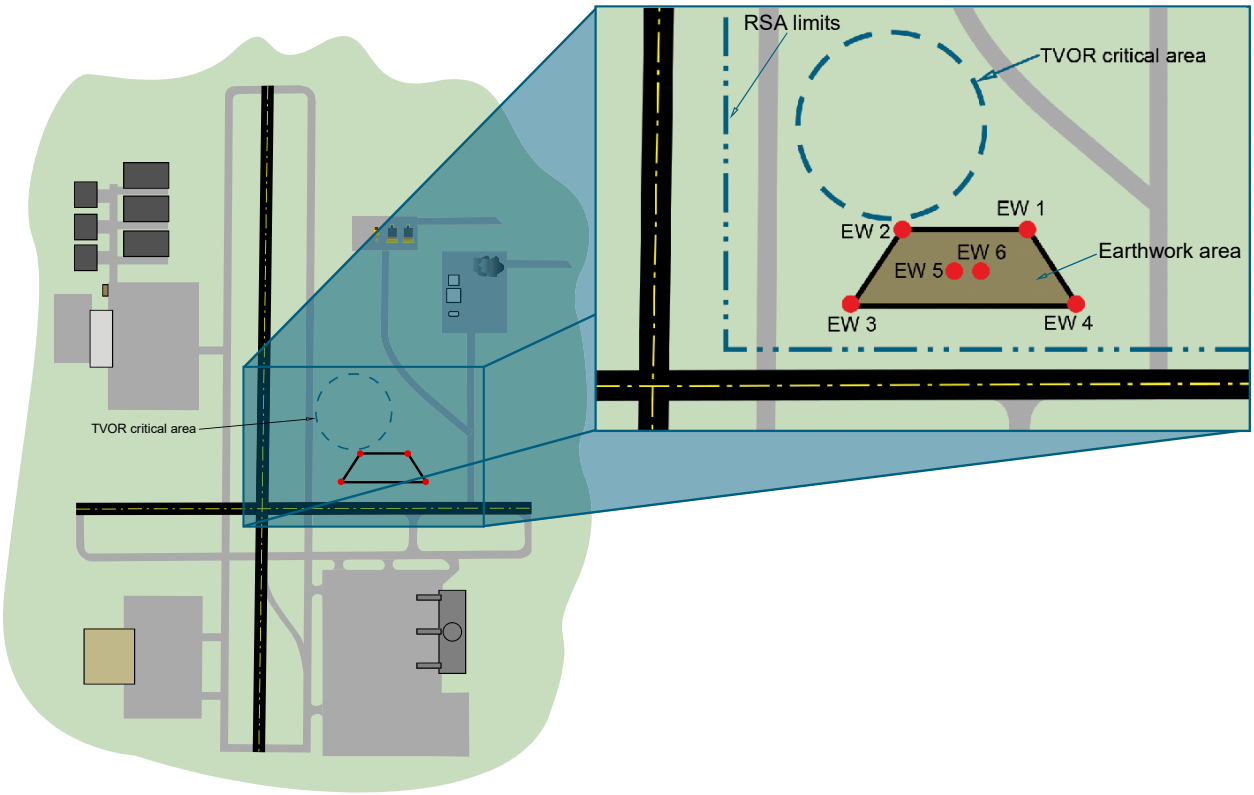
A.9.2 Selection of POIs.

Submit appropriate points to delineate the extents or perimeter of the changes in topography. POIs include points near navigation facilities. If the proposal covers a large, expansive area, coordinate with the ADO or RO to determine if separating the project into smaller projects is advisable.

A.9.3 Attachments.

Graphically depicting applicable airport design standards on the attachments may help expedite the aeronautical study. Cross section and profile drawings may also be appropriate.

Figure A-16. Grading/Topography Site Plan Example



Note 1: TVOR = TVOR NAVAID
Note 2: POI "EW 2" is closest to the TVOR critical area.
Note 3: See Table A-6 for POI data elements.

Table A-6. POI for Grading/Topography Site Plan Example

POI	SE	AGL	AMSL	Latitude	Longitude
EW 1	94	1	95	XX-XX-XX.XX	YY-YY-YY.YY
EW 2*	98	1	99	XX-XX-XX.XX	YY-YY-YY.YY
EW 3	90	1	91	XX-XX-XX.XX	YY-YY-YY.YY
EW 4	95	1	96	XX-XX-XX.XX	YY-YY-YY.YY
EW 5**	95	8	103	XX-XX-XX.XX	YY-YY-YY.YY
EW 6**	94	9	103	XX-XX-XX.XX	YY-YY-YY.YY

Note: *POI closest to the NAVAID critical area
Note: ** High Points of the earthwork regrading

A.9.4 Description/Remarks.

The information provided becomes part of the FAA's determination.

Describe the proposed changes and their purpose, e.g., earthwork regarding. List the construction materials and a physical description.

Refer to Appendix D for the possibility of reducing the number of POIs for airport topography changing projects.

A.10 **Solar Energy Systems.**

A.10.1 Background.

Interest in installing solar energy systems on airport property is becoming more popular. Airports often have large open tracts of land suitable for these types of projects. Installing solar energy systems gives airports an opportunity to receive land lease payments or reduce their energy costs.

Solar energy systems are designed to absorb solar energy to maximize electrical energy production or the heating of water; however, in certain situations the glass surfaces of the solar energy systems can reflect sunlight and produce glint (a momentary flash of bright light) and glare (a continuous source of bright light). Therefore, like other airport development, airport sponsors coordinate with the FAA on proposed solar energy systems to assess the proposal's impact to airport and air traffic operations.

At federally-obligated airports with ATCT facilities, sponsors evaluate reflectivity and glare during the project siting/design stages, and the Form 7460-1 process. Sponsors conduct whatever analysis they deem necessary to support statements that the project will not introduce ocular impacts with the potential for ocular impacts (glint and glare) to personnel in the airport's ATCT. The sponsor assumes all liability if the solar energy system, when constructed, results in ocular impacts to an existing or proposed air traffic control tower. The sponsor mitigates these impacts at its own expense.

Tools exist on the open market to analyze potential glint and glare to an ATCT. The FAA suggests that airport sponsors with questions about conducting this analysis contact their local FAA ADO during the preliminary stages of a solar energy system siting process. For additional information, refer to the FAA's Solar Guide, *Technical Guidance for Evaluating Selected Solar Technologies on Airports*, available at https://www.faa.gov/airports/environmental/.

For any proposed solar energy system on federally-obligated towered airports, refer to FAA Policy: Review of Solar Energy System Projects on Federally-Obligated Airport, published in the Federal Register on May 11, 2021.

A.10.2 Selection of POIs.

Several POIs are needed to determine the aeronautical effect of the large areas that a solar energy system may encompass. Select POIs that approximate the footprint of the solar panel area and any critical locations within that area.

Select POIs that consider the following:

- Change in alignment.
- Significant change in grade.

- Airport Design Surfaces.
- NAVAID Critical Areas.

The SE of each POI is the ground elevation at the solar panel point whether the panel is ground mounted or building mounted. The AGL is the highest point on the solar panel measured from the ground whether the panel is ground mounted or building mounted (Figure A-17 and Figure A-19).

Figure A-17. Ground-Mounted Solar Panel

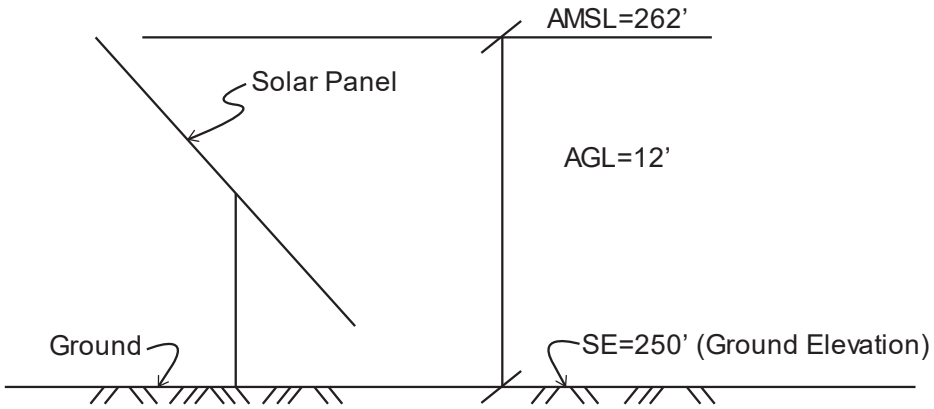
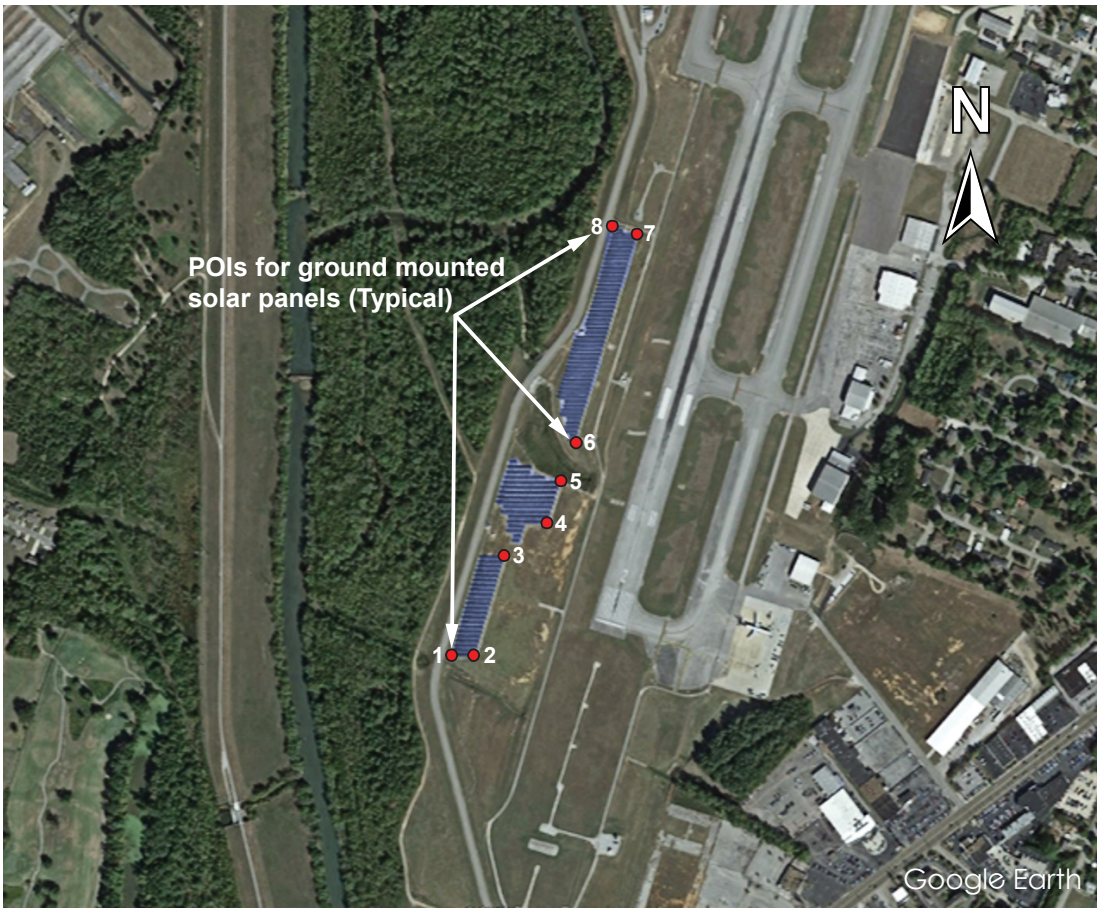


