Airport Traffic Control Tower (ATCT) Replacement

Barkley Regional Airport (PAH) ATCT Final Tiered Environmental Assessment (EA)

Paducah, Kentucky

April 2025

This Environmental Assessment becomes a federal document when evaluated, signed, and dated by the Responsible FAA Official.

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ACRONYMS AND ABBREVIATIONS

AGL ..... Above Ground Level
AMSL ..... Above Mean Sea Level
APE ..... Area of Potential Effect
ATCT ..... Airport Traffic Control Tower
AVCO ..... The Aviation Corporation
BLM ..... Bureau of Land Management
BMP ..... Best Management Practice
CEQ ..... Council on Environmental Quality
CFR ..... Code of Federal Regulations
CZMA ..... Coastal Zone Management Act
DOT ..... Department of Transportation
EA ..... Environmental Assessment
ECOS ..... Environmental Conservation Online System
EPA ..... U.S. Environmental Protection Agency
ESA ..... Endangered Species Act
FAA ..... Federal Aviation Administration
FBO ..... Fixed Base Operator
FEMA ..... Federal Emergency Management Agency
FONSI ..... Finding of No Significant Impact
FY ..... Fiscal Year
IIJA ..... Infrastructure Investment and Jobs Act
IPaC ..... Information for Planning and Consultation
KY ..... Kentucky
LLC ..... Limited Liability Company
NAS ..... National Airspace System
NEPA ..... National Environmental Policy Act
NFHL ..... National Flood Hazard Layer
NOAA ..... National Oceanic and Atmospheric Administration
NPDES ..... National Pollutant Discharge Elimination System
NPS ..... National Park Service
NRHP ..... National Register of Historic Places
PAH ..... Barkley Regional Airport
PEA ..... Programmatic Environmental Assessment
ROD ..... Record of Decision
SHPO ..... State Historic Preservation Officer
U.S. ..... United States of America
U.S.C. ..... U.S. Code
USDA ..... U.S. Department of Agriculture
USFWS ..... U.S. Fish and Wildlife Service
USGS ..... United States Geological Survey
VISTA ..... Virtual Immersive Siting Tower Assessment

SECTION 1 | INTRODUCTION

1.1 OVERVIEW

The Federal Aviation Administration (FAA) is proposing to replace the existing Airport Traffic Control Tower (ATCT) at Barkley Regional Airport (PAH). The Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58), enacted on November 15, 2021, appropriated $25 billion (B) over a five-year period (Fiscal Year 2022 [FY22] to 2026 [FY26]) for National Airspace System (NAS) improvements, which includes airport traffic control and other airport infrastructure projects. As a result, the FAA Air Traffic Organization (ATO) established a dedicated ATCT Replacement Program to replace existing FAA-owned ATCTs at mainly non-major airports with modern ATCT facilities (FAA, n.d. (a)). The National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] § 4321 et seq.) requires that a federal agency prepare a statement of environmental impacts as part of the development process for projects requiring a federal action, such as funding, approving, or permitting.

The FAA prepared a Final Programmatic Environmental Assessment (PEA) for this ATCT Replacement Program (hereinafter referred to as ATCT Final PEA[1]) (FAA ATCT Final PEA, 2023) in accordance with NEPA (42 U.S.C. § 4321 et seq.); FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*; the Fiscal Responsibility Act of 2023 (Public Law 118-5); and other applicable federal laws and regulations. The ATCT Final PEA provided sufficient evidence and analysis for a Finding of No Significant Impact (FONSI)/Record of Decision (ROD) determination (FAA ATCT Final PEA, 2023).

This ATCT EA for PAH tiers[2] from the ATCT Final PEA (FAA ATCT Final PEA, 2023) to evaluate the existing environment and analyze the anticipated environmental consequences of the proposed alternatives at a site-specific level through the framework established by the ATCT Final PEA and FONSI/ROD.

1.2 PROPOSED ACTION

The FAA's Proposed Action is to replace the existing FAA-owned PAH ATCT with a modern, sustainable ATCT facility. Figure 1-1 provides an aerial image of the airport, existing ATCT, and Figure 4-1 displays the area of potential effects, proposed new ATCT site, and study area considered within this EA. The Proposed Action is anticipated to include the following activities:

- Acquisition of a new lease with the airport authority to construct an ATCT in a new location.

[1] The ATCT Final PEA can be found here:
https://www.faa.gov/air-traffic/bilatctfinalpea21sept2023signed

[2] Tiering in accordance with NEPA is defined in FAA Order 1050.1F, Section 3-2.

- Unconditional approval of portions of the Airport Layout Plan that depict those portions of the Proposed Project subject to FAA review and approval pursuant to 49 U.S.C. § 47107(a)(16).
- Construction and operation of a replacement ATCT, an administrative base building, and other associated facility support features such as a parking area and security fences.
- Extension of access roads and utilities to the replacement ATCT.
- Installation of modern air traffic control electronic equipment in the replacement ATCT.
- Commissioning of the replacement ATCT, cutover of air traffic services to the replacement ATCT, and decommissioning of the existing ATCT.
- Demolition and disposal of the existing ATCT facility and associated infrastructure.
- Modification and/or relocation of existing NAS facilities or airport structures necessary to enable project implementation.

The proposed timeframe to replace the ATCT is five years from the estimated construction start date, following the electronics installation and air traffic services cutover to demolition of the existing ATCT.

1.3 BACKGROUND

1.3.1 Airport Information

The Barkley Regional Airport (PAH) is in the City of West Paducah in western Kentucky, and serves the cities of Paducah, Murray, and Mayfield in the "Purchase" region of the state. In 2022, there were 22,134 operations at PAH. The airport is approximately 11.5 miles west of the City of Paducah within McCracken County near the northern Kentucky-Illinois border. Originally named the Paducah-McCracken County airport, the airport was created in 1941 as a military surplus to support B-17 bomber crew training (Barkley Regional Airport, NDa). Commercial flights began in 1946; in 1949, the airport was renamed for Senator Alben Barkley whose efforts started the airport in 1941 (Barkley Regional Airport, NDa).

The airport is owned and operated by Barkley Regional Airport Authority (Barkley Regional Airport, NDb). Support facilities at the airport include the terminal building, airport operations facilities, parking lots, aircraft maintenance facilities, fuel storage, and utilities. A new passenger terminal was opened in June 2023, replacing the previous terminal from 1955. The terminal project included a new parking area, rental car area, new terminal apron, and a new entrance road.

Figure 1-1. Aerial Image of the Airport Property

1.3.2 Existing Airport Traffic Control Tower Information

Constructed in 1974, the existing FAA-owned PAH ATCT is a Hunt/Aviation Corporation (AVCO) design (see Figure 1-2), Tier 4 facility. The structure has four floors with a non-spiral stair access without an elevator. The ATCT has a cab size of 250 square feet with cab eye level at 34 feet (ft) above ground level (AGL). The area surrounding the existing tower includes gravel and a paved parking area on the front side, and a gravel area adjacent to the ATCT for an equipment storage building and exterior utilities. The ATCT operates daily from 5:00 AM to 11:00 PM and controllers maintain all air to ground communications and visual signaling within 5 nautical miles and up to 5,000 feet of elevation above the airport during these hours. The existing tower is located approximately 400 feet northwest of the terminal and approximately 830 feet southwest of the intersection of Runway 14/32 and Taxiway A at 37° 3' 27" N / 88° 46' 18" W.

Figure 1-2. Photo of Existing Hunt/AVCO ATCT at PAH

SECTION 2 | PURPOSE AND NEED

This Purpose and Need is tiered from, and consistent with, the ATCT Final PEA (FAA ATCT Final PEA, 2023) but focuses on the specific requirements of the PAH ATCT.

2.1 PURPOSE

The PAH ATCT is an FAA-owned ATCT proposed for replacement under the ATCT Replacement Program. The purpose of the Proposed Action is to replace the PAH ATCT with a modern ATCT providing for uninterrupted air traffic control services.

The Proposed Action at this airport would provide for a modern, operationally efficient ATCT that would meet all applicable FAA requirements. This replacement ATCT would enable the installation of modern and required air traffic control equipment, improve visibility of the airport property, provide adequate space and an enhanced work environment for FAA personnel, lower operating costs, and improve environmental performance, resulting in energy savings, water efficiency, reduced carbon emissions, and improved indoor air quality.

2.2 NEED

The FAA recognizes the need to provide continual air traffic control services at PAH. The PAH ATCT does not have the ability to accommodate upgrades to the latest air traffic control technologies, does not meet personnel space requirements, and lacks modern amenities. Improvements made to rectify this must ensure uninterrupted air traffic control services to maintain the safety of the NAS.

SECTION 3 | ALTERNATIVES

In compliance with FAA Order 6480.4B, *Airport Traffic Control Tower Siting Process*, the FAA adheres to a siting process to determine the single-most technically feasible site for the establishment or replacement of an ATCT facility (FAA, 2018). This siting process takes into consideration multiple technical criteria, as prescribed in FAA Order 6480.4B.

Representatives from the FAA and PAH airport conducted siting for this project in conjunction with FAA's Virtual Immersive Siting Tower Assessment (VISTA). The FAA and PAH airport representatives met virtually to participate in siting activities in accordance with the VISTA Memo to determine viable and preferred ATCT sites for a potential new ATCT at PAH (FAA, 2023).

This tiered EA evaluates the selected site alternative (as determined by the ATCT siting process) and no build alternative for the proposed replacement of the PAH ATCT. Other alternatives considered in the siting report were not carried forward because they did not meet the technical siting criteria outlined in FAA Order 6480.4B and were all deemed not viable due to line of sight issues. Figure 3-1. displays a preliminary layout plan of the proposed replacement tower at the proposed new ATCT site.

3.1 ALTERNATIVE 1: PROPOSED ACTION (PREFERRED ALTERNATIVE)

The Proposed Action, as governed by the siting process governed by FAA Order 6480.4B, *Airport Traffic Control Tower Siting Process,* is construction and operation of a replacement ATCT at a site referred to in the siting report as Site C, hereinafter referred to as the proposed new ATCT site. The 1.28-acre proposed new ATCT site is located at a latitude of 37°3'25.41"N and a longitude of 88°46'18.41"W, approximately 190 ft south of the existing ATCT. This location was deemed most technically feasible of the siting alternatives considered based on the siting criteria referenced in Chapter 2 of the ATCT Final PEA (FAA ATCT Final PEA, 2023).

The proposed new ATCT site is accessed by Old Hinkleville Road via secure access from the new terminal. The existing ATCT is located to the north of the proposed new ATCT site, the access road to the existing ATCT is to the northeast, the new terminal parking lot is to the south, and the new terminal building, ramp, and a taxiway to the southwest. The proposed new ATCT site is an undeveloped lot with maintained grass and other herbaceous vegetation.

The proposed new ATCT site provides the most optimal visibility of the considered alternatives for air traffic control. The proposed tower cab floor elevation is 91 ft AGL and 497 ft above mean sea level (AMSL). This is the minimum height that would meet all siting criteria under the Safety Management System. At this height, controllers would have unobstructed views of all airport controlled areas and all airborne traffic. The tower would have an 8-sided, 450 square foot cab. The proposed design includes space for four air traffic controller positions: Ground Control, Local Control, Flight Data, and Controller-In-Charge. Stairs would be located opposite the Ground Control position. This proposed design would allow for a safe operating environment and would protect against seismic events that have potential to occur in the area (USGS, 2022). New utilities would be placed from existing lines within the study area. Existing local roads would be used for construction and maintenance traffic.

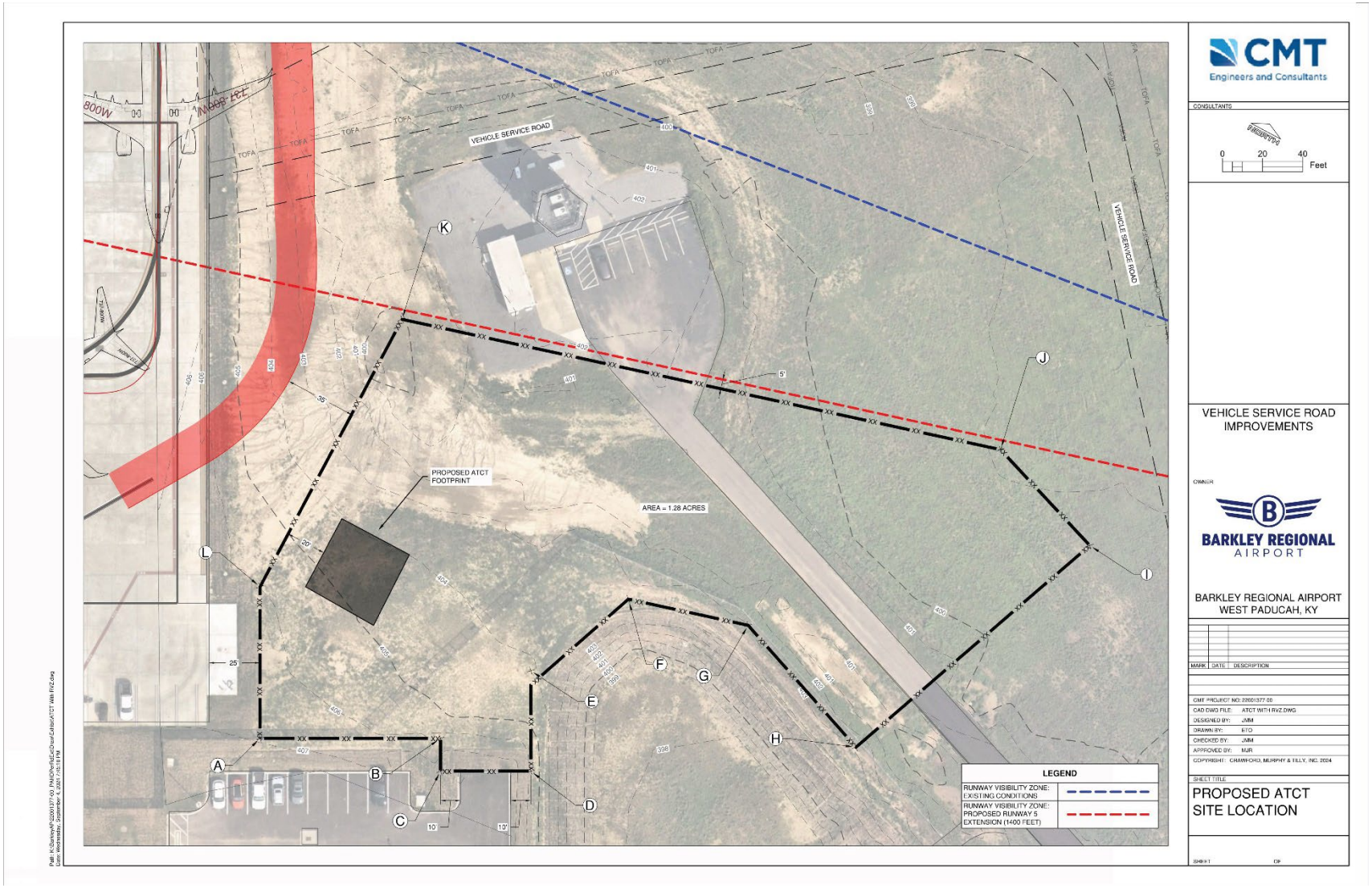

Figure 3-1. Proposed Layout of Replacement ATCT

3.2 ALTERNATIVE 2: NO ACTION

A No Action Alternative is required to be included in this EA consistent with FAA Order 1050.1F. The No Action Alternative is defined as maintaining the status quo (baseline conditions) without federal agency involvement. The No Action Alternative is used to evaluate the effects of not replacing the ATCT and provides a benchmark against which other alternatives may be evaluated. Therefore, for comparative analysis in this EA, the No Action Alternative represents the conditions that would be anticipated if Alternative 1 (Proposed Action) were not implemented.