Figure A-18. Example of Solar Farm on the Ground



Note: See Table A-7 for POI data elements.

Table A-7. POIs for Ground Mounted Solar Panels

POI	SE	AGL	AMSL	Latitude	Longitude
1	250	12	262	XX-XX-XX.XX	YY-YY-YY.YY
2	250	12	262	XX-XX-XX.XX	YY-YY-YY.YY
3	252	10	262	XX-XX-XX.XX	YY-YY-YY.YY
4	252	10	262	XX-XX-XX.XX	YY-YY-YY.YY
5	252	10	262	XX-XX-XX.XX	YY-YY-YY.YY
6	253	9	262	XX-XX-XX.XX	YY-YY-YY.YY
7	254	8	262	XX-XX-XX.XX	YY-YY-YY.YY
8	254	8	262	XX-XX-XX.XX	YY-YY-YY.YY

Note: The SE is equal to the ground elevation.

Figure A-19. Roof Mounted Solar Panel

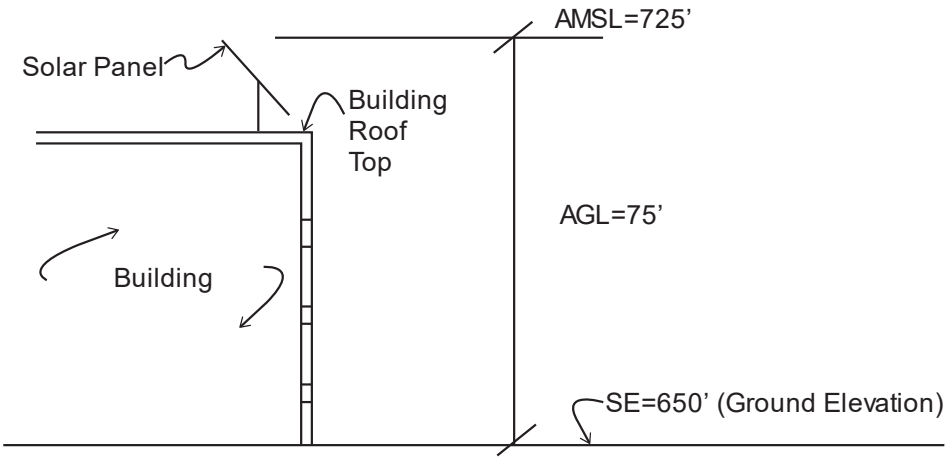
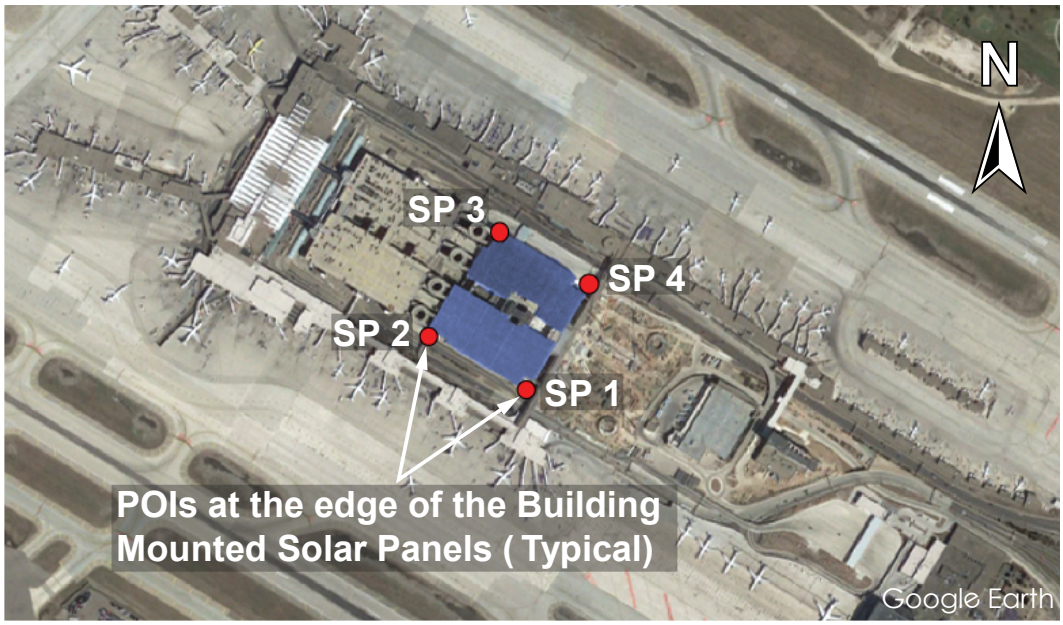


Figure A-20. Example of Solar Farm on a Building



Note: See Table A-8 for POI data elements.

Table A-8. POIs Table for Building Mounted Solar Panels

POI	SE	AGL	AMSL	Latitude	Longitude
SP 1	650	75	725	XX-XX-XX.XX	YY-YY-YY.YY
SP 2	655	75	730	XX-XX-XX.XX	YY-YY-YY.YY
SP 3	655	75	730	XX-XX-XX.XX	YY-YY-YY.YY
SP 4	650	75	725	XX-XX-XX.XX	YY-YY-YY.YY

Note 1: SE is the ground elevation of the building.
Note 2: AMSL is the top of the solar panel above ground elevation, not the building rooftop.

A.10.3 Attachments.

Attach an exhibit illustrating the location of the solar energy system with respect to the airfield, all runway ends (existing and future), radar facilities, NAVAIDS and their critical areas, and the ATCT. Additional data required by the FAA for solar projects includes:

- Coordinates for the boundary corner points.
- Vertical tilt of panels.
- Horizontal azimuth/bearing of panels face.
- Manufacturer type/specs.
- Overall project design.
- Mechanics of structure (static, fixed angle, dynamic, auto tracking).
- Full range of movement if panels are dynamic.

The airport sponsor conducts whatever analysis they deem necessary to support a statement that the proposed solar project will not result in glint or glare impacts to the airport's ATCT cab.

A.10.4 Description/Remarks.

The information provided becomes part of the FAA's determination.

Reference the temporary construction activity NRA case number(s), if available.

Provide a concise project description and refer to any previously submitted studies. For example:

Example 1: These cases are for a XX-acre solar energy system for installation along Runway XX-XX.

Example 2: These cases are for a solar energy system for installation on the roof of the long-term parking garage. The associated construction equipment has been submitted under aeronautical studies #2018-AXX-#### thru #### - NRA.

APPENDIX B. TEMPORARY CONSTRUCTION OR ALTERATION

This appendix serves as a guide to identify the information needed by the FAA based on the temporary construction items required by the project. It is not intended to be step-by-step instructions on how to navigate the OE/AAA web portal. Directions on how to file electronically and navigate the OE/AAA website can be found at https://oeaaa.faa.gov by selecting the "Instructions" link.