SECTION 4 | AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This Section describes the existing environmental resource conditions or affected environment at PAH and surrounding areas. This Section also analyzes the anticipated environmental consequences from each alternative for each resource category.

As detailed in the ATCT Final PEA and FONSI/ROD, the FAA identified and analyzed potential environmental impacts for the broad scope of actions planned for ATCT replacement activities (FAA ATCT Final PEA, 2023). This programmatic approach allows the FAA to review project-specific details and potential impacts during the site selection, planning, and construction processes for those ATCT projects within the scope of the PEA analysis.

4.1 RESOURCE CATEGORIES PREVIOUSLY REVIEWED BY THE ATCT FINAL PEA

The ATCT Final PEA and FONSI/ROD identified six resource categories as having "no significant impact" (FAA ATCT Final PEA, 2023). The following resource categories were reviewed for project specific impacts and determined to be consistent with the PEA in that no significant impacts are anticipated from implementation of the Proposed Action.

☒ Air Quality

☒ Climate

☒ Farmlands

☒ Hazardous Materials, Solid Waste, and Pollution Prevention

☒ Land Use

☒ Natural Resources and Energy Supply

☒ Noise

☒ Socioeconomics, Environmental Justice,[3] and Children's Environmental Health and Safety Risks

[3] On January 21, 2025, President Trump issued Executive Order 14173, *Ending Illegal Discrimination and Restoring Merit-Based Opportunity.* At that time, the NEPA process for this project was already underway and FAA's draft EA had been issued and reflected the expected scope and content of analysis in this NEPA process to include analysis of environmental justice. Due to the rescission of prior Executive Orders regarding environmental justice and the recent action by the Council on Environmental Quality (CEQ) to rescind the NEPA implementing regulations, it is no longer a legal requirement or the policy of the federal government to conduct an environmental analysis. Any prior data gathering, analysis, or discussion regarding environmental justice is not relevant for purposes of evaluating the NEPA significance of this project, nor did it play any role in agency decision-making.

4.2 RESOURCE CATEGORIES REQUIRING SITE-SPECIFIC ANALYSIS PER THE ATCT FINAL PEA

The ATCT Final PEA and FONSI/ROD also identified six resource categories that were unlikely to be significantly impacted but would require a site-specific analysis (FAA ATCT Final PEA, 2023). In accordance with the ATCT Final PEA, this EA reviews the following resource categories:

- Biological Resources – Section 4.2.1 includes a description of the existing environment and potential environmental consequences for biological resources.
- Coastal Resources – There are no coastal resources for consideration in proximity of PAH and no further analysis is required in this EA. The state of Kentucky does not have any coastal zones. Coastal resources are regulated by the National Oceanic and Atmospheric Administration (NOAA) under the Coastal Zone Management Act (CZMA) (16 U.S.C. §§ 1451 et seq.).
- Historical Architectural, Archaeological, and Cultural Resources – Section 4.2.2 includes a description of the existing environment and potential environmental consequences for historic and cultural resources.
- Department of Transportation (DOT) Act, Section 4(f) – Section 4.2.3 includes a description of the existing environment and potential environmental consequences for Section 4(f) properties on or near PAH.
- Visual Effects – Section 4.2.4 includes a description of the existing environment and potential environmental consequences for visual effects.
- Water Resources – Section 4.2.5 includes a description of the existing environment and potential environmental consequences for water resources.

Regulatory requirements for these resource categories can be found in more detail in the ATCT Final PEA (FAA ATCT Final PEA, 2023).

4.2.1 Biological Resources (including Fish, Wildlife, and Plants)

Biological resources include native plants, animals, and their habitats. Protected and sensitive biological resources include federally listed (endangered[4] or threatened[5]), and candidate[6] species designated by the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service, or a State. Sensitive habitats described in this Section include those

[4] Endangered species are "any species which is in danger of extinction throughout all or a significant portion of its range" (ESA, Section 3(6))

[5] Threatened species are "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (ESA, Section 3(20))

[6] Candidate species are any species whose status is under review "to determine whether it warrants listing under the ESA" (ESA, Section 4)

areas designated by the USFWS as critical habitat[7] protected by the Endangered Species Act of 1973 (ESA; 16 U.S.C. Chapter 35 § 1531 et seq.)

4.2.1.1 Affected Environment

Vegetation

The PAH airport is within the U.S. Environmental Protection Agency's (EPA) Level III Ecoregion 74-Mississippi Valley Loess Plains, and Level IV Ecoregion 74b-Loess Plains; however, the Level III 72-Interior River Valleys and Hills and Level IV 72a-Wabash-Ohio Bottomlands are within 5-10 miles of the airport. These ecoregions are primarily used for farming, but deciduous hardwood forest may be present in unfarmed locations. (Woods, et al., 2002)

The airport is in a sparsely populated residential and agricultural area with small plots of agricultural land adjoining the north and south sides of the airport. Small residential neighborhoods surrounded by trees and farmland are located to the east and west of the airport. The existing ATCT site includes gravel and pavement adjacent to the ATCT. The existing ATCT area includes the tower, concrete pads surrounded by gravel to house external utilities, and an asphalt parking area. The proposed new ATCT site is in an area that was previously disturbed during the construction of the new airport terminal.

The existing ATCT and proposed new ATCT project sites are surrounded by grass and other herbaceous vegetation that are regularly mowed by the airport. Existing vegetation included red clover (*Trifolium repens)*, Queen's Anne lace (*Daucus carota*), white clover (*Trifolium pratense*), fleabane (*Erigeron* spp.), stiff darnel (*Lolium rigidum*), dandelions (*Taraxacum officinale*), little barley (*Hordeum pusillum*), hop trefoil (or field clover, *Trifolium campestre*), dock (*Rumex* spp.), Carolina geranium (*Geranium carolinianum*), and other grass species. No trees are present at the existing or proposed new ATCT sites.

Wildlife and Fish

The proposed new ATCT site and existing tower are located on an active airport where vegetation is routinely mowed and removed as part of their Wildlife Hazard Management Plan (Barkley Regional Airport, 2012). The proposed new ATCT site is located adjacent to developed areas on or near the airport, within a site previously disturbed from the construction of the new terminal. No aquatic or other native critical habitat is present within or adjacent to the proposed new ATCT site. Highly mobile species, such as birds, bats, or flying insects, could be transiently present, but it is unlikely most wildlife would use the

[7] Critical habitat refers to "(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species." (ESA, Section 3(5)(A))

proposed new ATCT site or existing ATCT as permanent habitat. Structures and buildings on the airport are managed to prevent use by birds or bats for nesting or roosting.

Animals described as problem species at PAH in the airport's Wildlife Hazard Management Plan include deer, coyote, fox, and domestic dogs. Common birds, such as the American robin (*Turdus migratorius*), non-native house sparrow (*Passer domesticus*), or mourning dove (*Zenaida macroura*), and migratory species could use the airport property short-term for resting or feeding (Barkley Regional Airport, 2012). During the May 2024 site visit, insects including grasshoppers, ticks, small butterflies, and moths were observed. One bird species, red-breasted meadowlark (*Sturnella militaris*), was also observed. Airport staff mentioned often seeing turkey vultures (*Cathartes aura*) at PAH.

Measures are taken to reduce attractive habitat for avian and wildlife species through edge and other habitat removal, reducing or preventing standing water, and use of undesirable landscaping plants (low forage, perching, nesting, or cover value species). Prey species, such as small mammals and insects, are managed on the airport to prevent attracting predators, such as raptors, other avian species, or coyotes. Measures to prevent wildlife species presence on or use of PAH are prioritized over direct depredation as appropriate under applicable laws and regulations.

Special Status Species

Special status species generally occupy unique or specific habitat, such as riverine forests, wetlands, or native ecosystems. To date, no federal or state-listed endangered, threatened, or candidate species have been documented or observed within the PAH study area (Figure 4-1). Table 4-1 displays the federally listed species within McCracken County, where PAH is located. According to the USFWS Environmental Conservation Online System, there are 20 special status species known to occur within McCracken County. A more focused search of the proposed and existing ATCT locations and surrounding areas using the USFWS Information for Planning and Consultation identified six species, which are also identified in the County list, as shown in Table 4-1; the USFWS species lists and Section 7(c) letter are provided in Appendix A.

Table 4-1. Federally Listed Species

Common Name	Scientific Name	County Listed Status	Study Area Status
Gray bat	*Myotis grisescens*	Endangered	Endangered
Indiana bat	*Myotis sodalis*	Endangered	Endangered
Little brown bat	*Myotis lucifugus*	Under Review	NA
Northern Long-Eared Bat	*Myotis septentrionalis*	Endangered	NA
Tricolored bat	*Perimyotis subflavus*	Proposed Endangered	Proposed Endangered
Monarch butterfly	*Danaus plexippus*	Proposed Threatened	Proposed Threatened
Clubshell	*Pleurobema clava*	Endangered	NA
Fanshell	*Cyprogenia stegaria*	Endangered	NA
Fat pocketbook	*Potamilus capax*	Endangered	NA
Longsolid (mussel)	*Fusconaia subrotunda*	Threatened	NA

Common Name	Scientific Name	County Listed Status	Study Area Status
Orangefoot pimpleback (pearlymussel)	*Plethobasus cooperianus*	Endangered	NA
Pink mucket (pearlymussel)	*Lampsilis abrupta*	Endangered	Endangered
Rabbitsfoot (mussel)	*Quadrula cylindrica cylindrica*	Threatened	NA
Ring pink (mussel)	*Obovaria retusa*	Endangered	NA
Rough pigtoe (mussel)	*Pleurobema plenum*	Endangered	NA
Sheepnose Mussel	*Plethobasus cyphyus*	Endangered	NA
Spectaclecase (mussel)	*Cumberlandia monodonta*	Endangered	NA
Least tern	*Sternula antillarum*	Recovery	NA
Whooping crane	*Grus americana*	Experimental Population, Non-Essential	Experimental Population, Non-Essential

Source: (USFWS, 2025a) (USFWS, 2025b)

Four of the six species identified within the PAH study area have the possibility to be present; however, the lack of forage or natural habitat within the proposed new ATCT site makes their presence unlikely. No critical habitat for any species overlaps with the airport property. Three bat species, gray (*Myotis grisescens*) and Indiana bats (*Myotis sodalis*), both endangered, and tricolored bat (*Perimyotis subflavus*, proposed endangered), could be present within the study area (USFWS, 2024c). Gray bats, Indiana bats, and tricolored bats winter in caves and abandoned mines; gray bats also use this and similar habitat in the summer (USFWS, 2024c). Forests and trees are important habitat for these bats. Indiana bats use trees for roosting and forested areas feeding in the summer (USFWS, 2024c). Tricolored bats follow similar habitat use from spring to fall (USFWS, 2024d). Gray bats use streamside riparian forests for foraging (NatureServe, 2024). All three bats may occasionally roost in structures but have not been observed using structures at PAH (USFWS, 2024c; NatureServe, 2024). A Section 7 consultation with the USFWS was conducted for the PAH Wildlife Hazard Management Plan in 2012 for the endangered Indiana bat. The USFWS concluded that activities conducted under the plan, which included no tree removal from October 15 to March 31 as an extra precaution, that "it is unlikely that the Indiana bat would be adversely affected by these actions" (Barkley Regional Airport, 2012).

Nocturnal species, such as bats or migratory birds, may be sensitive to nighttime light sources which may disrupt migratory or breeding cycles. Existing and future lighting of the airport is discussed in Visual Resources, Section 4.2.4.1.

One proposed threatened species, the monarch butterfly (*Danaus plexippus*), could occur within the study area. Critical habitat has not been designated for this species (USFWS, 2025a). Adult monarch butterflies feed on the nectar of flowering plants and their larva requires milkweed plants to develop. Monarch butterflies only reproduce where milkweed plants are located (USDA, n.d.). The species could use airport habitat for resting or feeding during migration if flowering plants were present. No milkweed plants were identified during the site visit conducted in May 2024.

A county-specific record of state-listed species was not found for McCracken County. Kentucky's State Wildlife Action Plan has a regional list of species of greatest conservation concern for the Jackson Purchase area, where McCracken and seven other counties are located. There are nine wildlife species considered highest priority and six plants considered species of greatest conservation concern (SGCC). Of the nine wildlife species, all but one are entirely or mostly aquatic species. A single highest priority avian species, Bachman's sparrow (*Peucaea aestivalis*), could be present in the county. The sparrow uses a mix of habitat, including the presence of trees, which do not occur within the existing or proposed new ATCT sites. The six plant species prefer wetland, aquatic, riparian, and forested habitats. Species that are mobile, such as birds, small or flying mammals, or flying insects, could be found within the proposed new ATCT site, but due to the disturbed nature of the site and frequent mowing, it is unlikely that suitable long-term habitat is present. (Kentucky Department of Fish and Wildlife Resources, 2023)

Migratory Birds

Kentucky is located within the Mississippi Administrative Flyway through which migratory birds travel as they move from wintering to nesting areas (USFWS, NDa). The USFWS lists six migratory birds that are of particular concern which could be present seasonally within the PAH study area based on the known or extended range of the species (USFWS, 2025a). Five species are "Birds of Conservation Concern[8]," which the USFWS is mandated to identify under the 1988 amendment to the Fish and Wildlife Conservation Act (USFWS, NDb). Most species have a "probability of being present" within the PAH study area for at least a few weeks in the year. No direct observations are recorded within PAH. Table 4-2 displays when the six migratory birds have the probability of being present for at least one week in the vicinity of PAH.

Table 4-2. Migratory Birds

Common Name	Scientific Name	Highest Probability of Presence (month)
American Kestrel	*Falco sparverius paulus*	March, August
Bald Eagle	*Haliaeetus leucocephalus*	January
Chimney Swift	*Chaetura pelagica*	August, September
Coastal Black-throated Green Warbler	*Setophaga virens waynei*	September, October
Red-headed Woodpecker	*Melanerpes erythrocephalus*	January, March, May
Wood Thrush	*Hylocichla mustelina*	April, October

Source: (USFWS, 2025a)

According to the E-bird data mapping tool, no bald eagles have been observed on or adjacent to PAH (The Cornell Lab of Ornithology, 2024). The bald eagle is not a Bird of Conservation Concern in the PAH study area; however, it warrants additional attention due to its inclusion

[8] Birds of Conservation Concern: "The 1988 amendment to the Fish and Wildlife Conservation Act mandates the U.S. Fish and Wildlife Service to identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973. (USFWS, NDb)"

in the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d). Bald eagles could be migrating or breeding in the area; bald eagle management guidelines would apply if any nests were observed in the study area.

Invasive Species

Invasive species may be plants, animals, insects, or other living organisms that are defined as 'alien' meaning not native to an ecosystem and which could harm the environment, economy, or human health (USDA, 1999). These species are often easily transported by human activity, and once introduced to a new location, may spread by land, water, animals, and again, humans. Invasive plants often become established and spread more rapidly than native species, out-competing native forage species and habitat. Many invasive, non-native plants are not palatable to wildlife and do not contribute to natural habitat value and biodiversity.

The Kentucky Exotic Pest Plant Council maintains a list of invasive plant species categorizing them into three categories: severe, significant, and lesser threats. Of the 26 species categorized as severe threats, the top 10 worst plant threat species are shown in Table 4-3. (KY Energy and Environment Cabinet, 2024; KY Department of Fish and Wildlife Resources, 2022)

Table 4-3. Top Ten Kentucky Invasive and Noxious Weeds

Common Name	Scientific Name
Bush honeysuckle	*Lonicera maackii, L. morrowi, L. tatarica*
Chinese silver grass	*Miscanthus sinensis*
Garlic mustard	*Alliaria petiolata*
Japanese knotweed	*Polygonum cuspidatum*
Japanese stilt grass	*Microstegium vimineum*
Kudzu	*Pueraria lobata*
Multi-flora rose	*Rosa multiflora*
Oriental bittersweet	*Celastrus orbiculata*
Purple loosestrife	*Lythrum salicaria*
Winged burningbush	*Euonymus alatus*

Source: (KY Energy and Environment Cabinet, 2024)

Noxious and invasive plant species can be spread by vehicles, machinery, wildlife, and by natural forces such as by wind or water. Areas disturbed through construction, by vehicles, or fire may be vulnerable to the introduction and spread of noxious weeds. None of these invasive species were observed at the existing or proposed ATCT sites during the site visit conducted in May 2024.

4.2.1.2 Environmental Consequences

Detailed guidance on significance thresholds and effects determinations and/or factors to consider when evaluating context and intensity for biological resource impacts can be reviewed in the ATCT Final PEA (FAA ATCT Final PEA, 2023) and FAA Order 1050.1 Desk Reference, Section 2.3.1 (FAA, 2020).

Alternative 1: Proposed Action

The proposed new ATCT site would involve construction on an area that was previously cleared during the construction of the new terminal. The site consists of a regularly mowed grass lot with a portion of pavement. None of the vegetation identified during the May 2024 site visit were determined to be protected species. Only a single avian species and several common insects were observed at the proposed new ATCT site. The FAA requested a species list from the USFWS to fulfill the requirements of the agency under the section 7(c) of the ESA of 1973, as amended. No critical habitat exists at this location and construction activities are not likely to impact any wildlife and/or fish, migratory birds, or special status species. Due to the lack of feeding, roosting, and other habitat features, the three bat species (gray, Indiana, and tricolored bats), the Proposed Action would have 'No Effect' on the bats. Based on the lack of milkweed species and low probability for species occurrence within the project area, the Proposed Action would have 'No Effect' on the monarch butterfly. There are no significant impacts to biological resources from the Proposed Action.

The proposed new ATCT site is adjacent to developed areas on the PAH property that have existing exterior lighting. Although the new tower cab would be taller than the existing tower, increased lighting at the proposed new ATCT site is not anticipated to increase the overall effect of lighting on wildlife at the existing airport. The increase of human foot traffic, vehicle traffic, and heavy equipment operation during construction and demolition could introduce noxious weeds and invasive, non-native plant species within and surrounding the construction and demolition sites; however, this area is already vulnerable to vehicular and pedestrian traffic that may introduce these invasive species, impacts are not anticipated to be significant. A short-term, temporary increase in noise and lighting would occur during construction and demolition, but these impacts are not anticipated to cause a permanent increase to noise or light-sensitive species at the proposed new ATCT site following construction completion.

Nocturnal species, such as bats or migratory birds, may be sensitive to nighttime light sources which may disrupt migratory or breeding cycles. Due to the lack of suitable habitat within the PAH study area, it is not likely that these species would be present at PAH or affected by the change in lighting from the Proposed Action.

The airport follows an existing Wildlife Hazard Management Plan to prevent wildlife from inhabiting the airport property. These practices would continue in the same manner with the new replacement tower operations, and there would be no change in impacts to wildlife.

The Proposed Action would also involve the demolition of the existing tower. The area of the existing tower would be converted to land similar to the surrounding area. The demolition of the existing tower would not cause impacts to biological resources.

Alternative 2: No Action Alternative

Under the No Action Alternative, the existing ATCT would not be removed and replaced, and activities associated with the ATCT would remain the same. No impacts to existing biological resources would occur.

4.2.1.3 Best Management Practices

Best Management Practices (BMP) that prevent or reduce habitat loss, disturbance of wildlife species, and erosion and runoff to habitat and water bodies would help preclude impacts to biological resources. Adherence to state guidelines to reduce threats to local fauna could offset potential impacts from introducing or spreading noxious weeds. In addition, adherence to the PAH Wildlife Hazard Management Plan would help prevent wildlife from remaining on the airport property.

4.2.2 Historical, Architectural, Archaeological, and Cultural Resources

Historic and cultural resources are sites, structures, buildings, districts, or objects associated with important historic events or people, demonstrating design or construction associated with a historically significant movement, or with the potential to yield historic or prehistoric data, that are considered important to a culture, a subculture, or a community for scientific, traditional, religious, or other reasons (NPS, 1997). Historic and cultural resources may be subdivided into the following categories: Archaeological resources, Architectural resources, Native resources, and Traditional Cultural Properties.

4.2.2.1 Affected Environment

In accordance with applicable federal laws and regulations, the FAA evaluated the proposed alternatives and area of potential effects (APE) for historic and cultural resources. The APE is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36 CFR § 800.16(d)). The FAA assessed previously identified cultural resources within the APE and the potential for unidentified resources for each alternative.

Actions that have the potential to affect historic and cultural resources typically involve construction, ground disturbance, or modification of a historic property or a property in the viewshed of a historic property or district. Other effects to consider include noise, vibration, lighting, and increased traffic. Because all actions with the potential to affect historic and cultural resources would occur within the project area, the APE is defined as the area shown on Figure 4-1.

The existing ATCT on the property, constructed in 1973, is of the Hunt/AVCO tower type (Figure 1-2). The Hunt/AVCO standard ATCT design consists of a square functional steel framed shaft supporting a hexagonal steel framed cab. The Hunt and AVCO standard ATCT design are functionally the same design. Given the similarities, the two design types are combined under a single ATCT type. In the early to mid-1970s, this modular type ATCT was constructed at numerous low activity level airports. The first Hunt ATCT was commissioned in July 1971. Most of the Hunt/AVCO towers were commissioned in the 1973-1975 timeframe with the design type predominately phased out by the end of the 1970s (FAA, 2021).

Booz Allen Hamilton prepared *A Desktop Analysis of the Barkley Regional Airport (PAH) Airport Traffic Control Tower (ATCT) Replacement Project, McCracken County, Kentucky* that evaluated the eligibility of the existing ATCT for listing in the National Register of Historic Places (NRHP) (Booz Allen Hamilton, 2024) (Appendix B). This report recommended that

the existing ATCT is not eligible for the NRHP due to extensive renovations that have diminished the structure's integrity.

No historic properties listed on the National Register of Historic Places (NRHP) are shown within a one-mile radius of the airport on the National Park Service's NRHP Database (NPS, 2020). A cultural resources records search was conducted of the Kentucky Heritage Council's public-facing Kentucky Cultural Resources Interactive Map on August 29, 2024 (Kentucky Heritage Council, 2024). This search found three resources within an approximate 0.5-mile radius of the APE. None of these sites have been determined eligible for listing in the NRHP or would be impacted by the proposed undertaking.

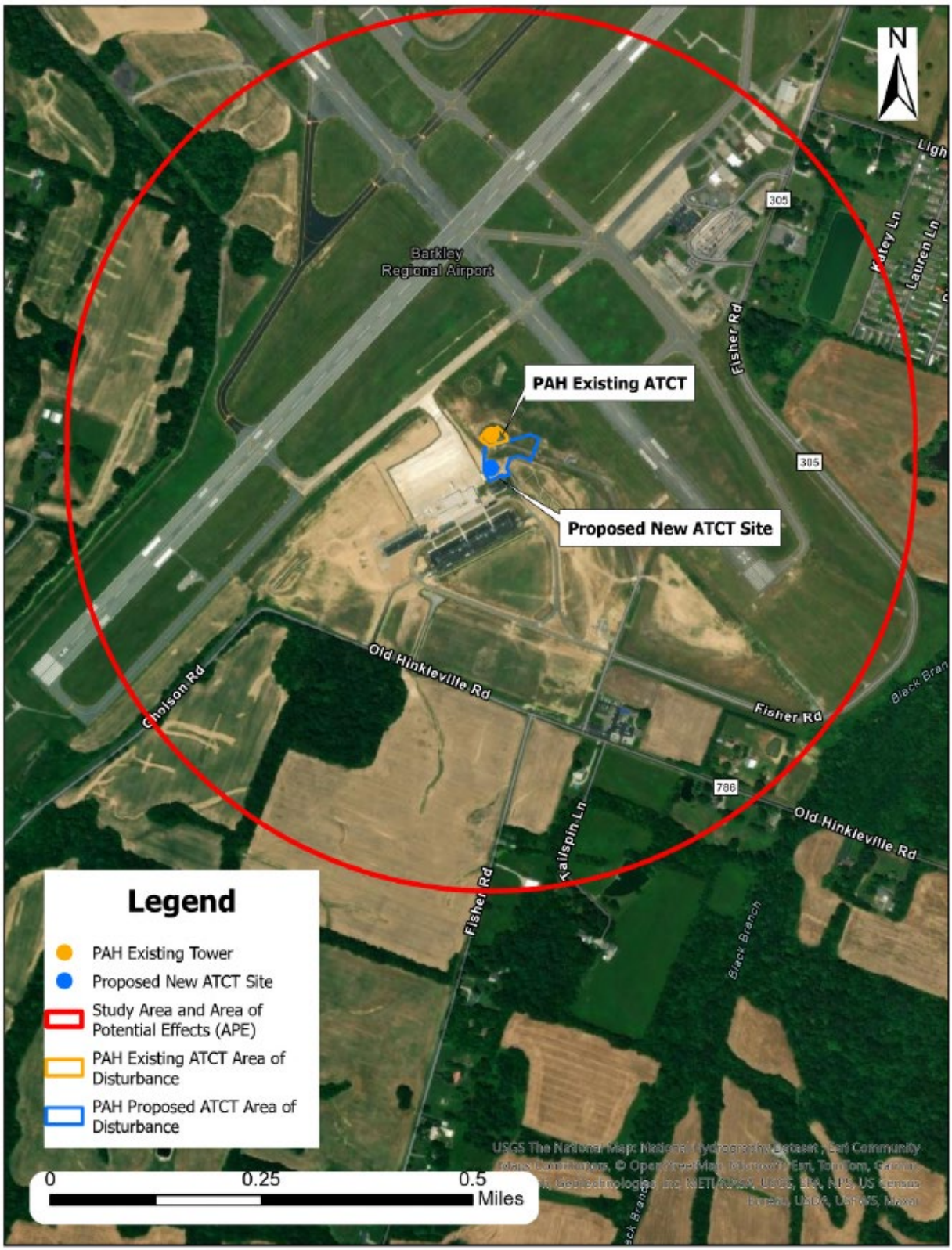

Figure 4-1. Aerial Image of Study Area and Area of Potential Effects

According to a records request processed by the Kentucky Office of State Archaeology on September 4, 2024, the APE has been previously surveyed as documented in the report, *Archaeological Survey for the Proposed Relocation of the Barkley Regional Airport Terminal* by Russell Quick in 2012 (Kentucky Office of State Archaeology, 2024). No archaeological sites have been recorded previously within the APE. The closest archaeological site, Site 15MCN152, sits over 0.5 miles south of the APE and would not be impacted by the proposed undertaking. In addition, review of historical aerial photographs and topographic maps indicates ground disturbance within the APE during the 21st century due to extensive earthmoving activities from construction of a new terminal at PAH. The extent of this ground disturbance suggests little to no potential for archaeological resources in the APE. Due to the previous survey and the extent of previous ground disturbing activities, no additional archaeological work was recommended.

4.2.2.2 Environmental Consequences

Detailed guidance on significance thresholds and effects determinations for historical, architectural, archaeological, and cultural resources impacts can be reviewed in the ATCT Final PEA (FAA ATCT Final PEA, 2023) and FAA Order 1050.1 Desk Reference, Chapter 8.3.1 (FAA, 2020).

Alternative 1: Proposed Action

The Proposed Action would not impact resources eligible for or listed in the NRHP. The existing ATCT has been determined not eligible for listing in the NRHP. No structures adjacent to the existing ATCT and proposed ATCT have been determined eligible for or listed in the NRHP. Therefore, the demolition of the existing ATCT would not result in impacts to historic or cultural resources.

Previous archaeological surveys of PAH have not recorded any archaeological sites within the APE. Construction of the proposed ATCT would occur within an area with previous modern ground disturbance from the 21st century due to extensive earthmoving activities from construction of a new terminal at PAH. Because demolition and construction would occur within areas previously surveyed and disturbed by modern activity, there is little to no potential for impacts to archaeological resources within the project area.

In November 2024, the FAA determined a Finding of No Historic Properties Affected based on the recommendations of Booz Allen Hamilton's desktop analysis of the undertaking (see Appendix B). Concurrently with the public notice posted for this draft EA, the FAA initiated consultation with the Kentucky SHPO on the undertaking on November 26, 2024. The FAA also initiated consultation and notified Federally Recognized Tribes with known affiliations with and interests in the project area, including the Cherokee Nation, the Chickasaw Nation, the Delaware Nation, Oklahoma, the Miami Tribe of Oklahoma, the Osage Nation, the Peoria Tribe of Indians of Oklahoma, and the Quapaw Nation, of its finding on November 26, 2024. On November 27, 2024, the Kentucky SHPO concurred with the FAA's finding (Appendix C). On December 23, 2024, the Chickasaw Nation supported the proposed undertaking and was not aware of any historic properties of significance to the Chickasaw Nation within the project area. On December 24, 2024, the Osage Nation requested the FAA provide mapping

files for the project area as part of their consultation requirements; the FAA provided the mapping files on January 6, 2025. No other consulting parties have responded.

Alternative 2: No Action Alternative

Under the No Action Alternative, the existing ATCT would not be removed and replaced, and activities associated with the ATCT would remain the same. No impacts to existing historical, architectural, archaeological, and cultural resources would occur.

4.2.2.3 Unanticipated Discovery

If during construction, demolition, and/or maintenance activities any unanticipated cultural resources are discovered, activity would cease in the area of the resource and the appropriate state, federal, and tribal officials would be notified and given the opportunity to review (FAA, 2020). The uncovered resources would be protected. In compliance with all applicable laws and regulations, the FAA would coordinate with the appropriate consulting parties and consider their recommendations, conduct appropriate actions, then provide a report of those actions after they are completed (36 CFR 800.13).

4.2.3 Department of Transportation Act, Section 4(f)

Section 4(f) of the U.S. DOT Act of 1966 (codified in 49 U.S.C. § 303 and 23 U.S.C. § 138) applies to projects that receive funding from or require approval by agencies within the DOT and provides for the consideration of certain properties of national, state, and/or local significance during transportation project development, such as publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites.

Before approving a transportation project requiring the use of these properties, the DOT agency must determine that there is no feasible and prudent alternative to using that land and the project includes all possible planning to minimize harm resulting from the use (FAA, 2020).