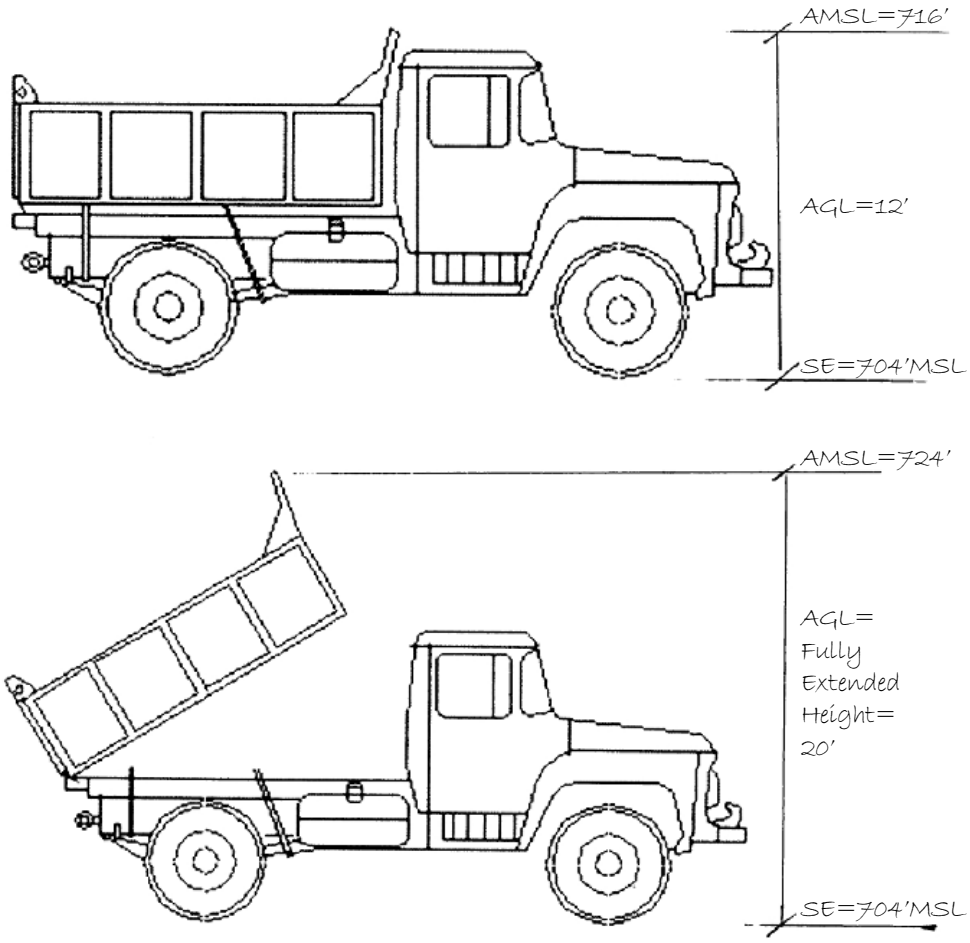
B.1 General.

Temporary construction includes elements such as construction vehicles on access routes and in work areas, material stockpiles, and batch plants. These examples provide such guidance as:

1. The most common temporary construction items.
2. How to determine the location and number of POIs.
3. Types of documents to provide.
4. Clarifying remarks for commonly studied temporary construction objects. When submitting a notice for temporary construction, it is important to include the best estimate of the expected number of days and/or months of construction, as well as the best estimate of construction start and completion dates.

Latitude and longitude coordinates are entered as degrees, minutes, and seconds. Accuracy is to the nearest hundreth of a second, if possible. The site elevation for a POI for temporary construction objects is the ground elevation. The AGL for temporary construction is the height of the tallest vehicle or piece of equipment (when fully extended). For example, a dump truck's bed is much taller when extended; therefore the height of the extended dump truck bed is used for study purposes (Figure B-1).

Figure B-1. Example of Temporary Construction Element



The aeronautical study may be the first time the FAA has been made aware of the project, and may not be familiar with the project details. Provide clear exhibits illustrating the project's location relative to the airfield.

B.2 **Construction Work Area.**

B.2.1 Background.

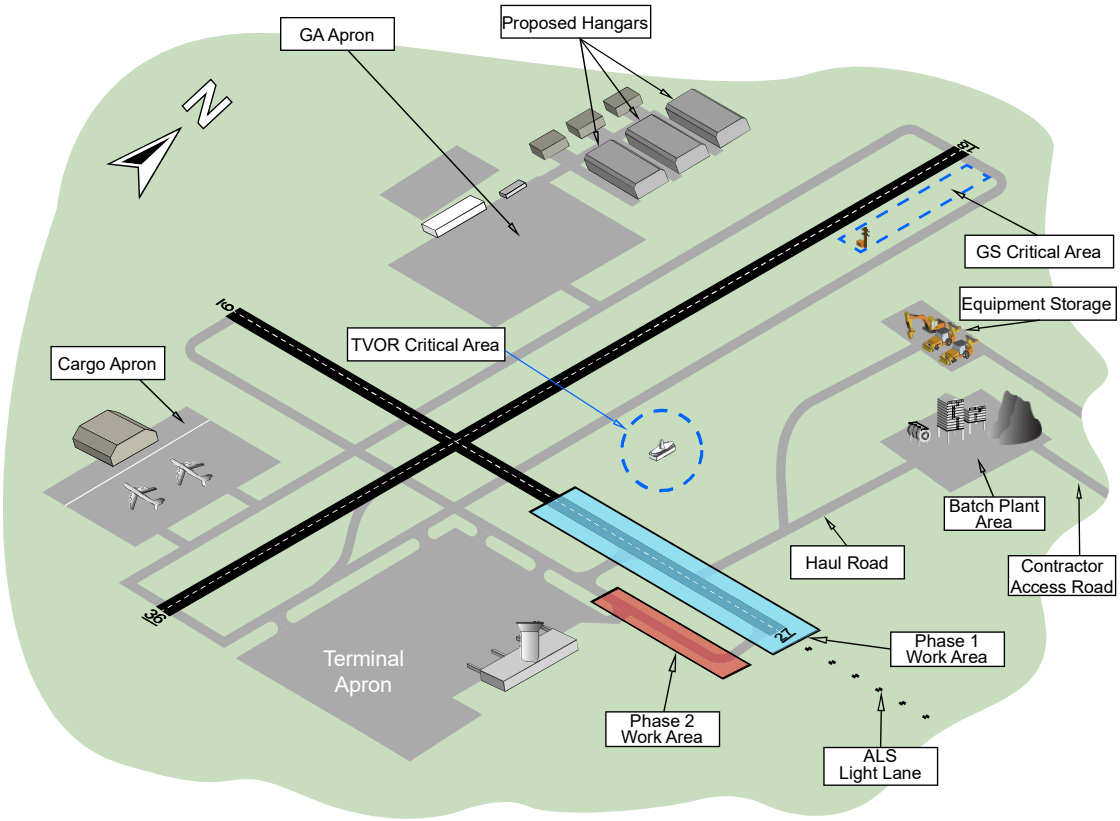
Clearly define the limits of the work area for construction activity on the airport. This minimizes or eliminates the construction activity's effect on airport operations. The work area encompasses the entire area needed to accomplish the construction and may include areas far from the actual daily construction activities.

B.2.2 Selection of POIs.

Provide several points to define the limits of the work area. Work areas may be shaped by operational impacts and combined based on similar impacts. This simpiflies closures for contractors and airport operations and makes it easier for airport operations

personnel to monitor construction. Consideration includes ensuring the airport remains open to the greatest extent practicable, while maintaing safety. The AGL for each POI is the tallest equipment (extended) in the work area. The FAA considers POIs for impacts to airport design surfaces and when working in proximity to NAVAIDS.

Figure B-2. Construction Work Area Example



Note: POIs not shown for clarity. Refer to the following examples for details on the selection of POIs.

B.2.3 Attachments.

Provide a detailed drawing clearly showing different work areas and specific restrictions or mitgations for each work area. Dimensions of the work area and dimensions to active runways or taxiways is critical. A best practice is to attach an exhibit(s) illustratrating all of the temporary construction objects (staging area, batch plant, stockpile areas, project work areas), clearly depicting their locations relative to the airfield. On the exhibits, indicate where the airport design and imaginary airspace surfaces are relative to these temporary objects. Indicate the the location(s) of any NAVAID critical areas and the location of the ATCT, if applicable. On the exhibits, identify the location of the POIs and include a table listing each POI's latitude, longitude, SE, and AGL.

B.2.4 Description/Remarks.

The information provided becomes part of the FAA's determination.

Reference the permanent construction NRA case number(s), if any.

Describe the project and identify any planned mitigations, per phase.

B.2.4.1 **Example 1.**

Construction activity associated with the overlay of RW 18-36. Turn off Glide slope (GS) and localizer serving RW 18 for the duration of Phases 1 and 2. TW H1 will be closed during Phase 1.

B.2.4.2 **Example 2.**

Construction activity for a new hangar. Close TW B3 while constructing the hangar. Permanent construction studied under 2017-AXX-1234-NRA.

B.3 Staging Areas.

B.3.1 Background.

A staging area is a designated area where the contractor can leave vehicles, supplies, and construction equipment for access and use on the construction site. Depending on project and airport size, there may be more than one staging area identified for a project. The staging area is located outside of all airport design surfaces, but in convenient proximity to the project site. If the staging area borders the airport property line, the airport sponsor documents any erosion issues and coordinates with the adjacent property owners and/or jurisdictions.

B.3.2 Selection of POIs.

The selection of several points is important in determining the aeronautical effect of large staging areas. Select POIs that approximate the footprint of the entire staging area. The AGL for each POI is the tallest equipment (extended) in the work area.

B.3.3 Attachments.