4.2.3.1 Affected Environment

In general, actions that have the potential to affect Section 4(f) properties involve a physical or constructive use. Further detail on what constitutes a physical or constructive occupation of the property may be reviewed in the ATCT Final PEA.

According to the Bureau of Land Management (BLM) National Data Viewer, there are no listed federal recreational sites or wildlife refuges listed within the airport project area. The closest Section 4(f) resource is the West Kentucky Wildlife Management Area, located approximately 2.7 miles north-northwest of the proposed new ATCT site, outside the APE. (Bureau of Land Management, 2024)

No historic properties listed on the NRHP are shown within a one-mile radius of the airport on the National Park Service's NRHP Database (NPS, 2020). As previously described in Section 4.2.2.1, a cultural resources records search was conducted of the Kentucky Heritage Council's public-facing Kentucky Cultural Resources Interactive Map on August 29, 2024 (Kentucky Heritage Council, 2024). This search found three resources within an approximate 0.5-mile radius of the APE. None of these sites have been determined eligible for listing in the NRHP or would be impacted by the proposed undertaking.

4.2.3.2 Environmental Consequences

Detailed guidance on significance thresholds and effects determinations for Section 4(f) resources impacts can be reviewed in the ATCT Final PEA (FAA ATCT Final PEA, 2023)and FAA Order 1050.1 Desk Reference, Section 5.3.7 (FAA, 2020).

Alternative 1: Proposed Action

The construction of a replacement ATCT under the Proposed Action would not impact any Section 4(f) resources. The FAA found no historic properties would be affected by the Proposed Action. The Proposed Action, including the demolition of the existing tower, would have no impact on Section 4(f) resources.

Alternative 2: No Action Alternative

Under the No Action Alternative, the existing ATCT would not be removed and replaced, and activities associated with the ATCT would remain the same. No impacts to existing DOT 4(f) resources would occur.

4.2.4 Visual Effects

Visual effects are considered under two categories: light emissions and visual resources/character. Light emissions from outdoor lighting in parking lots, streets, and within businesses or homes affect the darkness of the night sky, particularly in rural areas where fewer light sources are present. Visual character is the overall description of an area, such as rural, farmland, urban, coastal, or mountainous. (FAA, 2020)

4.2.4.1 Affected Environment

The proposed new ATCT site is located within approximately 190 feet south of the existing ATCT (shown on Figure 1-1). The surrounding area is characterized by rural and agricultural land with sparse housing. The closest sensitive receptor outside the airport property is Christ Community Church, located approximately 0.3 miles to the south-southeast from the proposed new ATCT site and approximately 0.35 miles south-southeast of the existing ATCT. The existing ATCT is visible from the church parking lot to the north-northwest.

The next closest sensitive receptors are Westridge Pointe mobile home park, located approximately 0.45 to 0.5 miles southeast from the proposed new ATCT site, and two homes, one located approximately 0.4 miles south-southeast of the proposed new ATCT site and 0.45 miles south-southeast of the existing tower, the other home is located the same distance (approx. 0.5 to 0.51 miles) to the west of the proposed new and existing ATCT sites, respectively. Westridge Pointe and both houses are bordered by trees which obscure the view of the airport and existing ATCT. Once constructed, the PAH ATCT would be one of the highest structures in the area, only surpassed by the National Weather Service's (NWS) Weather Surveillance Radar 1988 Doppler tower. Located approximately 0.75 miles north of the existing ATCT, the Doppler tower stands at 135 feet at the top of the tower dome (National Weather Service, ND). Light emissions are a highly subjective resource due to the difference in perception and value that a user associates with the specific feature and surrounding landscape.

Light Emissions

The existing PAH ATCT operates from 0500 to 2300 and the lighting of the runways, taxiways, and other airfield safety lights are controlled by air traffic controllers. Currently, the airport operates in the standard configuration at night with light emissions from the following areas: runways, taxiways, navigational aids, apron areas, parking lots, fixed base operator (FBO), terminal building, and fire station. The north side of PAH is approximately 0.3 to 0.35 miles from a major transportation corridor (Highway 60). Wildlife, especially nocturnal species, may be sensitive to nighttime light sources which may disrupt migratory or breeding cycles.

Visual Resources and Visual Character

Visual resources around the proposed new ATCT site are consistent with those of the existing ATCT at PAH. The area surrounding the existing airport is zoned as agricultural to the south and west and primarily rural residential and commercial, to the northwest, north, and west of the airport, which is zoned as light industry (McCracken County and Paducah Kentucky, 2024). Visual resources surrounding the airport property include agricultural land, local roadways, dispersed residential homesteads and Highway 60 (Google Earth, 2024). As stated above, Christ Community Church is located within 0.3 miles of the airport and is within the viewshed of the existing and replacement towers. The nearest residential areas are within 0.4 to 0.5 miles of the proposed new ATCT site. Many of the residential lots and the airport perimeter are tree-lined, creating a visual barrier obstructing the view of the airport. Other visual resources within the existing airport environment include active runways and taxiways, a commercial service passenger terminal building, a maintenance building, fuel storage building, air cargo facilities, aircraft storage hangars, a fire station, and FBO buildings. The tallest structure at PAH aside from the 135-foot NWS radar tower to the north, is the existing ATCT with a cab floor eye level elevation of 34 ft AGL. The proposed tower would be 91 ft AGL at the cab floor eye level and a total height of 126 ft AGL.

4.2.4.2 Environmental Consequences

Detailed guidance on significance thresholds and effects determinations for visual resource impacts can be reviewed in the ATCT Final PEA (FAA ATCT Final PEA, 2023) and FAA Order 1050.1 Desk Reference, Section 13.3.3 (FAA, 2020).

Alternative 1: Proposed Action

The Proposed Action would involve construction of the new ATCT on an undeveloped lot on airport property. The proposed new ATCT site is about 190 feet southwest of the existing ATCT and is adjacent to the terminal building and parking lots with existing lighting. Because the area is equipped with existing lighting, the Proposed Action would not impose meaningful change to light emissions in the immediate area. While light emissions may be increased temporarily during construction, the slight change in location of light emission from the existing tower to the new tower is not anticipated to create additional light emissions once the existing tower is decommissioned and the new tower is operational.

Wildlife, especially nocturnal species, may be sensitive to nighttime light sources which may disrupt migratory or breeding cycles. As mentioned in Section 4.2.1.1, the light-sensitive gray bat, Indiana bat, and tricolored bat were identified as species of concern within the study

area. Due to the lack of suitable habitat within the study area, it is not likely that these species would be present at PAH or affected by the change in lighting from the Proposed Action.

The reflective surfaces of the proposed new ATCT and support building could alter the visual character of the airport area due to the tower height and change to the viewshed. The closest visual receptors, Christ Community Church, Westridge Pointe, and two rural homes, would receive minimal to no effects from the shift in location of airport related lighting. The changes in lighting are not anticipated to affect the visual nature of the area or increase the existing lighting emitted from the airport.

Changes to visual resources and visual character from construction of the new tower and removal of the existing tower would not affect or obstruct visually important resources. Although the new proposed ATCT cab eye level would be 62 ft AGL higher than the existing PAH ATCT, with a total height of 126 feet AGL, it would not contrast with the area's visual character upon completion due to the area being an existing and active airport. The replacement tower is expected to be within the viewshed of the Christ Community Church; however, the existing tower is also within the church's viewshed and would not significantly alter the viewshed.

Alternative 2: No Action Alternative

Under the No Action Alternative, the existing ATCT would not be removed and replaced, and activities associated with the ATCT would remain the same. No impacts to existing visual effects would occur.

4.2.5 Water Resources

Water resources include wetlands, floodplains, surface water, groundwater, and Wild and Scenic rivers. These resources provide drinking water, irrigation, and other water uses for communities, in addition to recreation and transportation opportunities, and habitat for vegetation and wildlife species.

4.2.5.1 Affected Environment

Wetlands

A visual inspection of the proposed new ATCT site indicated that no wetland features or characteristics are present. The USFWS National Wetlands Inventory shows the nearest wetland as a linear 0.9 acre Riverine, Intermittent, Streambed, Seasonally Flooded (R4SBC) habitat, located approximately 0.3 miles west-southwest of the proposed new ATCT site along the fence line parallel to Gholson Road (USFWS, 1983). Another 4.02-acre linear, likely human excavated, freshwater forested wetland classified as Palustrine Forested, Broad-Leaved Deciduous, Temporary Flooded, Excavated (PFO1Ax) is located approximately 0.35 mi northwest of the proposed new ATCT site (USFWS, 1983). The next closest wetland feature, also categorized as R4SBC is located off-airport approximately 0.4 miles northeast of the proposed new ATCT site which runs adjacent to a holding pond (USFWS, 1983). Another 1.43-acre freshwater forested/shrub wetland, a Palustrine Scrub-Shrub, Broad-Leaved Deciduous, Temporary Flooded (PSS1A), is located 0.64 miles north of the proposed new ATCT site (USFWS, 1983). The PSS1A wetland located to the north has been previously documented on airport property, shown on Figure 4-2 (The Corradino Group, 2019).

Floodplains

According to the Federal Emergency Management Agency's (FEMA) National Flood Hazard Layer (NFHL) Viewer, the proposed new ATCT site is located within an area of minimal flood hazard and is therefore not located within a 100- or 500-year FEMA floodplain (FEMA, 2024).

Surface Water

The proposed new ATCT site is on a small hill which slopes to the northeast. PAH is relatively flat, with the boundaries of the airport sloping downward to the north, east, and west toward several intermittent streams. The areas east of the proposed new ATCT site slope to a nearby intermittent stream which runs to the north, and to Black Branch which runs to the northeast. Areas immediately north, east, and west of the proposed new ATCT site are presumed to be topographically downgradient from the proposed new ATCT site. Stormwater from the airport flows through conveyance and detention basin systems within PAH and ultimately discharge to West Fork Massac Creek, approximately 1.2 miles north-northeast of the proposed new ATCT site. There are no man-made or naturally occurring ponds or lakes within the proposed new ATCT site at PAH. A retention pond, located approximately 0.4 miles northeast of the proposed new ATCT site, is the closest surface water (Figure 4-2). Drinking water for Paducah and vicinity comes from the Ohio River, located approximately 6 miles north of PAH (Paducah Water, 2022). No jurisdictional waters are located on the airport, shown on Figure 4-2.

Groundwater

The study area is in the Mississippi embayment aquifer system, which spans from western Kentucky south through western Tennessee. Within this system, the McNairy-Nacatoch aquifer is used for private well water in McCracken County, although the main source for municipal drinking water is the Ohio River. No water wells are at the proposed new ATCT site, and no active wells appear at PAH. The closest active domestic water well is approximately 0.64 miles from the proposed new ATCT site and has a water depth of 65 feet. Groundwater in western Kentucky generally flows west toward the Mississippi River. (USGS, 1995; University of Kentucky - Kentucky Geological Survey, 2024; Paducah Water, 2022)

Wild and Scenic Rivers

There are no wild or scenic rivers located near PAH. The only section of river in Kentucky classified as wild and recreational is a 19.4-mile stretch of the Red River in the eastern part of the state in Daniel Boone National Forest. The designated reach of the Red River is located approximately 285 miles east of PAH. (National Wild and Scenic Rivers System, ND)

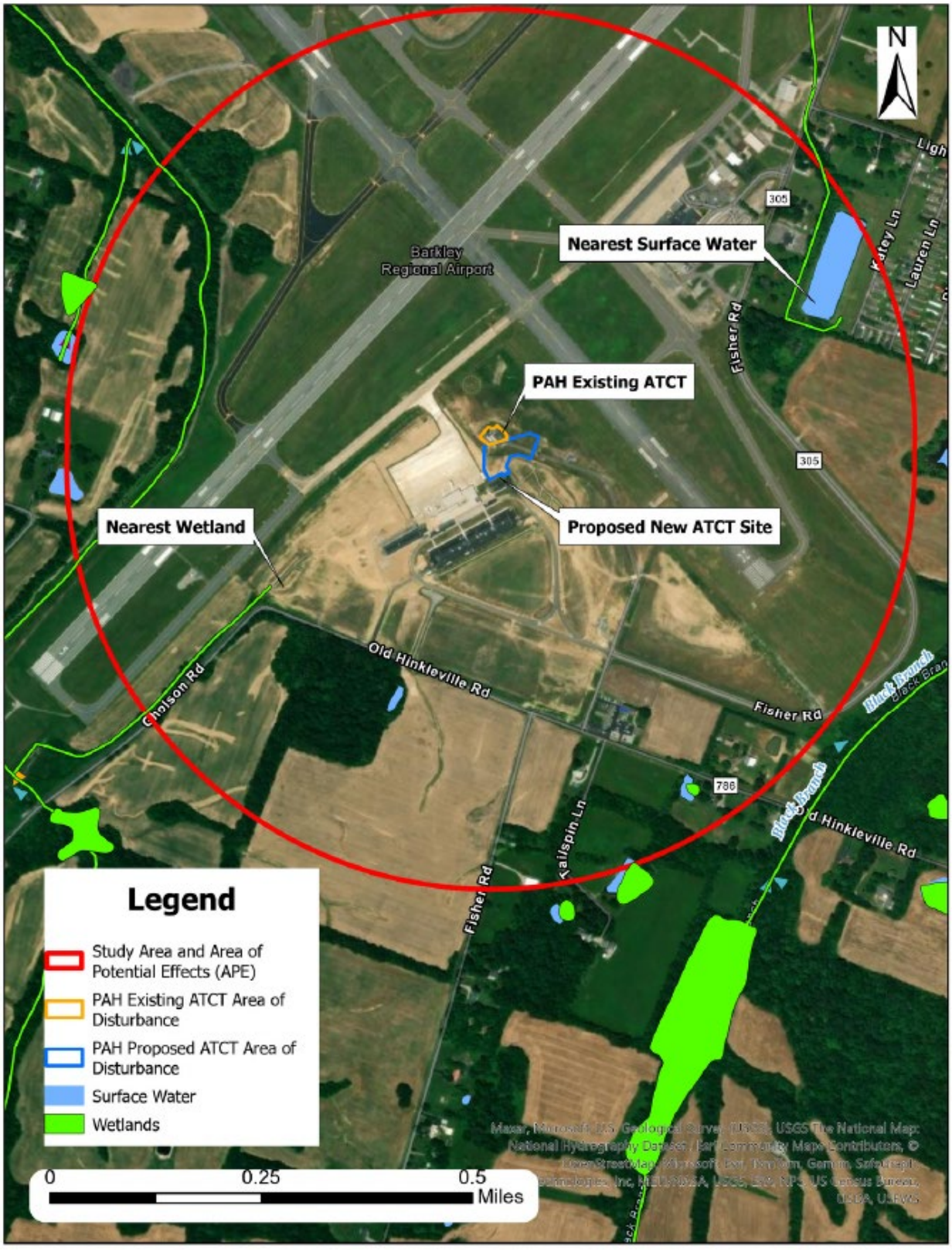

Figure 4-2. Aerial Image of Wetlands and Surface Water Features near PAH Airport

4.2.5.2 Environmental Consequences

Detailed guidance on significance thresholds and effects determinations for water resource impacts can be reviewed in the ATCT Final PEA (FAA ATCT Final PEA, 2023) and FAA Order 1050.1 Desk Reference, Sections 14.1.3 through 14.5.3.1 (FAA, 2020).

Alternative 1: Proposed Action

Construction of the new ATCT would cause temporary, short term surface disturbing activities within approximately 1.28 acres involving increased vehicle traffic and use of machinery. No direct impacts to wetlands would occur due to their absence within the study area. Indirect impacts to wetlands are unlikely to occur given the nearest wetland area is approximately 0.30 miles west-southwest of the proposed new ATCT site and the existing ATCT.

Disruption of soil surfaces, introduction of non-native plant species through transfer of seeds, and contamination of soils from chemicals such as hydraulic fluids or petroleum leaks could occur during ground disturbing activities. Runoff containing contaminated soil could result in offsite interface with surface waters downstream from the proposed new ATCT site and the existing ATCT but is unlikely due to the distance and location of the nearest tributary. Soil, sediment, or chemical runoff could directly or indirectly damage water quality, alter habitat from sediment build-up, or cause changes to the ecosystems from the introduction of non-native species. The increased presence of heavy construction equipment, fuels, chemicals, or solvents during construction/demolition activities could affect groundwater if spills or leaks were to occur. The severity would depend on the volume or duration of the spill or leak and ability to respond appropriately. Applying BMPs, such as spill/leak monitoring and runoff prevention, could reduce or prevent impacts to surface water from excavation and construction.

Excavation volume and depth for foundation structural components is unknown. Groundwater could be encountered during excavation and construction activities. If this were to occur and dewatering was required to continue construction, the excess water may be discharged offsite through the PAH stormwater system. The PAH Stormwater Pollution Prevention Plan (SWPPP) from the new passenger terminal complex project identified two stormwater conveyance outlet points used for that project. Given the proximity of the proposed new ATCT site to the new passenger terminal, it is likely these conveyance points will be used for the construction operations; however, the final conveyance routes will be determined in a new SWPPP, if required. One outlet pipe discharges to the north and to West Fork Massac Creek; the second outlet pipe flows into a ditch along West Airport Road, to West Fork Massac Creek. (CHA Consulting, 2020)

Discharging this water could result in sediment and chemical runoff where outflow occurs. Disruption of groundwater or groundwater flow could occur at excavation sites and where placement of structural components is located, but these potential impacts would be temporary in nature. Applying runoff and contamination prevention BMPs could reduce or prevent impacts to groundwater from excavation and construction.

As stated above, PAH airport is within a minimal flooding area and no impacts to floodplains are likely to result from the Proposed Action.

No Wild or Scenic Rivers are within 285 miles of the study area. There would be no significant impacts to this resource from the Proposed Action.

The Proposed Action would also involve the demolition of the existing tower. The area of the existing tower would be converted to land similar to the surrounding area and would not result in a net increase in impervious surface area. The demolition of the existing ATCT would not lead to indirect impacts to water resources in proximity of the existing tower site.

Alternative 2: No Action Alternative

Under the No Action Alternative, the existing ATCT would not be removed and replaced, and activities associated with the ATCT would remain the same. No impacts to existing water resources would occur.

4.2.5.3 Best Management Practices

BMPs to offset unavoidable impacts to water resources allow for onsite absorption of rainwater such as permeable surfaces, allowing natural drainage processes, and erosion prevention measures. Descriptions of mitigation examples for surface water and groundwater are below. (FAA, 2020).

- Use pervious surfaces where practicable.
- Control runoff, while ensuring the runoff control measure do not attract wildlife hazardous to aviation.
- Control waste and spoils disposal to prevent contaminating ground and surface water, while not attracting wildlife hazardous to aviation (e.g., control the use of pesticides and herbicides, maintain vegetative buffers to reduce sedimentation and delivery of chemical pollutants to the waterbody).
- Limit ground disturbance to the areas necessary for project-related construction.
- Employ erosion control measures to minimize sedimentation of surface waters.
- Restore vegetation on disturbed areas to prevent soil erosion following project completion.

BMPs to reduce direct impacts to groundwater include, but are not limited to, the following:

- Protect water quality of surface water runoff that may infiltrate into the ground.
- Restore vegetation on disturbed areas to prevent soil erosion following project completion.
- Limit the area of new impervious surfaces to the areas necessary for project-related construction.

As the proposed new ATCT site exceeds 1 acre, a Kentucky Pollutant Discharge Elimination System (KPDES) stormwater general permit would be required. The Division of Water is the NPDES permitting authority for the Commonwealth of Kentucky. A Stormwater Pollution Prevention Plan with associated BMPs may be required as part of the permitting process.

4.3 CUMULATIVE IMPACTS

The CEQ regulations implementing the procedural provisions of NEPA of 1969, as amended defines cumulative effects as:

> *"the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR Part 1508.7).*

Based on these regulations, if the alternative does not have direct or indirect effects, there can be no cumulative effects resulting from the project because there would be no impacts added to past, present, or reasonably foreseeable actions.

The CEQ regulations also describe cumulative impacts as impacts that "can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR Part 1508.7).

Although the ATCT Final PEA (FAA ATCT Final PEA, 2023) indicated that the ATCT Replacement Program would not result in cumulative impacts, this EA included a site-specific analysis to confirm that no cumulative impacts would result locally.

There are three future and ongoing projects at PAH. In fiscal year (FY) 2025, construction of a new snow removal and fire equipment area is planned on the west side of the new passenger terminal. Construction of a new fuel farm is planned to replace the existing fuel farm, which has an undetermined construction start date. The new fuel farm would be on the north side of the airport by the PAH fixed base operator, Midwest Aviation. The removal and replacement of the new terminal taxiway is planned, with the replacement to be 6,500 ft long and 150 ft wide, projected for FY 2024 or 2025. The new snow removal and fire equipment area and taxiway projects are both located approximately 0.10 miles from the proposed new ATCT site and a similar distance from the existing ATCT. Both projects are expected to be complete well before the start of construction of the proposed new ATCT; therefore, temporary increased traffic and noise impacts from overlapping construction schedules are not anticipated. As of October 2024, no new projects in McCracken County are planned within 5-miles of PAH (McCracken County Kentucky, ND).

During construction activities, minor erosion, runoff, and sedimentation may occur. Implementation of BMPs would further reduce the potential for any identified limited impacts to water resources associated with surface disturbance from excavation and construction. The proposed new ATCT would not contribute to a significant adverse cumulative impact to natural resources.

4.4 CONCLUSION

This site-specific EA evaluates the existing environment at PAH and analyzes the potential environmental consequences of the Proposed Action. Implementation of the Proposed Action presented in this EA is not anticipated to result in significant impacts or significant cumulative impacts to either human health or the environment.

SECTION 5 | PUBLIC INVOLVEMENT

The FAA provided a 508-compliant electronic copy of the Draft EA for review by the public on the following website: https://www.faa.gov/air_traffic/atf. No comments were submitted to the FAA during the public comment period. On December 12, 2024, the FAA published a Notice of Availability advertisement in the Paducah Sun to advertise the availability of the Draft EA to allow the public to view the document electronically and how to submit comments. The FAA did not receive any comments on the Draft EA during the public comment period ending December 27, 2024.

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SECTION 7 | REFERENCES

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APPENDIX A | FEDERALLY LISTED SPECIES REPORTS FOR MCCRACKEN COUNTY AND THE STUDY AREA

Appendix A includes the Section 7(c) species list from the USFWS with critical habitat and listed species for the study area. The IPaC list for the study area includes the critical habitat, listed species, migratory birds, and other site-specific information. This appendix also contains the list of threatened, endangered, candidate, or species under review by the USFWS for McCracken County, Kentucky.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0467 Fax: (502) 695-1024
Email Address: kentuckyes@fws.gov

In Reply Refer To: 02/06/2025 14:13:16 UTC
Project Code: 2025-0052675
Project Name: PAH ATCT Replacement

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do..

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of

this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
(502) 695-0467

PROJECT SUMMARY

Project Code: 2025-0052675
Project Name: PAH ATCT Replacement
Project Type: Airport - New Construction
Project Description: EA for replacement ATCT program
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.05728445,-88.77121052400274,14z

Counties: McCracken County, Kentucky

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Bat *Myotis grisescens* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: • The project area includes potential gray bat habitat. Species profile: https://ecos.fws.gov/ecp/species/6329 General project design guidelines: https://ipac.ecosphere.fws.gov/project/P5KGJI457BDERK7EAFRLKG55JY/documents/generated/6422.pdf	Endangered
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. This species only needs to be considered under the following conditions: • The project area includes 'potential' habitat. All activities in this location should consider possible effects to this species. Species profile: https://ecos.fws.gov/ecp/species/5949 General project design guidelines: https://ipac.ecosphere.fws.gov/project/P5KGJI457BDERK7EAFRLKG55JY/documents/generated/6422.pdf	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Whooping Crane *Grus americana* Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/758	Experimental Population, Non-Essential

CLAMS

NAME	STATUS
Pink Mucket (pearlymussel) *Lampsilis abrupta* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7829 General project design guidelines: https://ipac.ecosphere.fws.gov/project/P5KGJI457BDERK7EAFRLKG55JY/documents/generated/5639.pdf	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Proposed Threatened

NAME	STATUS

There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/9743

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Federal Aviation Administration
Name: Joe Naughton
Address: 901 15th St NW
Address Line 2: Washington, DC, 20005
City: Washington
State: DC
Zip: 20005
Email naughton_joseph@bah.com
Phone: 7819747685

You have indicated that your project falls under or receives funding through the following special project authorities:

- BIPARTISAN INFRASTRUCTURE LAW (BIL) (OTHER)

U.S. Fish & Wildlife Service
ECOS

ECOS / Species Reports / Species County Report

Listed species believed to or known to occur in McCracken, Kentucky

This report includes species only if they have a **Spatial Current Range** in ECOS.

The following report contains species that are known to or are believed to occur in this county, based on the species current range, as defined by the USFWS. The definition of current range that the FWS uses is the general geographic area where we know or suspect that a species currently occurs.

This list of species by county cannot be used for consultation purposes. To obtain an official list of species that should be considered during consultation, please visit IPaC.

CSV

Show All entries Search:

21 Species Listings

Group	Name	Population	Status	Lead Region	Lead Office	Recovery Plan	Recovery Plan Action Status
Mammals	Tricolored bat (Perimyotis subflavus)	Wherever found	Proposed Endangered	5	Pennsylvania Ecological Services Field Office		
Birds	Whooping crane (Grus americana)	U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY)	Experimental Population, Non-Essential	2	Assistant Regional Director-Ecological Services		
Clams	Sheepnose Mussel (Plethobasus cyphyus)	Wherever found	Endangered	3	Illinois-Iowa Ecological Services Field Office	Recovery Plan for Four Species of Freshwater Mussels	Implementation Progress
Mammals	Gray bat (Myotis grisescens)	Wherever found	Endangered	3	Missouri Ecological Services Field Office	Gray Bat	Implementation Progress
Insects	Monarch butterfly (Danaus plexippus)	Wherever found	Proposed Threatened	3	Assistant Regional Director-Ecological Services		
Mammals	Little brown bat (Myotis lucifugus)	Wherever found	Under Review	3	Indiana Ecological Services Field Office		
Clams	purple lilliput (Toxolasma lividum)	Wherever found	Resolved Taxon	4	Asheville Ecological Services Field Office		
Clams	Longsolid (Fusconaia subrotunda)	Wherever found	Threatened	4	Kentucky Ecological Services Field Office		
Clams	Rough pigtoe (Pleurobema plenum)	Wherever found	Endangered	4	Kentucky Ecological Services Field Office	Rough Pigtoe Pearly Mussel	Implementation Progress

Clams	Fanshell (Cyprogenia stegaria)	Wherever found	Endangered	4	Kentucky Ecological Services Field Office	Fanshell (Mussel)	Implementation Progress
Mammals	Indiana bat (Myotis sodalis)	Wherever found	Endangered	3	Indiana Ecological Services Field Office	Indiana Bat (Myotis sodalis) Draft Recovery Plan: First Revision	Implementation Progress
Clams	Clubshell (Pleurobema clava)	Wherever found; Except where listed as Experimental Populations	Endangered	5	Pennsylvania Ecological Services Field Office	Clubshell/Northern Riffleshell (2 spp.)	Implementation Progress
Clams	Pink mucket (pearlymussel) (Lampsilis abrupta)	Wherever found	Endangered	3	Missouri Ecological Services Field Office	Pink Mucket Pearly Mussel	Implementation Progress
Mammals	Northern Long-Eared Bat (Myotis septentrionalis)	Wherever found	Endangered	3	Minnesota-Wisconsin Ecological Services Field Office		
Clams	Spectaclecase (mussel) (Cumberlandia monodonta)	Wherever found	Endangered	3	Minnesota-Wisconsin Ecological Services Field Office	Recovery Plan for Four Species of Freshwater Mussels	Implementation Progress
Clams	Rabbitsfoot (Quadrula cylindrica cylindrica)	Wherever found	Threatened	4	Arkansas Ecological Services Field Office	Recovery Plan for Rabbitsfoot	Implementation Progress
Clams	Fat pocketbook (Potamilus capax)	Wherever found	Endangered	4	Mississippi Ecological Services Field Office	Fat Pocketbook Mussel Recovery Plan Amendment	Implementation Progress
Clams	Fat pocketbook (Potamilus capax)	Wherever found	Endangered	4	Mississippi Ecological Services Field Office	Fat Pocketbook Pearly Mussel	Implementation Progress
Clams	Orangefoot pimpleback (pearlymussel) (Plethobasus cooperianus)	Wherever found	Endangered	4	Kentucky Ecological Services Field Office	Orange-footed Pearly Mussel	Implementation Progress
Clams	Ring Pink (Obovaria retusa)	Wherever found	Endangered	4	Kentucky Ecological Services Field Office	Ring Pink (Mussel)	Implementation Progress
Birds	Least tern (Sternula antillarum)	U.S.A. (AR, CO, IA, IL, IN, KS, KY, LA_Miss. R. and tribs. N of Baton Rouge, MS_Miss. R., MO, MT, ND, NE, NM, OK, SD, TN, TX_except within 50 miles of coast)	Recovery	4	Mississippi Ecological Services Field Office		

Showing 1 to 21 of 21 entries Previous 1 Next

APPENDIX B | A DESKTOP ANALYSIS OF THE BARKLEY REGIONAL AIRPORT (PAH) AIRPORT TRAFFIC CONTROL TOWER (ATCT) REPLACEMENT PROJECT, MCCRACKEN COUNTY, KENTUCKY

B.1 INTRODUCTION

The Barkley Regional Airport (PAH) is located at 100 Terminal Drive, West Paducah, Kentucky, 42086 (37.054929, -88.771661). The Federal Aviation Administration (FAA) proposes to demolish the existing Airport Traffic Control Tower (ATCT) and construct a new, ATCT approximately 190 feet southwest of the existing ATCT. As proposed, construction of the new ATCT would include parking lot and access road construction, temporary staging areas, and fence line and underground utility installation. The proposed action is an undertaking (as defined at 36 Code of Federal Regulations [CFR] 800.16(y)) with potential to cause effects on historic properties listed in, or eligible for listing in, the National Register of Historic Places (NRHP). On behalf of the FAA, Booz Allen Hamilton completed a desktop analysis of the proposed undertaking to assess historic land use and the potential for impacts to cultural resources within the project area.