Submit a plan view drawing illustrating the staging area and its location relative to the airfield. A best practice is to attach an exhibit(s) showing all of the temporary construction objects (staging area, batch plant, stockpile areas, project work areas), clearly depicting their location relative to the airfield. Indicate on the exhibits where the airport design and imaginary airspace surfaces are relative to these temporary objects. Indicate the location(s) of any NAVAID critical areas, and the location of the ATCT (if applicable). Identify the location of the POIs on the exhibit(s) and include a table listing each POI's latitude, longitude, SE, and AGL.

B.3.4 Description/Remarks.

1. The information provided becomes part of the FAA's determination.
2. Reference the permanent construction NRA case number(s), if applicable.
3. Describe the project and identify any planned mitigations.

Example: *This case is for construction equipment in the staging area associated with the Construction of TW A project. The associated taxiway project has been submitted as 2017-AXX-1234 thru 1235-NRA.*

B.4 **Stockpile.**

B.4.1 Background.

A stockpile area is a designated area where the contractor can store construction materials for future use, or for removal prior to being transported off the airport. While the stockpile area is temporary in nature, it is important to understand its potential impact to airport operations. Stockpile areas are located outside of and under all airport design surfaces, but in convenient proximity to the project site. Potential impacts are considered when selecting a stockpile location such as dust and dirt control.

B.4.2 Selection of POIs.

The FAA needs multiple POIs to determine the aeronautical effect of the area as a whole. Select POIs that approximate the footprint of the stockpile area. The AGL for each POI is the tallest equipment (extended) or material in the area.

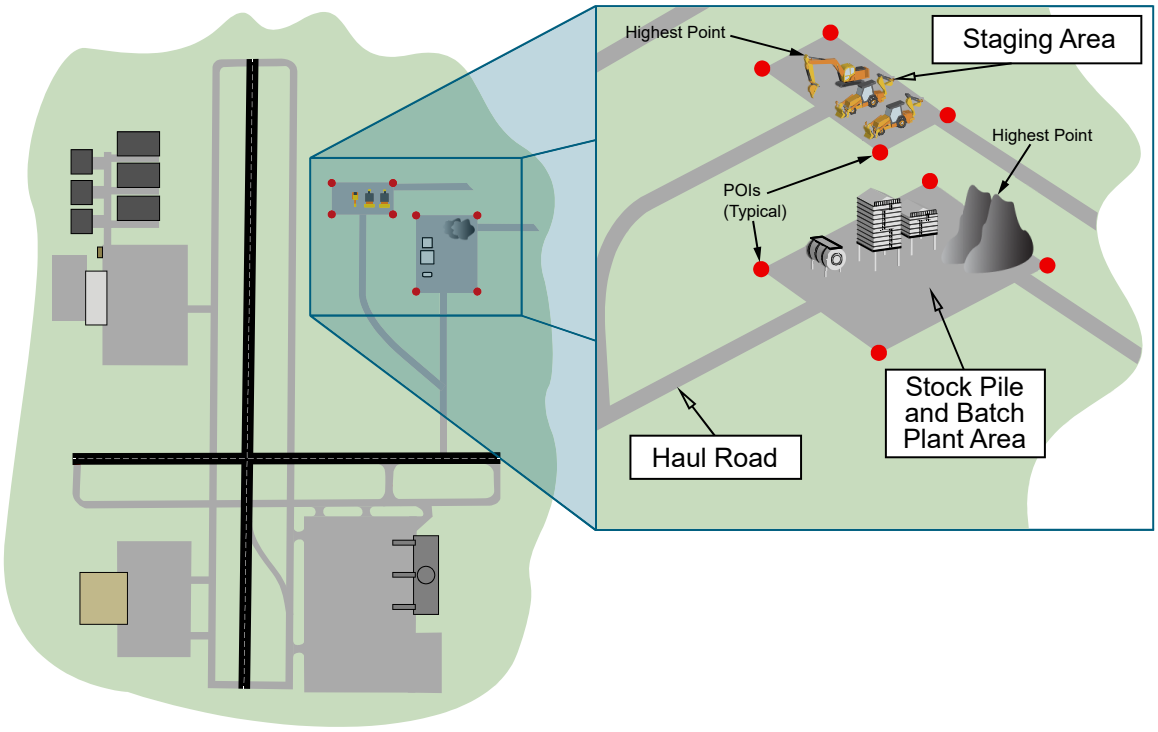
Figure B-3. Stockpile Example

Note: The height of the construction equipment that is on top of the stockpile and the stockpile highest height will be the elevation used in the filing notice study proposal.

B.4.3 Attachments.

Submit a plan view drawing that illustrates the stockpile area and its location relative to the airfield. A best practice is to attach an exhibit(s) illustrating all of the temporary construction objects (staging area, batch plant, stockpile areas, project work areas), clearly depicting their location relative to the airfield. Indicate on the exhibits where the airport design and imaginary airspace surfaces are relative to these temporary objects. Identify any NAVAID critical areas and the location of the ATCT. On the exhibit(s), identify the location of the POIs and include a table listing each POI's latitude, longitude, SE, and AGL.

Figure B-4. Stockpile Attachment Example



Note: The AGL is the highest point of the equipment located in the staging area.
Note: Refer to Figure B-3 for the AGL in the Stockpile Area.
Note: Refer to Figure B-5 for the AGL in the Batch Plant Area.

B.4.4 Describe/Remarks.

The information provided becomes part of the FAA's determination.

Reference the permanent construction NRA case number(s), if applicable.

Describe the project and identify any planned mitigations.

Example: *This case is for a stockpile area associated with the Construction of TW A project. The associated taxiway project has been submitted as 2017-AXX-1234 thru 1237-NRA.*

B.5 Batch Plant.

B.5.1 Background.

Batch plants are tall structures located outside of and under all airport design surfaces, but in convenient proximity to the construction site. The contractor may find it advantageous to have a portable batch plant on site rather than transporting materials from an off-site location. While a batch plant is temporary in nature, it is important to evaluate its impact to airport operations.

B.5.2 Selection of POIs.

A batch plant may encompass a large area. The FAA needs multiple POIs to determine the aeronautical effect of the area as a whole. Select POIs that approximate the area identified for the batch plant. Select a POI that identifies the highest point (usually the silo) of the batch plant.

B.5.3 Attachments.

Attach an exhibit illustrating the batch plant area and its location relative to the airfield. A best practice is to attach an exhibit(s) illustrating all of the temporary construction objects (staging area, batch plant, stockpile areas, project work areas), clearly depicting their location relative to the airfield. Indicate on the exhibits where the airport design and imaginary airspace surfaces are relative to these temporary objects. Indicate the location(s) of any NAVAID critical areas, and the location of the ATCT (if applicable). Identify on the exhibit(s) the location of the POIs and include a table listing each POI's latitude, longitude, SE, and AGL.

Figure B-5. Batch Plant Attachment Example

Note: See Table B-1 for POI data elements.

Table B-1. Batch Plant Location POIs

POI	SE	AGL*	AMSL	Latitude	Longitude
BP 1	200	55	255	XX-XX-XX.XX	YY-YY-YY.YY
BP 2	205	55	260	XX-XX-XX.XX	YY-YY-YY.YY
BP 3	207	55	262	XX-XX-XX.XX	YY-YY-YY.YY
BP 4	203	55	258	XX-XX-XX.XX	YY-YY-YY.YY

Note: The above ground height for each POI is the highest point within the batch plant area.

B.5.4 Description/Remarks.

1. The information provided becomes part of the FAA's determination.
2. Reference the permanent construction NRA case number(s), if applicable.
3. Describe the project and identify any planned mitigations.

Example: This case is for a batch plant associated with the Construction of TW A project. The associated taxiway project has been submitted as 2017-AXX-1234 thru 1235-NRA.

B.6 **Haul Routes.**

B.6.1 Background.

A haul route is a temporary path that the construction contractor's vehicles need to traverse the airfield to access the work area during a project. A haul route might be an existing public roadway, an existing taxiway, taxilane or apron, or a temporary road. Its location is often a component on the development of a CSPP. Haul routes are planned to provide the least impact to aircraft movements as possible. Notice may not be necessary if the haul route is in an existing traverse way.

If the staging area borders the airport property line, the airport sponsor documents any erosion issues and coordinates with the adjacent property owners and/or jurisdictions.

B.6.2 Selection of POIs.

The FAA typically evaluates haul routes as a series of critical points along the route. Select the minimum number of points that define the routes' beginning and end. When considering the location and the number of POIs to enter, consider whether the haul route may have impacts.