B.1.1 Project Location and Area of Potential Effects

Booz Allen Hamilton recommends that the Area of Potential Effects (APE) for this undertaking is a 0.5-mile radius around the project area, where direct and indirect effects to historic properties may occur. The project area consists of the construction site of the new ATCT and the demolition site of the existing ATCT (Figure B- 1). The area of new construction (37.05708, -88.77184) sits south of the standing ATCT and east of the Air Carrier Apron within a fenced area of the airport. At its greatest extent, the new construction area covers approximately 1.5 acres of largely undeveloped but regularly graded and mowed airfield. The area of new construction is bound to the north and east by the existing ATCT and its access road and to the west by the airport terminal and to the south by an existing fence line.

B.1.2 Methodology

Sources consulted in this desktop review of the PAH ATCT project include current and historic (2019, 2016, 2013, 1982, and 1954) editions of the West Paducah, Kentucky, 7.5-minute topographic quadrangle; current and historic (2020, 2016, 2012, 2008, 1998, 1987, 1983, 1978, 1975, 1952) aerial imagery; the National Park Service's NRHP database; the Kentucky Heritage Council's Cultural Resources Online Viewer; the Kentucky Office of State Archaeology's records; FAA records; the U.S. Department of Agriculture (USDA) Soil Conservation Service Web Soil Survey; and other historical records.

For this report, the author developed a historic context for PAH. This report's historic context focused on the airport's development from the early 20th century to the present. The historic context and review of data and records associated with the project area and APE informed this analysis and its resulting recommendations.

B.2 BARKLEY REGIONAL AIRPORT HISTORIC OVERVIEW

In 1933, the town of Paducah formed a citizen committee to work with local aviators to select a site for the Paducah Municipal Airport. The committee visited fields adjacent to main highways leading into Paducah (The Paducah Sun 1933, pp. 14). By January 1934, the committee had selected a site off Coleman Road, and the Civil Works Administration paid 42 men for the "clearing, grading, draining, and rolling of the field" (The Paducah Sun 1934, pp. 7). In 1938, the first air mail flight lifted off from Paducah Municipal Airport (Powell 1968, 44), but regular flights were a future phenomenon. This was Paducah's first airport and demonstrated the region's utility to interstate air traffic and the need to expand to regular commercial flights.

In 1941, the Paducah Airport Corporation formed and purchased 450-acres of "farm land" in west McCracken County, Kentucky (Brooks 1988, 29). The City of Paducah entered into an agreement with the federal government for the "proper regulation" of the new Paducah Municipal Airport; the original airport became known as the Old Paducah Municipal Airport (The Paducah Sun 1941, pp. 2). In 1942, Paducah native Vice President Alben Barkley dedicated the facility, which was loaned to the U.S. government for the duration of World War II (The Paducah Sun 1978, pp. 1; Figure B- 2). In 1945, President Truman's personal plane, the Sacred Cow, landed at the airport en route to a Tennessee Valley Authority (TVA) dam dedication ceremony (Talley 1945, 1; Figure B- 3). That same year, the Paducah Municipal Airport began an extensive wave of new construction at the airport "to fit the field for regular commercial airline service." New construction included foundation excavation and additions of a concrete parking apron (with "a gasoline pit and tie-down facilities") and a new hangar ("of concrete block and timber, measuring 75x80 feet, for the hanger proper, with two 75x20-foot one-story lean-tos on either side"). Additionally, the airport compensated owners of adjacent properties who were asked to remove trees that were obstructing the view (The Paducah Sun 1945, pp.1). In a 1946 aerial photograph, a farmhouse and ancillary structures can be seen beside the airport's first terminal (Figure B-4), providing a sense of the type of domestic, agricultural life that predated the airfield.

Initially under the auspices of the War Department, the airport was deeded to the City of Paducah and McCracken County in 1946, after the city complained that "due to [Army authorities'] neglect, approximately $30,000 worth of damage due to erosion had occurred at the field" (The Paducah Sun 1944, pp. 8). In 1948, a rededication ceremony renamed the airport Barkley Field. In 1962, the airport began expanding the paved parking areas. This involved the clearing of sod across an area of 50x400 feet (The Paducah Sun 1962, pp. 8). The Kentucky Historical Society and Kentucky Department of Highways erected a "Welcome to Paducah" historical marker in front of the airport terminal in 1965 (Jones, 2020). In 1978, the airport's board of directors renamed the airport to Barkley Regional Airport (The Paducah Sun 1978, pp. 1).

Historic (1932, 1928, 1926) editions of the Paducah and La Center, Kentucky, 15-minute topographic quadrangle show the APE as undeveloped land. Historic (2019, 2016, 2013, 1982, and 1954) editions of the West Paducah, Kentucky, 7.5-minute topographic quadrangle show the commercial development of the area around the APE with the appearance of airport runway infrastructure. However, much of the surrounding landscape

remains undeveloped over time (Figure B- 5 and Figure B- 6). Historic (1952) aerial imagery shows the APE as an undeveloped field with no documented indications of its airfield function. Later historic (1975, 1978, 1983, 1987, 1998, 2008, 2012, 2016, 2020) aerial imagery confirms the twentieth century construction of the airport runway infrastructure (Figure B- 7 and Figure B- 8). According to the U.S. Department of Agriculture (USDA) Soil Survey, the APE and project area primarily consists of Calloway Silt, a somewhat poorly drained silt loam with slopes ranging from 0-2 to 2-4 percent. Around 30 percent of the APE and project area consists of Urban land-Udorthents complex, a soil that has been filled or covered by standing structures, with 0 to 4 percent slopes. Taken together, the historic topographic maps, historic aerial imagery, and soil survey data indicate that the APE remained undeveloped with soil largely unconducive to agricultural development throughout much of history.

By 1975, an access road leading to the ATCT had been extended through the northern portion of the APE, exposing the APE and project area to additional grading and ground disturbing activities (Figure B- 9). In 2021, the airport began an extensive wave of new development and reconstruction that included the relocation of the Barkley Regional Airport terminal and associated parking areas. In addition, the area surrounding the ATCT was expanded with additional parking areas, requiring grading and substantial ground disturbing activities in and around the APE and the project area.

B.3 CULTURAL RESOURCES REVIEW

The Kentucky Office of State Archaeology records two cultural resources surveys within the general project area, both completed in 2012. In the report entitled Archaeological Survey for the Proposed Relocation of the Barkley Regional Airport Terminal, archaeologists recorded an isolated find consisting of the proximal end of a late-stage biface. A nineteenth century farmstead was also recorded (Quick, 2012). In the report entitled Cultural Historic Resource Survey for the Proposed Barkley Regional Airport Terminal, five historic resources were recorded. None of these resources were recommended as eligible for listing in the NRHP (The Corradino Group, 2019). These previous surveys suggest that while the project area has a history that extends well beyond its twentieth century development, the extent of previous ground disturbing activities has diminished the integrity of intact subsurface archaeological deposits.

A review of the National Park Services (NPS) National Register of Historic Places indicates that no sites have been recorded previously within the APE or project area (U.S. Department of Interior, 2024). A review of the Kentucky Heritage Council's (2024) Kentucky Cultural Resources Interactive Map lists three resources within an approximate 0.5-mile radius of the project area (Table B- 1; Figure B- 10). None of these sites have been determined eligible for listing in the NRHP or would be impacted by the proposed undertaking.

Table B- 1. Sites Recorded Within an Approximate 0.5-Mile Radius of the APE

Site Number/ Property ID	Historic Name	Date of Significance	NRHP Eligibility Status
MCN 360	Barkley Regional Airport	1950-1974	Undetermined
MCN 361.001	House	N/A	Undetermined

Site Number/ Property ID	Historic Name	Date of Significance	NRHP Eligibility Status
079300077	N/A	N/A	Undetermined

According to a records request processed by the Kentucky Office of State Archaeology on September 4, 2024, no archaeological sites have been previously recorded within the APE (Kentucky Office of State Archaeology, 2024). The closest archaeological site, Site 15MCN152, sits over 0.5 miles south of the APE and consists of a historic farm/residence that does not presently meet NRHP criteria for significance. This site would not be impacted by the proposed undertaking.

B.3.1 History of the PAH ATCT

The project area encompasses the PAH Hunt/AVCO ATCT proposed for demolition. The Hunt/AVCO ATCT is a square functional steel framed shaft supporting a hexagonal steel framed cab. Since the mid-1960s, the FAA has deployed 12 standard ATCT design types. As the fourth design type, the FAA deployed the Hunt/AVCO ATCT at several low activity airports primarily from 1973-1975. Each Hunt/AVCO ATCT was designed as a "stand-alone facility with no Base Building." According to a 2021 survey, 44 Hunt/AVCO ATCTs remain standalone facilities without base buildings (FAA, 2021). Another key feature of the Hunt/AVCO ATCT was that "[unlike] other previous ATCTs, this design type used prefabricated building components throughout…The prefabricated nature for the whole tower construction (prefabricated interior and exterior walls) allowed them to be erected in a very short time from a 'kit of parts'" (FAA, 2021). The PAH Hunt/AVCO ATCT was constructed in 1973. In September 1973, cranes installed the cab onto the top of the shaft (The Paducah Sun, 1973, pp. 1, Figure B- 11).

The FAA dedicated the new ATCT at Barkley Field in 1974 (The Paducah Sun 1974, pp. 1, Figure B- 12), decades after Vice President Barkley and President Truman's visits to the airfield. In 2013, in response to the FAA's suggestion to close the PAH Hunt/AVCO ATCT, Barkley Regional Airport Manager Richard Roof noted that the airport had previously operated without an ATCT "from late 1981 until early 1988" (Black 2013, pp. A3). Indeed, in response to an airport traffic controllers' strike, the FAA closed the PAH ATCT in 1981, and it took several years for the government to reach an agreement to reopen the ATCT (Rains 1981, 1). The airfield continued to operate and contribute to the local economy while the PAH ATCT was inoperable. While the Barkley Regional Airport has facilitated interstate travel and contributed to the local economy, the PAH ATCT was constructed decades after the airfield's military use, commercial expansion, and prestigious visitors. Moreover, the airfield has proved capable of operating without the PAH Hunt/AVCO ATCT. As such, the PAH ATCT does not meet NRHP criteria for significance because it is not associated with events that have made a significant contribution to history or with the lives of persons significant in the past, and has not yielded and is unlikely to yield, information important to prehistory or history.

In 2020, Barkley Regional Airport completed renovations of the PAH ATCT, described as "a complete makeover" (Zoeller 2020, pp. A1). Booz Allen Hamilton staff completed a site visit to the Barkley Regional Airport on May 6, 2024. During the site visit, it was noted that the

PAH ATCT has a non-spiral stair configuration and that the ATCT underwent a seismic retrofit, during which the ATCT's walls, utility components, ceiling, and roof were removed and replaced. Asbestos abatement also occurred during the retrofit. It proved necessary to replace the tower's structural members due to the corrosion of its historic parts. The ATCT's historic tower walls were replaced with a new insulated core metal wall panel system and components. The existing aluminum window frames were maintained, but new clear insulated glass was installed in the openings. A new insulated metal access door was installed and painted at the tower base. A new seismically restrained acoustical panel ceiling system and associated ceiling mounted heating, ventilation, and air conditioning (HVAC) diffusers and grilles were also installed. The roof of the cab was replaced in full; however, the original aluminum frames and one-inch insulated glass were reused. A new steel deck was installed around the ATCT along with expanded metal grating (Figure B- 13). As shown in Figure B- 14, the retrofit of the PAH ATCT resulted in a near complete gutting of the ATCT's original "kit of parts," including removal of the shaft's original insulated metal panels and cladding (FAA, 2021). By replacing the prefabricated materials of the ATCT, the FAA reconstructed an ATCT that differs from the intent, design, and aesthetics of the historic, nationally deployed Hunt/AVCO ATCT design. Because of the extent of the previous renovation work (Figure B- 15 through Figure B- 24), the PAH ATCT does not embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.

The removal and replacement of the Hunt/AVCO original "kit of parts" and the construction of supporting structures around what was designed to be a standalone facility has diminished the ATCT's integrity of design, materials, feeling, association, and workmanship. Across the United States, there are 271 ATCTs corresponding to the 12 unique standard ATCT designs. Hunt/AVCO ATCTs are the most numerous of these towers with 84 still active across the nation. The FAA notes that the prefabricated nature of the Hunt/AVCO design has allowed for an extended use life of some towers (FAA, 2021). For example, "a tower originally constructed in Englewood, CO was disassembled and 'recycled' for use at the HEF Airport in Manassas, VA in April 1992." Examples of the Hunt/AVCO original kit of parts and intended design remain standing and in active use across the country. The demolition of the PAH Hunt/AVCO ATCT will not impact a resource that is a unique or representative example of the Hunt/AVCO ATCTs or FAA standard designs.

B.4 CONCLUSIONS

This desktop analysis found that the vicinity properties that surround the project area are not listed in the NRHP, are not located within, or adjacent to, a historic district, and are not listed as historic landmarks. According to the records of the Kentucky Office of State Archaeology, the APE was surveyed previously, and no archaeological sites have been recorded within the APE (Quick, 2012). One historic structure, the Hunt/AVCO ATCT (ca. 1972-1973), is proposed for demolition as part of the undertaking. Because the ATCT lacks integrity, is not a unique or representative example of the Hunt/AVCO ATCT design, and does not meet the NRHP criteria for significance, it is recommended as ineligible for the NRHP.

Based on this desktop analysis, the amount and extent of previous ground disturbance indicates that there is a low probability of encountering archaeological deposits within the project area. No additional archaeological or architectural surveys are recommended at this time. Due to the extensive renovations of the PAH ATCT, the absence of local, state, and national significance, and overall lack of integrity, no historic properties will be affected by the undertaking.

If unanticipated cultural resources are uncovered during project implementation, it is recommended that, in accordance with FAA guidance, the FAA immediately stop construction activities in the area of the resource (FAA, 2020). The FAA should notify the Kentucky Heritage Council, the Advisory Council on Historic Preservation, Tribes, and other relevant organizations within 48 hours of the discovery. The notification should describe the FAA's assessment of the resource's NRHP eligibility and proposed actions to resolve adverse effects. These parties should respond within 48 hours after being notified. The FAA should take into account their recommendations, carry out appropriate actions, then provide a report of those actions after they are completed (36 CFR 800.13).