Select POIs that consider the following:

- Significant changes in alignment
- Significant changes in grade
- Airport Design Surfaces
- NAVAID Critical Areas

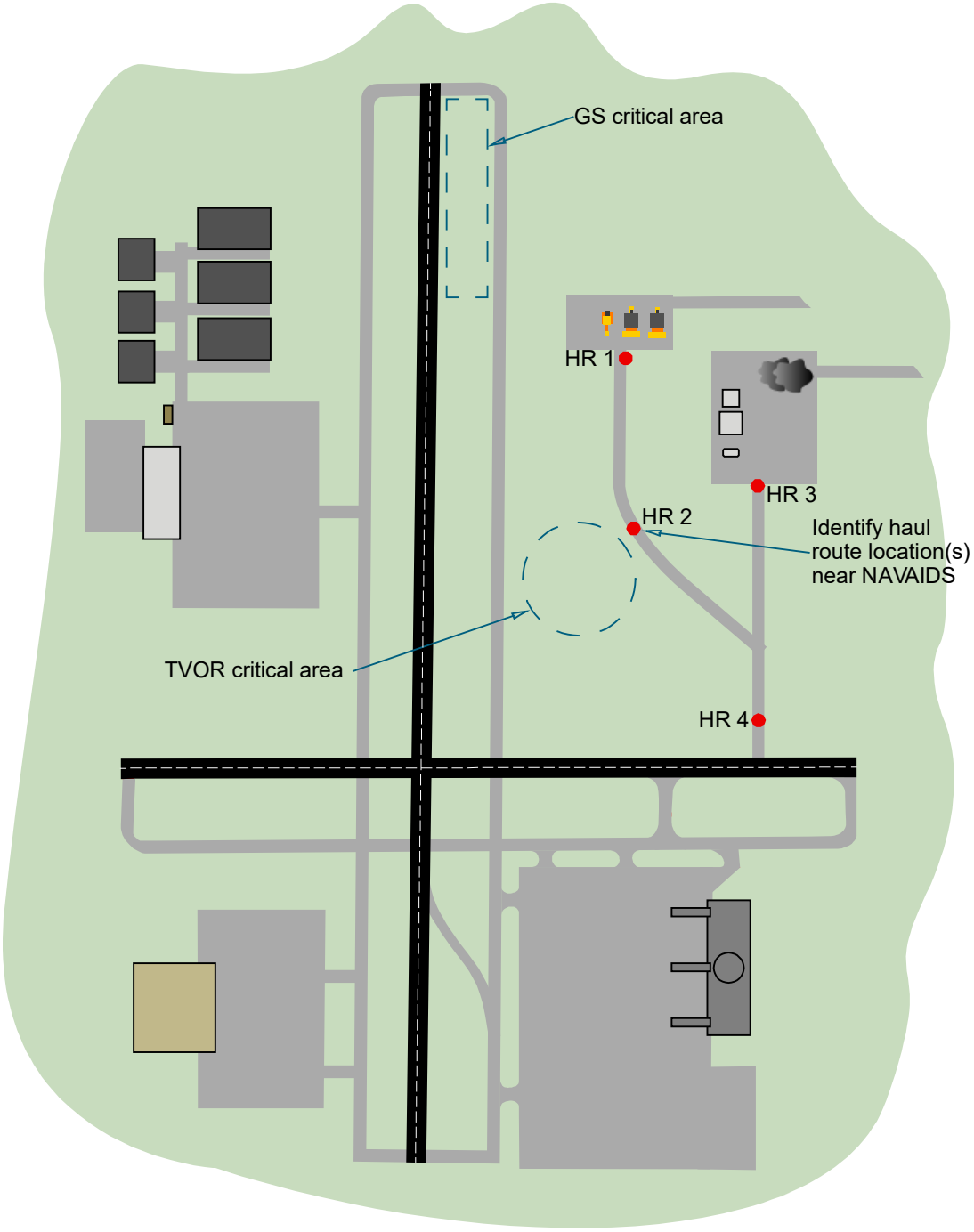
Use the tallest equipment height (extended) that will be traveling on the haul route as the above ground elevation of a point (e.g., use the height of a lowered dump truck on a haul route).

B.6.3 Attachments.

Submit a plan view drawing illustrating the haul route and its location relative to the airfield. A best practice is to attach an exhibit(s) that illustrates all of the temporary construction objects (staging area, batch plant, stockpile areas, project work areas), clearly depicting their location relative to the airfield. Indicate on the exhibits where the airport design and imaginary airspace surfaces are relative to these temporary objects. Identify the location of any NAVAID critical areas, the location of the ATCT.

On the exhibit(s), identify the location of the POIs and include a table listing each POI's latitude, longitude, SE, and AGL.

Figure B-6. Haul Route Example



Note 1: TVOR = TVOR NAVAID
Note 2: Identify POI "H 2" as closest to the TVOR.
Note 3: See Table B-2 for POI data elements.

Table B-2. POIs Identifying Haul Routes

POI	SE	AGL*	AMSL	Latitude	Longitude	Comment
HR 1	102	15	117	XX-XX-XX.X	YY-YY-YY.YY	
HR 2	101	15	116	XX-XX-XX.X	YY-YY-YY.YY	Near TVOR
HR 3	104	15	119	XX-XX-XX.X	YY-YY-YY.YY	
HR 4	100	15	115	XX-XX-XX.X	YY-YY-YY.YY	650 from R/W edge**

Note: *Maximum height of truck using the haul route.
Note: ** Radio contact with the tower needed for permission to get closer to the runway.

B.6.4 Description/Remarks.

1. The information provided becomes part of the FAA's determination.
2. Reference the permanent construction NRA case number(s), if applicable.
3. Describe the project and identify any planned mitigations.

Example: *This case is for construction equipment on the haul route associated with the Construction of TW A project. The associated taxiway project has been submitted as 2017-AXX-1234 thru 1235-NRA.*

B.7 **Cranes.**

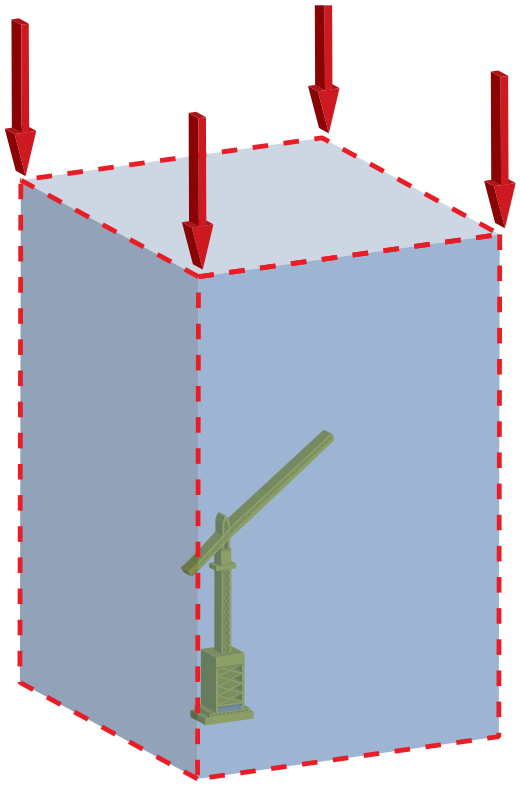
B.7.1 Background.

Airports often need cranes to lift and move materials or equipment. While cranes are temporary, they could impact the operation of the airport and therefore need evaluating. Construction cranes are either fixed or mobile. Evaluation of temporary cranes is determined by the crane's use. If the crane boom is fixed at one location, then one POI is sufficient. Most crane proposals involve moving cranes to various worksite locations during construction. In this case, the FAA prefers an area analysis for evaluating the aeronautical effect of the crane; also referred to as a "Box" analysis. Define the footprint area with work point boundaries. Refer Figure B-7 and Figure B-8.

B.7.2 Selection of POIs.

The FAA may need several POIs to determine the aeronautical effect of the area since a crane can have a large movement area. Select POIs that approximate the crane operation area (boom). The highest site elevation or finished grade elevation within the box area is recorded as the site elevation. The AGL for each POI is the maximum height of the crane or boom at that point.

Figure B-7. Crane Box Analysis Example



B.7.3 Attachments.

Submit a plan view drawing that illustrates the crane's operating area, its location relative to the airfield, and provide the following:

1. A plan view drawing outlining the crane operation area as it relates to the closest runway. Identify the location of any NAVAID critical areas and the location of the ATCT.
2. Crane specifications including maximum height, horizontal and veritical profiles, and make and model, if available.

Figure B-8. Crane Area Analysis Example

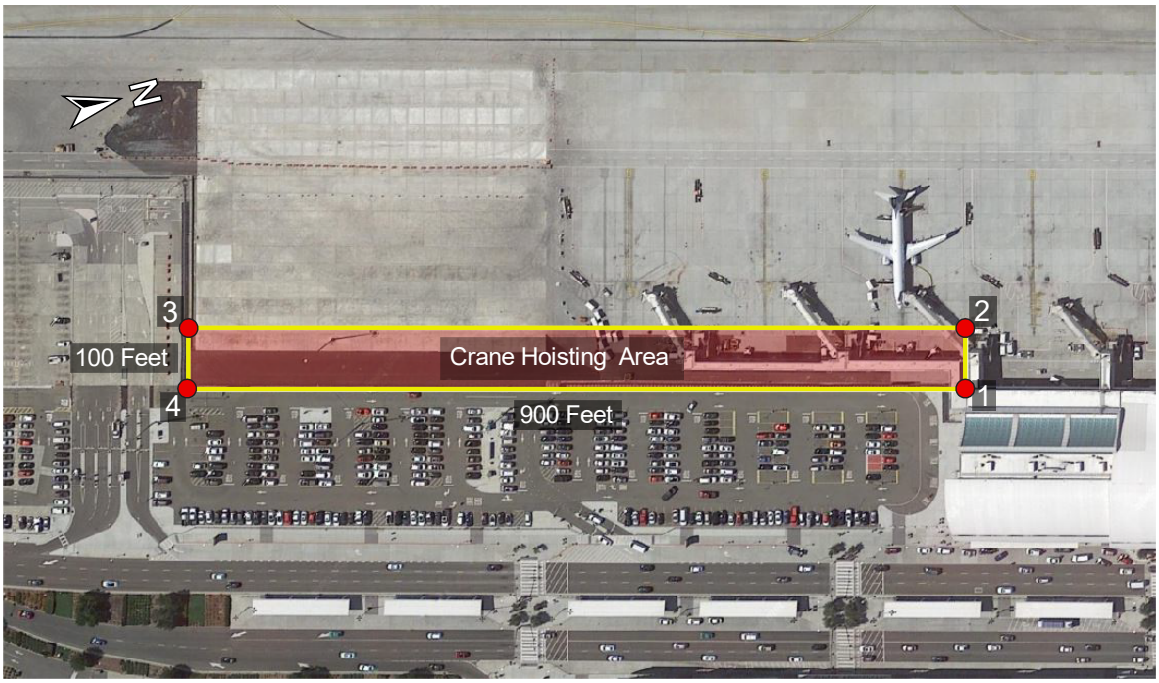


Table B-3. POIs for a Crane Work Area

POI	SE	AGL	AMSL	Latitude	Longitude	Description
1	46	125	171	37-36-40.93	121-56-38.56	NE Corner
2	46	125	171	37-36-40.03	121-56-40.26	NW Corner
3	46	125	171	37-36-21.42	121-56-19.64	SW Corner
4	46	125	171	37-36-22.50	121-56-18.02	SE Corner

B.7.4 Description/Remarks.

The information provided becomes part of the FAA's determination.

Reference the permanent construction NRA case number(s), if applicable.

Provide a detailed description of the proposed work including the type of materials being hoisted for all crane submittals. Include details of the crane operating plan (e.g., work hours, if crane is lowered at night, marking and/or lighting, etc.).

Example: This request is for a tower crane to construct an addition to the terminal building. The crane will be hoisting non-reflective roofing material. The associated terminal expansion project has been submitted as 2017-AXX-1234 thru 1235-NRA. The crane is a [Make and Model] and cannot be

lowered. The tower crane will be marked and lighted in accordance with AC 70/7460-1.

B.8 **Drill Rigs.**

Airports often have a need for drill rigs to work on the airfield, e.g., geotechnical testing. The drill rig may need to set up in various locations across the airfield to perform its work. Operating the drill rig in particular areas or surfaces may have an impact on airport operations to include FAA underground utilities. A detailed drawing showing site location, coordinates, SE, AGL, and duration is helpful in expediting the review. Unless there are unique circumstances, the analysis of drill rigs on airports is similar to the analysis of cranes on an airport. Refer to the analysis described in paragraph B.7.

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APPENDIX C. PLANNING

This appendix serves as a guide identifying the information needed by the FAA when reviewing the planning projects. It is not intended to be step-by-step instructions on how to navigate the OE/AAA web portal. Directions on how to file electronically and navigate the OE/AAA website, can be found at https://oeaaa.faa.gov and selecting the "Instructions" link.

C.1 General.

Planning projects include, but not limited to, activities regarding Construction Safety Phasing Plans, ALPs, non-aeronautical event safety plans, and Feasibility Studies. The following information discusses POI determination, appropriate documentation, and clarifying information for the common planning studies.

Enter latitude and longitude coordinates as degrees, minutes and seconds for the POIs. Accuracy is provided to the nearest hundreth of a second if possible. The AGL for a POI for planning studies is entered as one foot.

Your aeronautical study may be the first time divisions of the FAA have been made aware of the study. It is critical to provide clear exhibits that illustrate the study location (if applicable) relative to the airfield.

C.2 Airport Layout Plan (ALP).

C.2.1 Background.

An ALP creates a plan for airport development by depicting existing facilities and proposed future improvements. The ALP provides a guideline by which the airport sponsor can plan for development that maintains airport design standards and safety levels and is consistent with airport and community land use plans. It allows the FAA to protect the airspace necessary for facility or approach procedure improvements. Refer to AC 150/5070-6, *Airport Master Plans*, for additional information related to preparing an ALP.

Approval of an ALP does not relieve the airport sponsor from submitting OE/AAA studies for future construction or plans. Nor does it relieve the sponsor of any compliance responsibilities relating to any other law, ordinance, or regulation of any federal, state, or local governmental body which may include an environmental determination in accordance with the National Environmental Protection Policy.

C.2.2 Selection of POIs.

Submit an ALP with one POI. Select the ARP with an AGL of one foot for the plan review.

C.2.3 Attachments.

Submit the ALP (all sheets) with a coordination memo. The memo cites significant ALP changes such as a new, extended, or relocated runway, new taxiways, changes in critical aircraft, proposed changes in runway approach minimums, proposed changes to declared distances, any changes in the RPZ dimensions, and explains why (change in critical aircraft, change in minima, etc.). The memo highlights non-standard conditions such as non-standard runway - taxiway separation, non-standard taxiway – taxiway separation, non-standard design criteria (safety area, OFA, obstacle free zone, etc.)

C.2.4 Description/Remarks.

The information provided becomes part of the FAA's determination.

Provide a brief description of the ALP and overall intent of changes from the airport's previous ALP. In addition, refer the reviewer to the attached coordination memo.

Example: This airspace case is for FAA review of a proposed Airport Layout Plan. Significant changes from the previous ALP include an extension to Runway 3/21 and changes in future use from B-II to C-II. See the attached coordination memo for a list of all changes.

C.3 **Non-Aeronautical Event.**

C.3.1 Background.

An airport developed or improved with federal funds may not be closed for a non-aeronautical event without FAA coordination. 49 U.S.C. 47107(a)(8), implemented by Airport Sponsor Assurance 19a, *Operation and Maintenance*, requires that any such proposal submitted by the proponent include adequate documentation for the FAA to review. The FAA will not object to the event if it meets safety standards and benefits civil aviation.

Each non-aeronautical event on an airport has its unique set of circumstances. Prior to developing a safety plan, it is highly recommended to contact the ADO or RO for additional guidance.

C.3.2 Selection of POIs.

Submit a non-aeronautical event with one POI. Select the ARP or a point where the event will occur with an AGL of the height of the tallest object for the event.

C.3.3 Attachments.

Contact the ADO or RO when developing the non-aeronautical event safety plan. Include sections on the impacts to aeronautical use, liability and risk, safety, security, and benefits to the airport and to aviation. Attach the safety plan to the OE/AAA submittal.

C.3.4 Description/Remarks.

The information provided becomes part of the FAA's determination. Provide a description of the non-aeronautical event and the airport facilities impacted.

Example: This airspace case is for FAA review of a 5k marathon to benefit the local charity. During the event, Runway 18-36 and Taxiway W will be closed.

C.4 **Feasibility Study.**

C.4.1 Background.

A feasibility study is proposed when an aeronautical review would assist the airport sponsor in their planning efforts. This study is based on broad, general information provided for the development under consideration. A feasibility study usually addresses specific issues, e.g., structure height at a general location. Feasibility studies also include siting for relocating or constructing, a new or replacement airport.

C.4.2 Selection of POIs.

Select a point in the center for conceptual proposals (e.g., terminal area plans, feasibility reports, etc.) or airport site selections. For a feasibility analysis, select the most critical location(s) of the structure for study.

C.4.3 Attachments.

Attach relevant study information (site plans, diagrams and/or reports).

C.4.4 Description/Remarks.

The information provided becomes part of the FAA's determination.

Provide a description of the proposal. To assist reviewers, note any items in the remarks.

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APPENDIX D. SELECTING POINTS OF INTEREST (POIs)

D.1 Objects to Study.

The FAA's policy requires that each structure be assigned a separate aeronautical study number and that a separate aeronautical study be conducted. This can cause concern when evaluating the aeronautical effect of an object or structure that has a large area. To address this issue, use POIs to identify the object area limits and any critical location(s) within that area. The FAA studies each POI separately and groups the overall study results under a single project and a single determination.

D.2 POI Data Elements.

Determining the number and location of POIs for each structure or object is vital in submitting a proposal for an aeronautical study with the FAA. Each POI has:

- A SE
- A specific AGL height
- A specific above mean seal level (AMSL) elevation equal to SE plus AGL
- A specific latitude coordinate
- A specific longitude coordinate
- An optional descriptive statement/comment

There is a minimum of five data elements for each POI. Many POIs contain an optional descriptive statement/comment. Any attempt to reduce the number of POIs consequently reduces the workload for all parties involved with the proposal. More POIs do not necessarily make a better proposal submittal.

D.3 Example: Reducing POIs.

The following is an example of reducing the number of POIs for a proposal submittal for the following on-airport facility.

The sponsor initially listed twelve POIs (Figure D-1) that identified each corner of the proposed facility. After discussion with the airport parties involved, the sponsor reduced the POIs (Figure D-2) to four that were sufficient to identify the structure's footprint.