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B.6 FIGURES

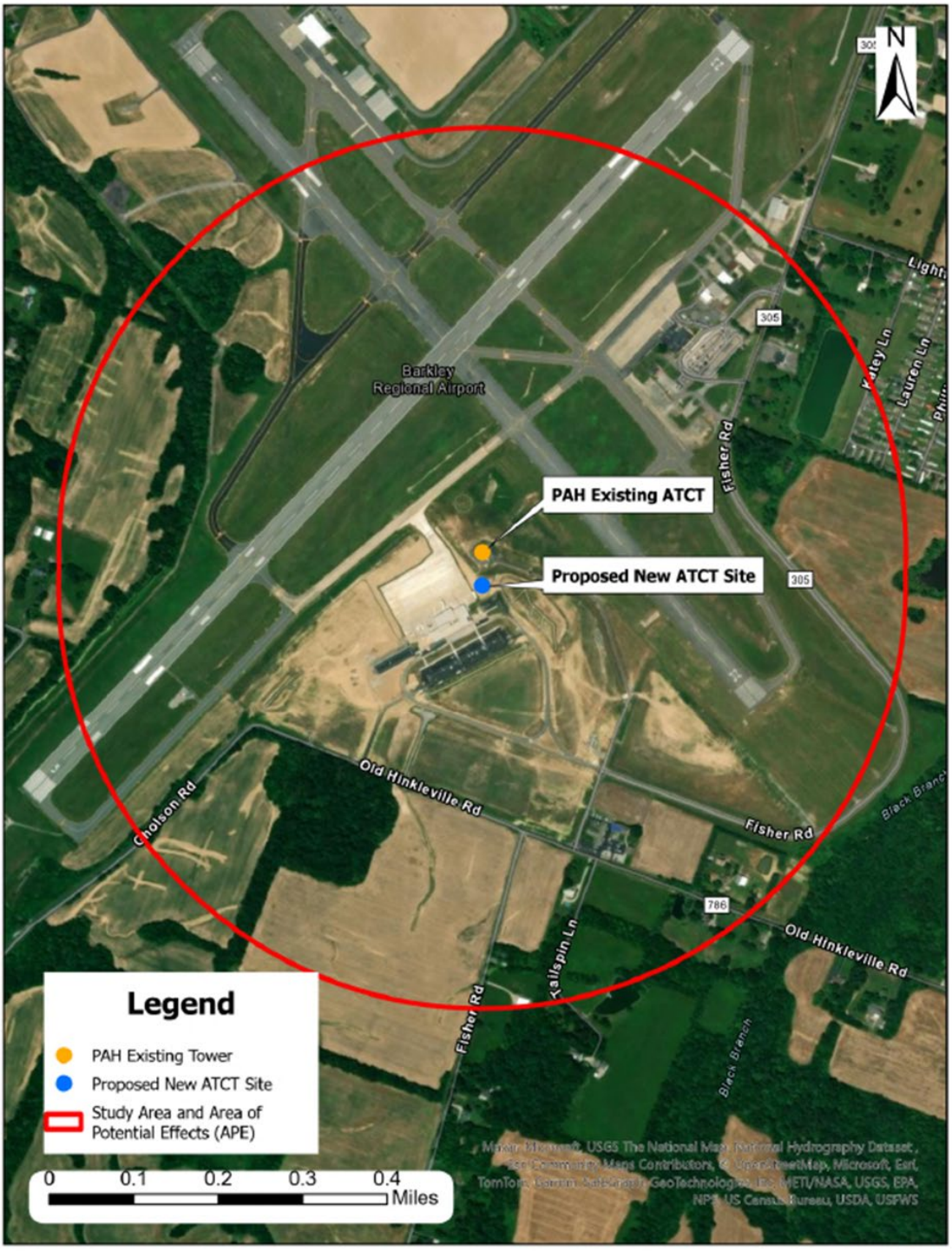

Figure B-1. Overview Map Showing PAH APE and Project Area

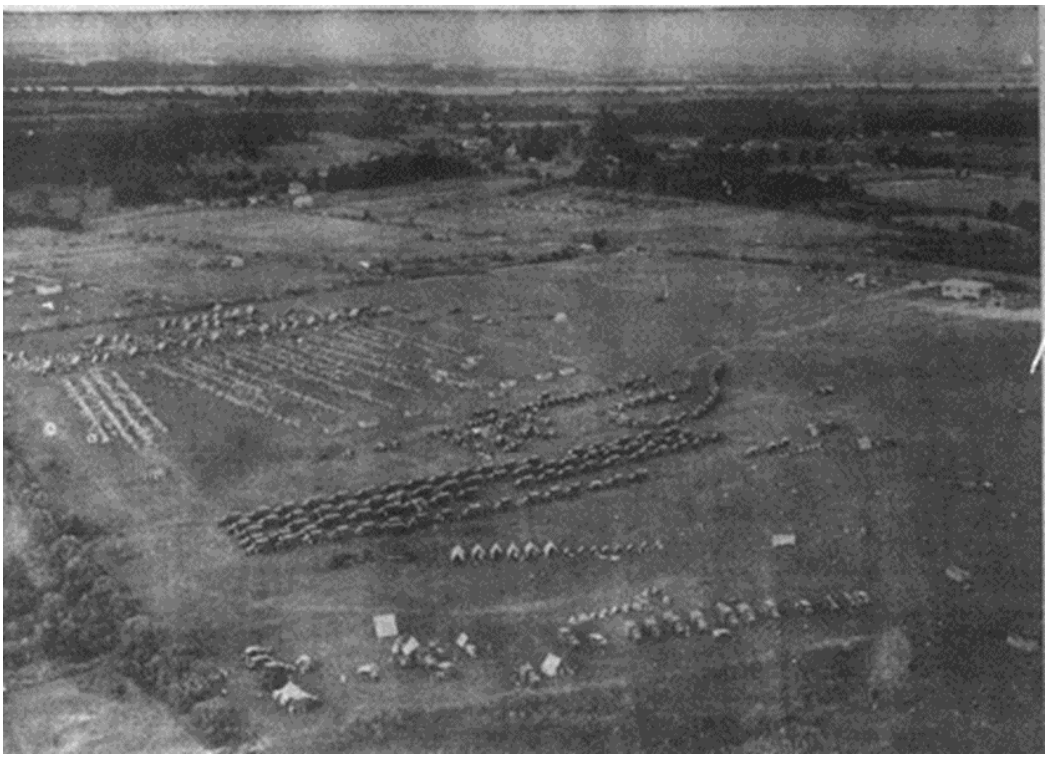

Figure B-2. A 1941 View of the Military Encampment at Paducah Municipal Airport, The Paducah Sun, August 31, 1941, pp. 12

Figure B-3. President Truman, Mayor Ernest Lakey, and Senator Alben Barkley with the Paducah Municipal Airport in the Background, Daily News, November 10, 1945, pp. 8

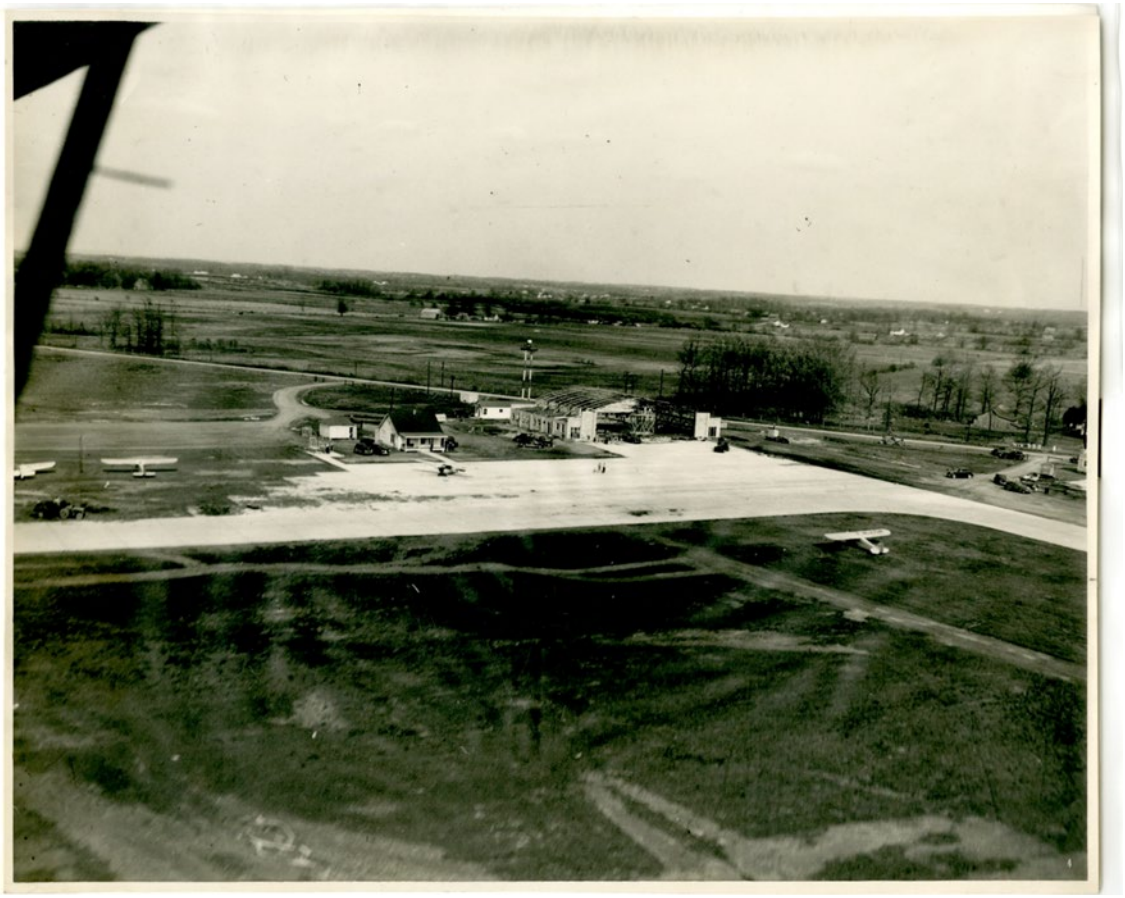

Figure B-4. A 1946 Aerial View of a Farmhouse at the Paducah Municipal Airport, Barkley Airport

Figure B-5. Topographic Map of APE, EDR 2024

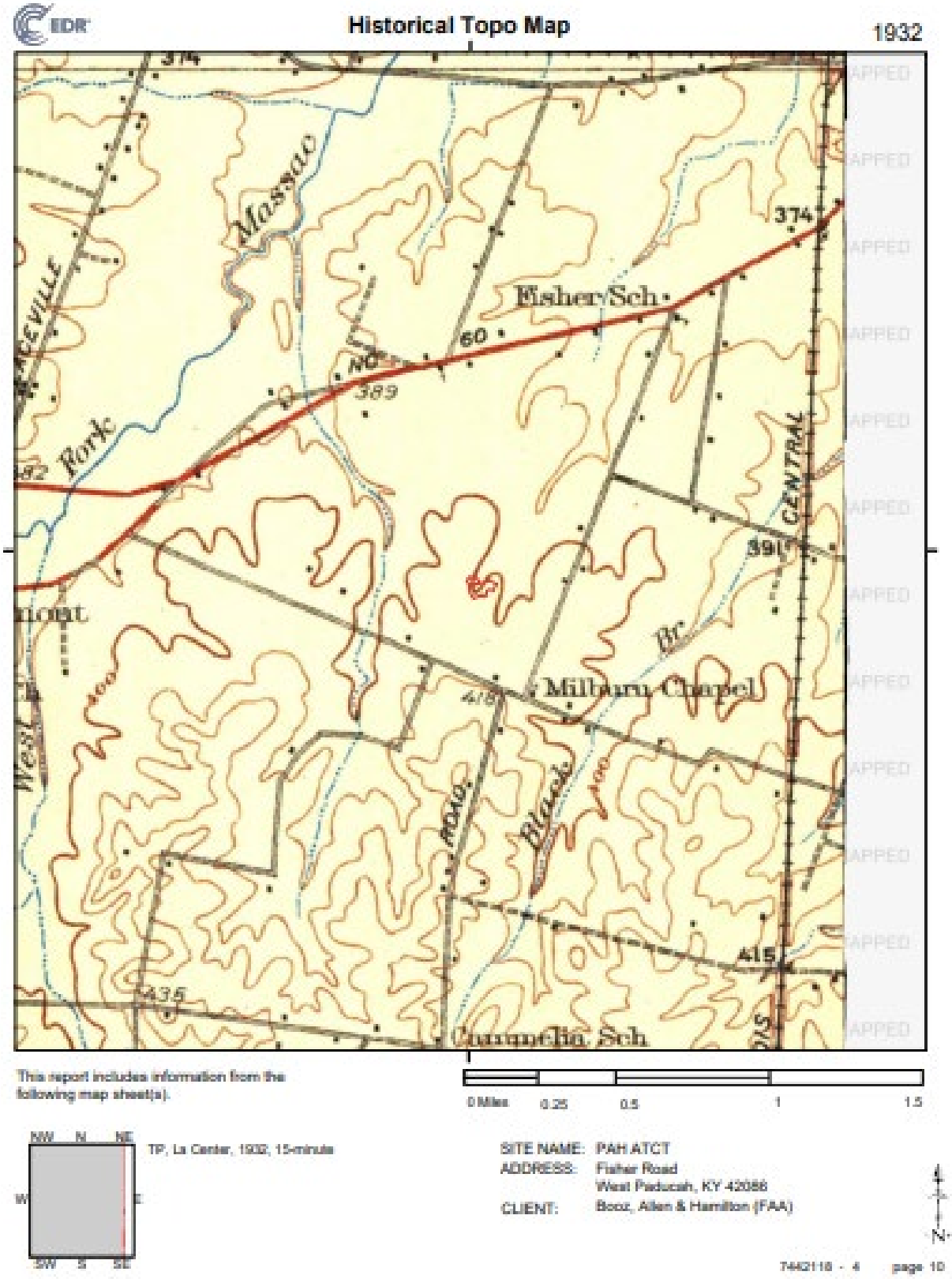

Figure B-6. 1932 Topographic Map of APE, EDR 2024

Figure B-7. Historic Aerial Image (1998) of APE, EDR 2024

Figure B-8. Historic Aerial Image (1952) of APE, EDR 2024

Figure B-9. 2020 Aerial Imagery Showing Disturbance within APE

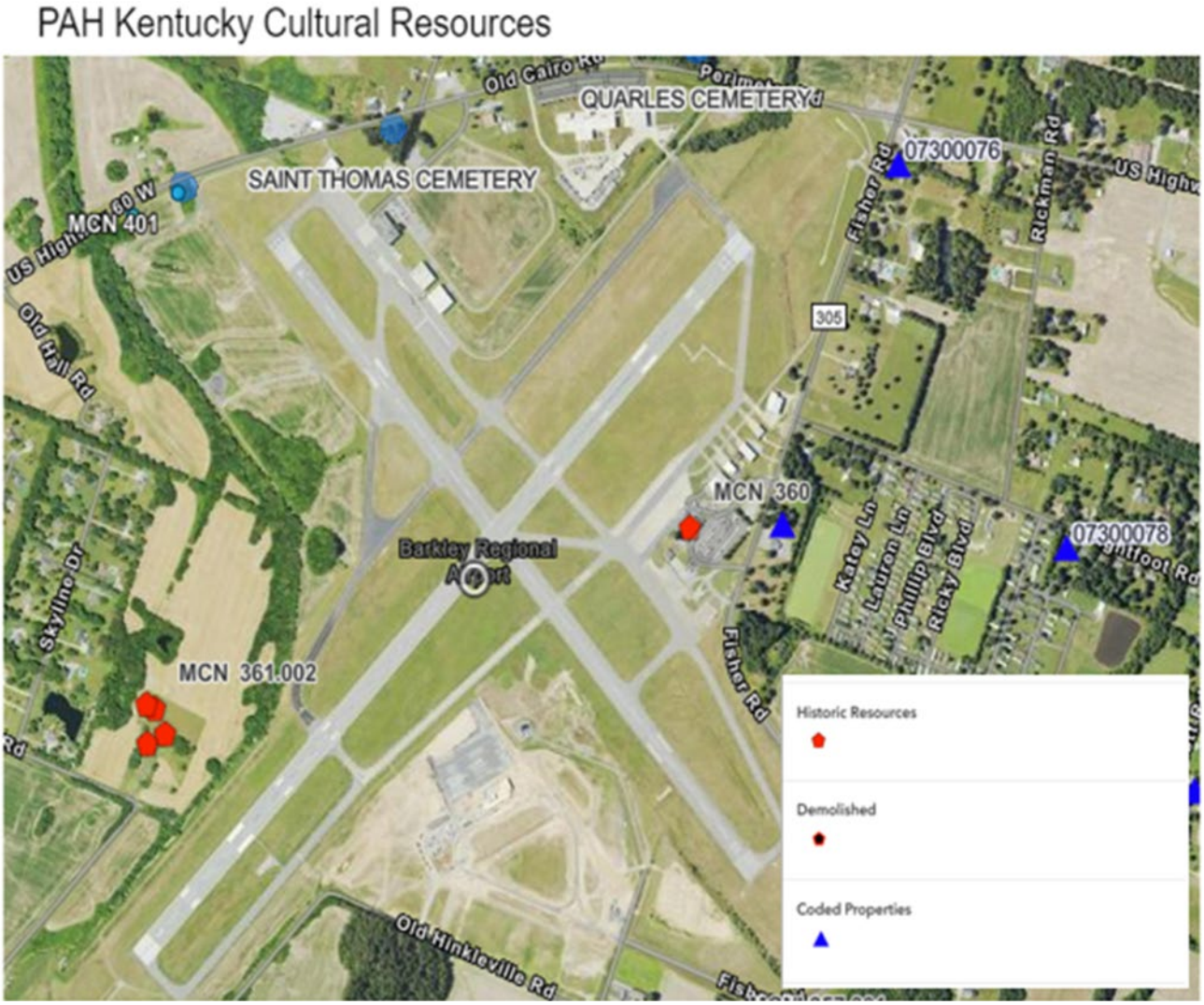

Figure B-10. Previously Recorded Sites Surrounding the Project Area, Kentucky Heritage Council Cultural Resources Online Viewer