Figure D-1. Building with Twelve POIs

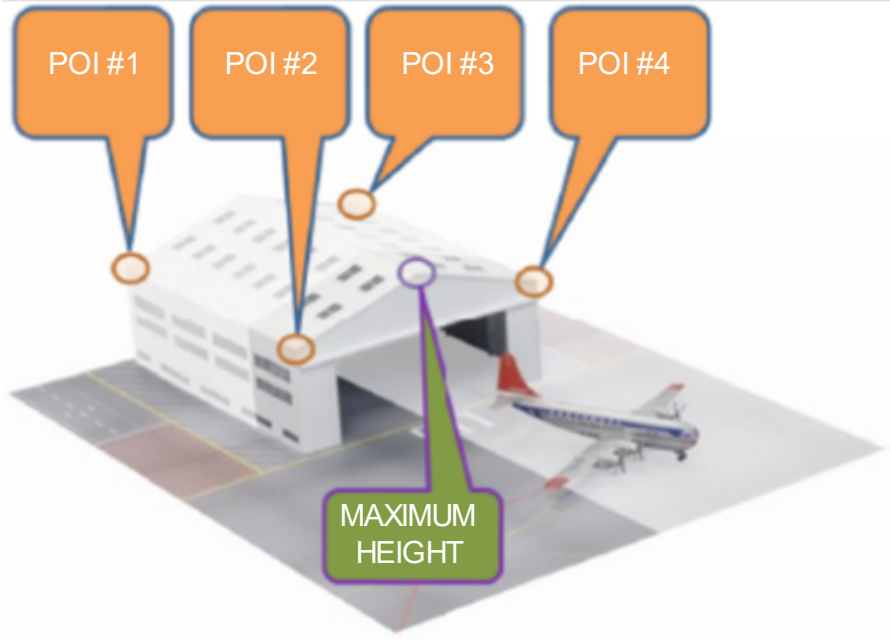
Figure D-2. Building Reduced to Four POIs

D.4 **POIs for Building Appurtenances.**

The AGL for a building or structure is not necessarily the roof peak. The AGL includes the highest elevation of the structure, e.g., roof peak or appurtenances (AC units, antennas, flag poles, light poles, etc.).

Figure D-3. Highest Building Point

Figure D-4. Building POIs Without Appurtenances



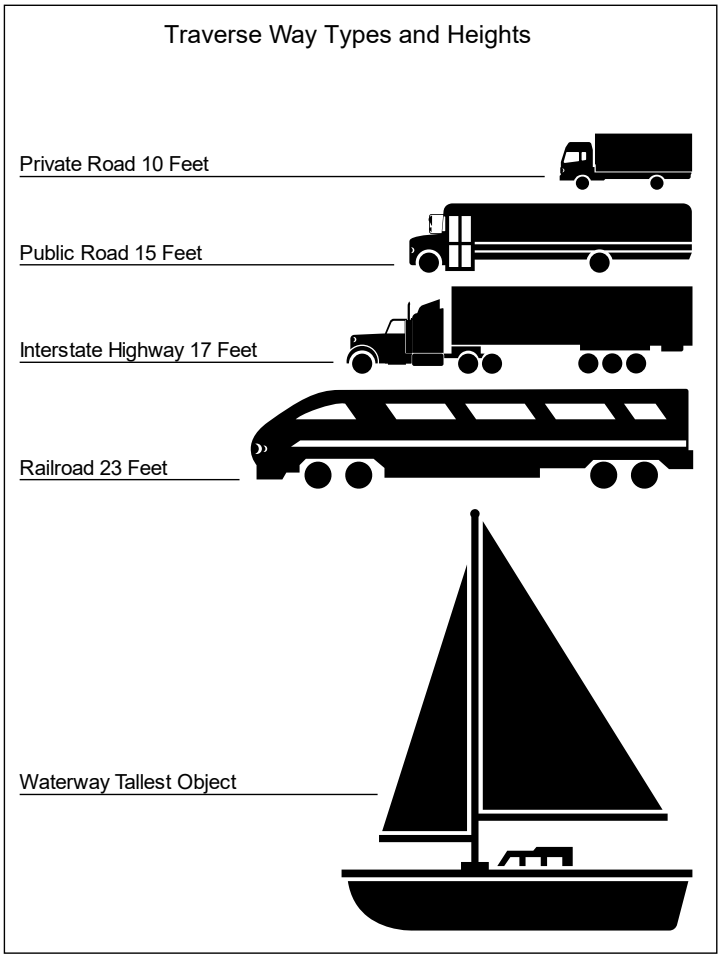
D.5 Notice Requirements Related to Traverse Ways.

14 CFR Part 77, *Safe, Efficient Use, and Preservation of Navigable Airspace* requires notice for any construction or alteration that penetrates an imaginary surface extending outward and upward at any of the following slopes:

1. 100 to 1 for a horizontal distance of 20,000 ft from the nearest point of the nearest runway of a public-use airport with its longest runway more than 3,200 ft in actual length, excluding heliports.
2. 50 to 1 for a horizontal distance of 10,000 ft from the nearest point of the nearest runway of a public-use airport with its longest runway no more than 3,200 ft in actual length, excluding heliports.

Figure D-5 illustrates the height allowances for various traverse ways on and around airports.

Figure D-5. Traverse Way Types and Heights



APPENDIX E. GRAPHICS

Provide clear graphics that tell the story of the proposal for the FAA to efficiently conduct an aeronautical study. There are three types of commonly used drawings, and one table, to describe a proposal. They include:

1. An overall plan view showing the proposal's site location on the airport.
2. A drawing or sketch clearly depicting the details of the proposal study area.
3. Supplementary graphics and information, as needed, clearly describing issues or concerns, such as height restrictions, ingress/egress issues, environmental concerns, etc.
4. A table of POI information associated with the study site (refer to paragraph D.2).

E.1 Airport Surfaces.

An in-depth discussion of the different airport design surfaces, airport safety areas, and runway approach/departure areas is beyond the scope of this AC. These surfaces and areas are described in detail in:

1. 14 CFR Part 77, *Safe, Efficient Use, and Preservation of Navigable Airspace*
2. AC 150/5300-13, *Airport Design*
3. FAA Order 8260.3, *United States Terminal Instrument Procedures (TERPS)*

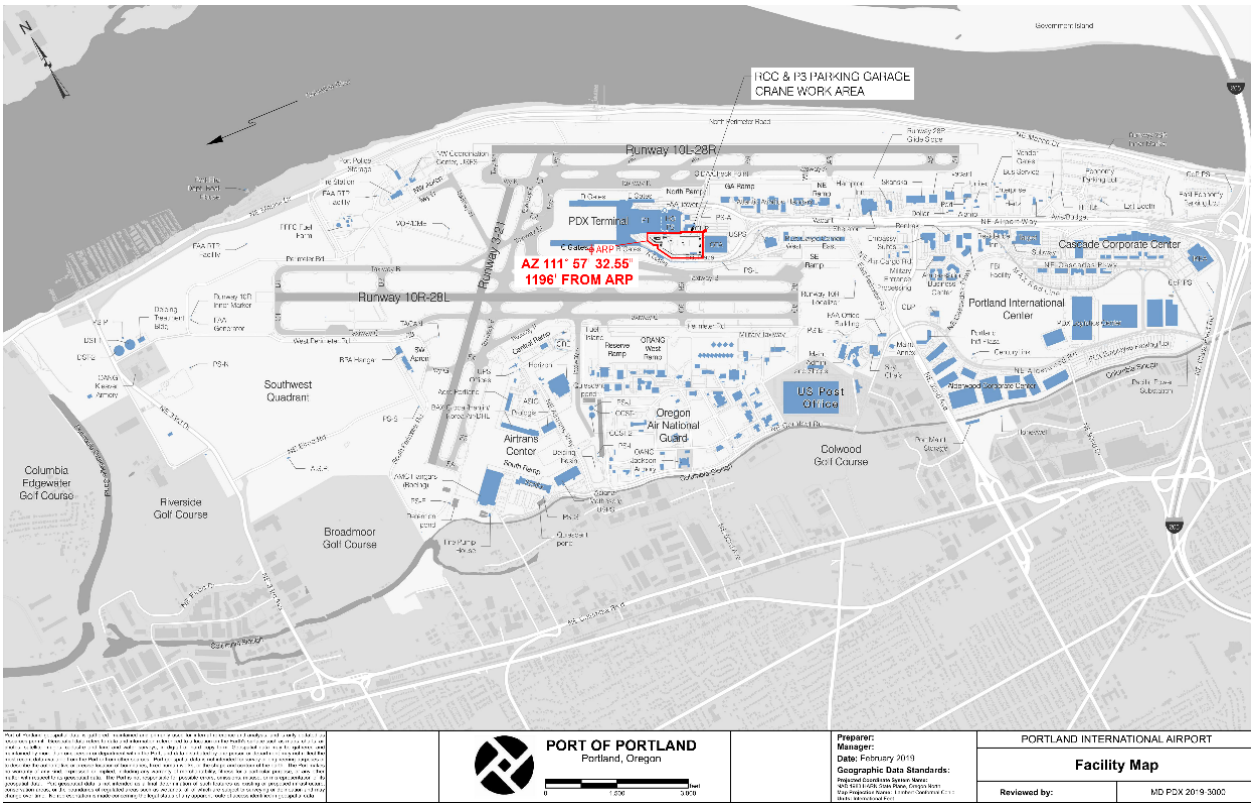
These documents are available on the FAA website at www.FAA.gov.

For clarity, the design surfaces were not added to the figures in Appendix A and Appendix B. These figures emphasize clearly showing the proposal area and the proper selection of the POIs.

E.2 Overall Graphic.

Figure E-1 is a site plan of the airport showing the project (proposal) location in the context of the airport. The example is a copy of the ALP depicting the project location in relationship to the airport. It has the major features labeled and a north arrow for orientation.

Figure E-1. Facility Map



An airport graphic similar to an ALP can show pertinent information. Figure B-2 is an example of an overall airport drawing.

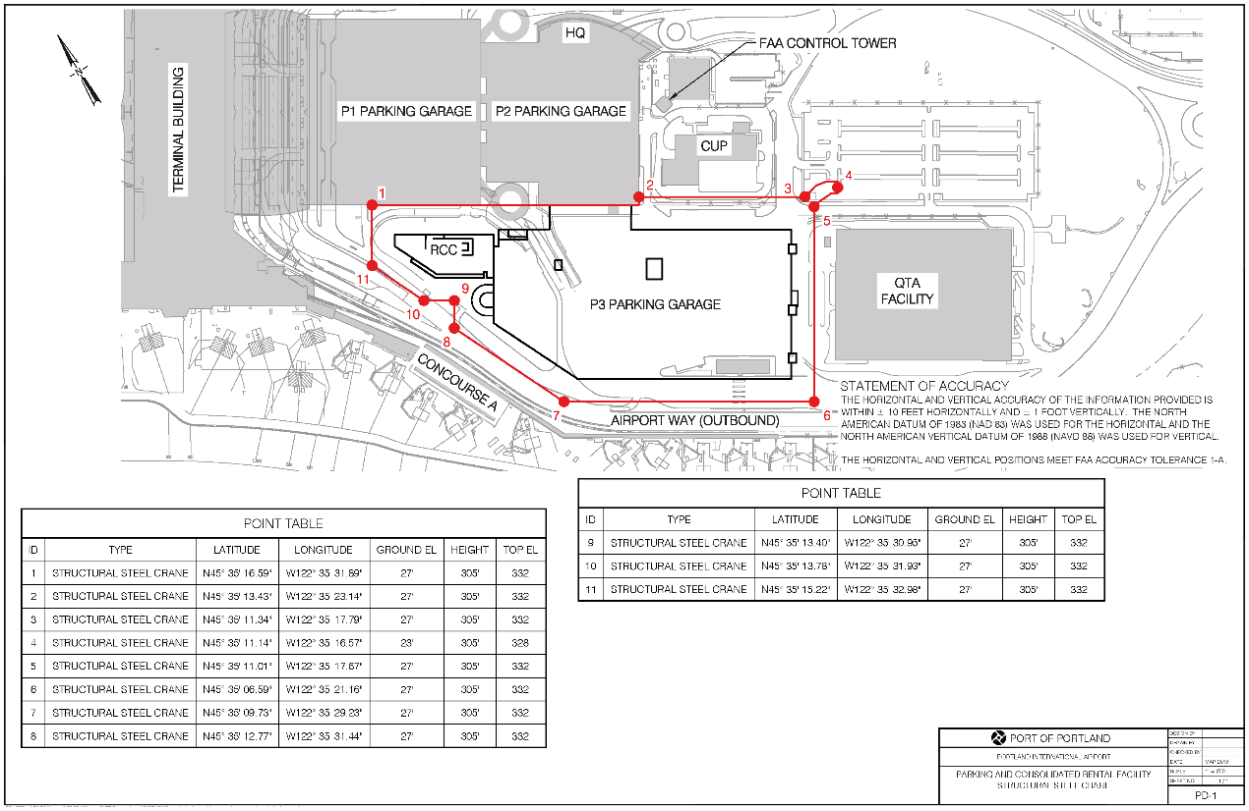
E.3 Site Specific Graphic.

In general, a site-specific graphic includes:

1. Plan view orientation clearly showing the proposal site area in relation to the entire airport.
2. Clearly labeled features such as runways, taxiways, aprons, facilities, access roads, etc.
3. Identified work areas and project points.
4. A north arrow on all plan views.
5. Anything additional, as needed.

Graphics are usually a magnified enlargement of the area in question with the facility and neighboring areas clearly labeled, POIs identified, and a data information table either on, or with the graphic. Figure E-2 is a site-specific enlargement of the proposal area.

Figure E-2. Site Specific Graphic



POINT TABLE

ID	TYPE	LATITUDE	LONGITUDE	GROUND EL	HEIGHT	TOP EL
1	STRUCTURAL STEEL CRANE	N45° 39' 16.59"	W122° 35' 31.69"	27'	305'	332
2	STRUCTURAL STEEL CRANE	N45° 39' 13.43"	W122° 35' 23.14"	27'	305'	332
3	STRUCTURAL STEEL CRANE	N45° 39' 11.34"	W122° 35' 17.79"	27'	305'	332
4	STRUCTURAL STEEL CRANE	N45° 39' 11.14"	W122° 35' 16.57"	23'	305'	328
5	STRUCTURAL STEEL CRANE	N45° 39' 11.01"	W122° 35' 17.67"	27'	305'	332
6	STRUCTURAL STEEL CRANE	N45° 39' 06.59"	W122° 35' 21.16"	27'	305'	332
7	STRUCTURAL STEEL CRANE	N45° 39' 09.73"	W122° 35' 29.23"	27'	305'	332
8	STRUCTURAL STEEL CRANE	N45° 39' 12.77"	W122° 35' 31.44"	27'	305'	332

POINT TABLE

ID	TYPE	LATITUDE	LONGITUDE	GROUND EL	HEIGHT	TOP EL
9	STRUCTURAL STEEL CRANE	N45° 39' 13.40"	W122° 35' 30.95"	27'	305'	332
10	STRUCTURAL STEEL CRANE	N45° 39' 13.78"	W122° 35' 31.93"	27'	305'	332
11	STRUCTURAL STEEL CRANE	N45° 39' 15.22"	W122° 35' 32.96"	27'	305'	332

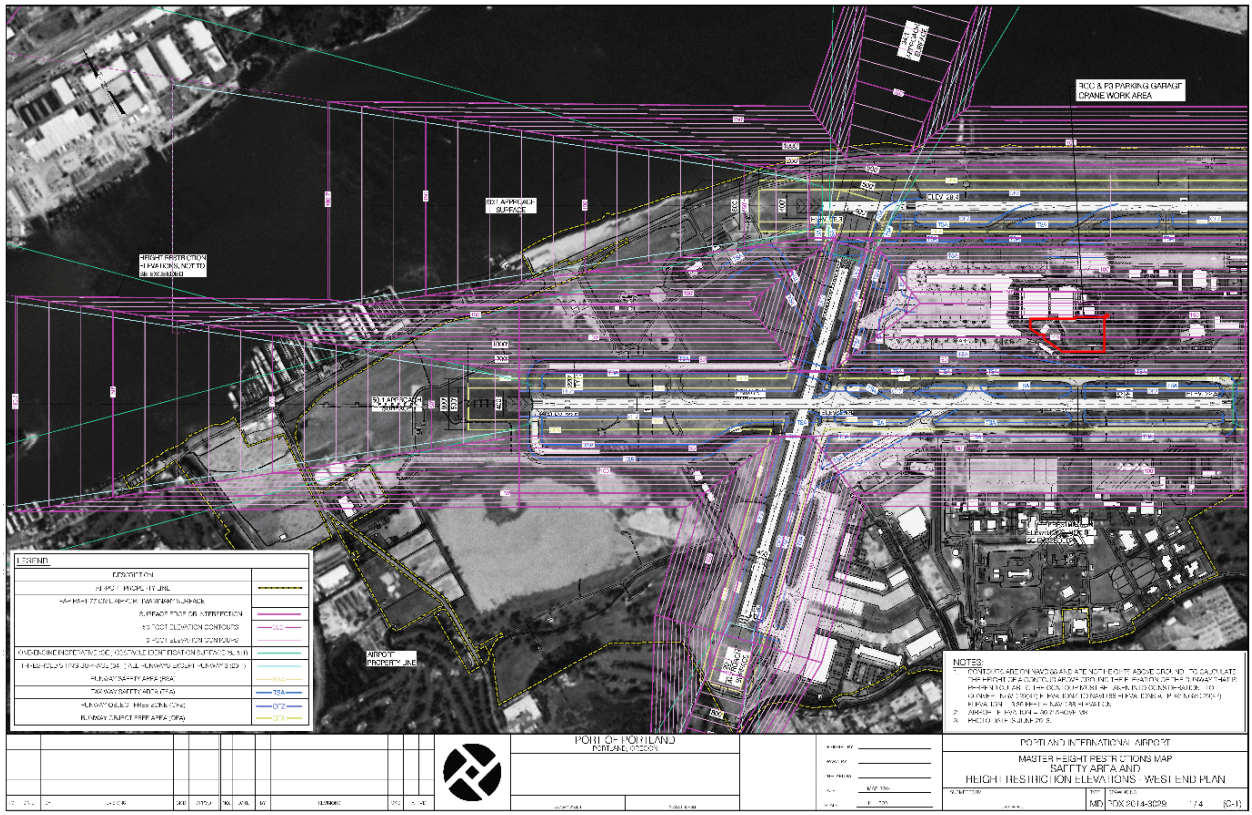
In this example, the sponsor included the POI data information table with the graphic. Based on the circumstances of the proposal, the sponsor has the option to submit a separate, stand-alone, POI table. It is important that the sponsor to submit accurate and complete information.

Figure A-1, Figure A-11, and Figure A-16 are examples of graphics with magnified enlargement areas.

E.4 Supplemental Graphics.

Providing supplemental drawings and materials is discretionary. The proposal included the airport imaginary surfaces relative to the proposed project to further demonstrate the sponsor examined the surfaces (Figure E-3).

Figure E-3. Supplemental Graphic



Section drawings, in conjunction with the site plan identifying the profile of the structure, are another example of supplemental information. Figure A-14 contains a fence profile views associated with the plan views of proposed airport fencing shown in Figure A-12 and Figure A-13.

Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Engineering Division, Federal Aviation Administration ATTN: AAS-100, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Safety and Standards at (202) 267-5383.

Subject: AC 150/5300-20 Date: _____

Please check all appropriate line items:

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:

_____
_____
_____

☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

_____
_____
_____

☐ Other comments:

_____
_____
_____

☐ I would like to discuss the above. Please contact me at (phone number, email address).

_____
_____
_____

Submitted by: _____ Date: _____