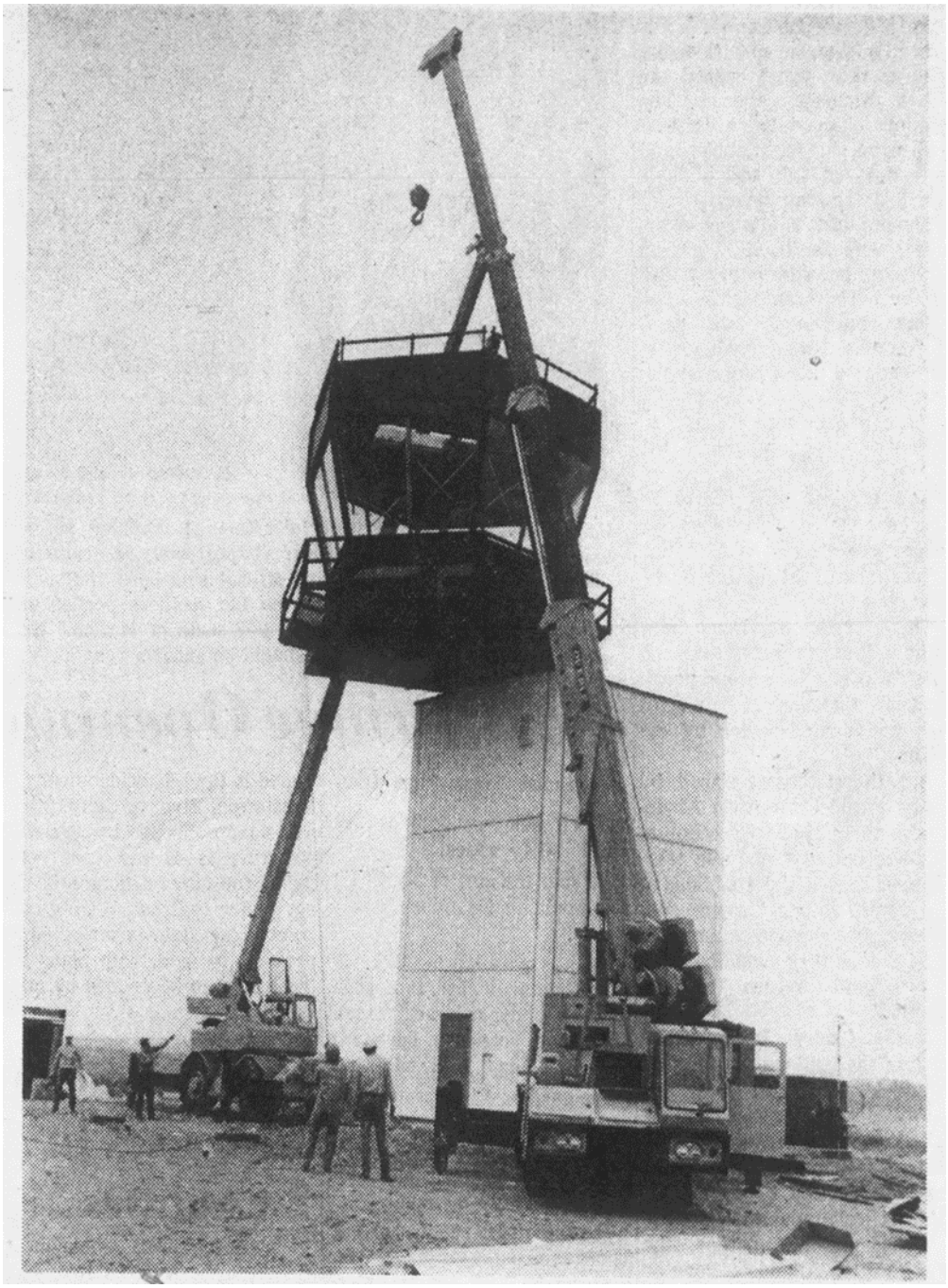

Figure B-11. Installation of the PAH ATCT Cab, The Paducah Sun, September 14, 1973, pp.1

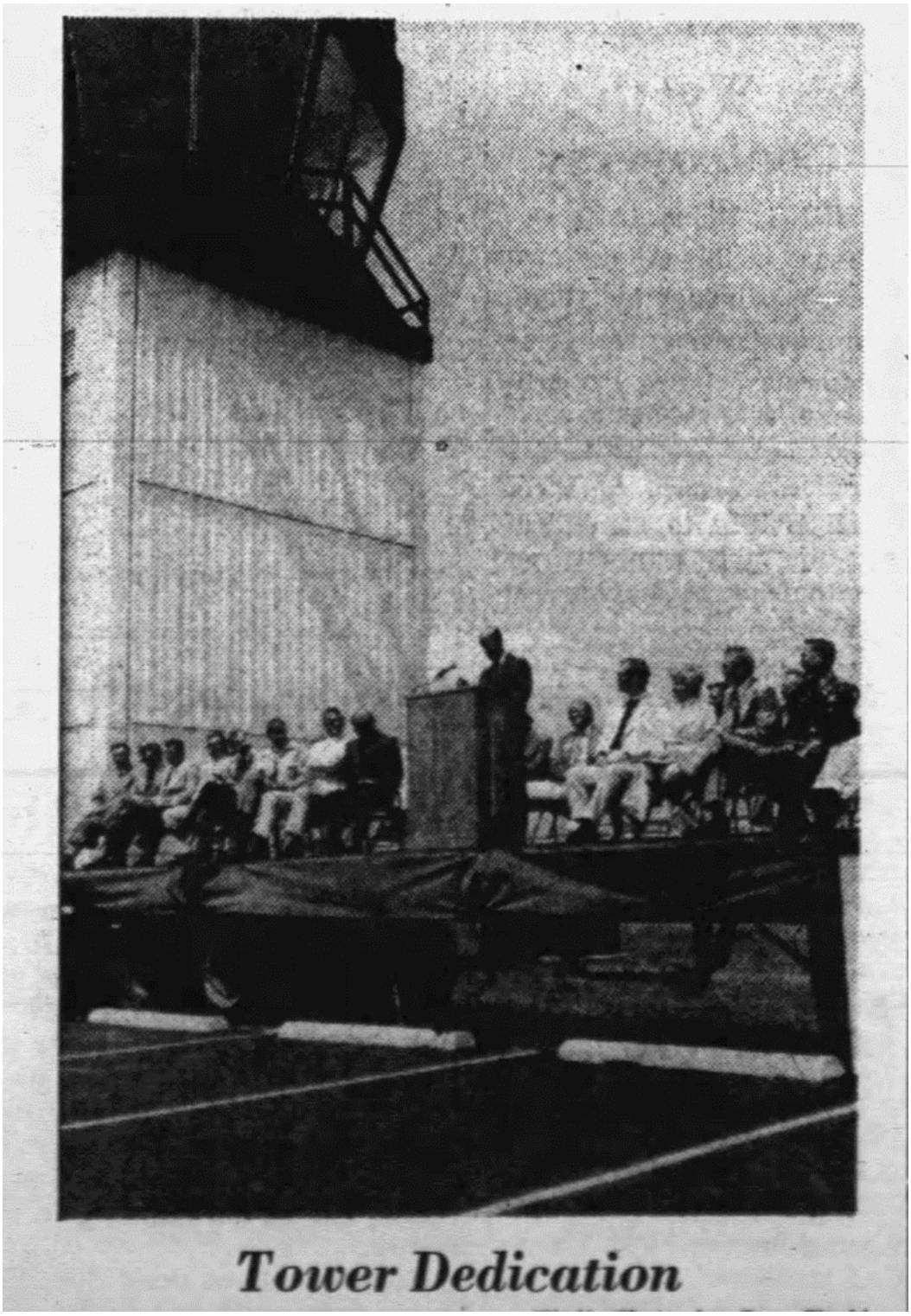

Figure B-12. Dedication of the PAH ATCT, The Paducah Sun, June 28, 1974, pp. 1

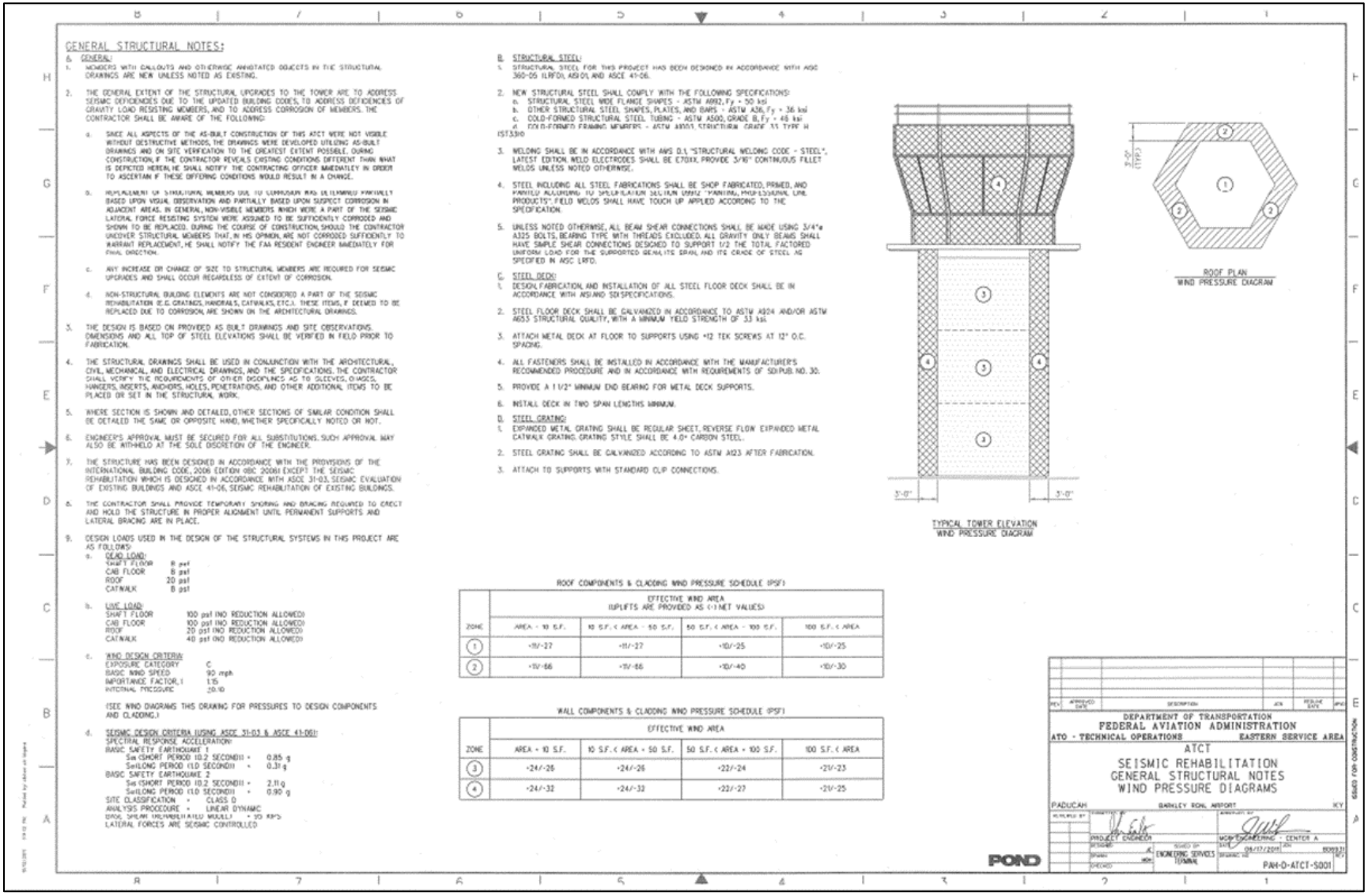

Figure B-13. Diagram of PAH ATCT Seismic Rehabilitation, FAA

Figure B-14. Phases of 2013-2019 Seismic Retrofit of the PAH ATCT, Courtesy of Barkley Regional Airport

Figure B-15. View of Renovated PAH ATCT and Project Area

Figure B-16. View of the Renovated PAH ATCT and Project Area

Figure B-17. View of the Renovated PAH ATCT and Project Area

Figure B-18. View of the Renovated PAH ATCT and Project Area

Figure B-19. View of the North Facade of the Renovated PAH ATCT

Figure B-20. View of the East Facade of the Renovated PAH ATCT

Figure B-21. View of the South Facade of the Renovated PAH ATCT

Figure B-22. View of the West Facade of the Renovated PAH ATCT

Figure B-23. Detail of Cab Windows in Renovated PAH ATCT

Figure B-24. Detail of Cab Windows in Renovated PAH ATCT

APPENDIX C | SHPO CONCURRENCE LETTER

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November 27, 2024

Aaron Comrov
Environmental Team Lead
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RE: **FAA**, ATCT Replacement at the Barkley Regional Airport in McCracken County, Kentucky

Dear Mr. Comrov:

Thank you for your submittal of maps and project specifics for the above-referenced undertaking. The proposed project consists of the replacement of an airport traffic control tower at the Barkley Regional Airport in Paducah, Kentucky.

Based on the information provided, the proposed project area has been previously surveyed, and no cultural resources were identified. Therefore, our office has no below-ground concerns.

The proposed project will not impact any properties or sites that are listed in or eligible for the National Register of Historic Places, therefore, we have no above-ground concerns.

We concur with the determination of **No Historic Properties Affected**.

Should you have any questions, please contact Stephanie Dooley or RaShae Jennings of my staff at stephanie.dooley@ky.gov or rashae.jennings@ky.gov.

Sincerely,

Craig A. Potts,
Executive Director and
State Historic Preservation Officer

KHC #: 242606
cp: sd, rj

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