

Draft

Environmental Assessment

Ted Bushelman Boulevard Development – Phase II Cincinnati/Northern Kentucky International Airport

Prepared For
**U.S. Department of Transportation
Federal Aviation Administration**



November 2016

Prepared by
Landrum & Brown



This environmental assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA Official.

Responsible FAA Official

Date

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Chapter One

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CHAPTER ONE PROPOSED ACTION

1.1 INTRODUCTION

This Environmental Assessment (EA) analyzes the potential environmental effects of the proposed development of commercial structures and parking (Proposed Action) at the Cincinnati/Northern Kentucky International Airport (CVG or Airport) in Boone County, Kentucky. The project sponsor is the Kenton County Airport Board (KCAB), the owner and operator of CVG.

An EA is a disclosure document prepared for a proposed Federal or Federally-funded action, in compliance with the requirements set forth by the Council on Environmental Quality (CEQ) in its regulations for implementing the *National Environmental Policy Act of 1969* (NEPA), as amended (40 Code of Federal Regulations (CFR) 1500-1508).¹ The purpose of this EA is to investigate, analyze, and disclose the potential impacts of the Proposed Action and its reasonable alternatives. Depending upon whether certain environmental thresholds of significance are exceeded or not, this EA may either lead to a Finding of No Significant Impact (FONSI) or to the requirement for the preparation of an Environmental Impact Statement (EIS). This EA has been prepared in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*. This EA was also prepared pursuant to other Federal and state laws relating to the quality of the natural and human environments.

1.2 DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action consists of the development of several commercial structures and parking lots on the east and west side of Ted Bushelman Boulevard. The sites are referred to individually as Sites 6BE, 6BW, and 6CW (the Project Sites). **Exhibit 1-1, Project Sites**, shows the general project area along with the location of the Project Sites at the Airport. The Proposed Action includes following activities:

- Site preparation, including tree clearing, of Site 6BE, 6BW, and 6CW which measure approximately 60 acres in size and are located on the east and west sides of Ted Bushelman Boulevard;
- Construction of one building approximately 200,000-275,000 square feet with associated parking, loading docks, and circulation on Site 6BE;
- Construction and operation of one commercial building approximately 98,000 square feet with two retail spaces and associated parking and circulation areas on Site 6BW;
- Construction of a commercial store front on corner of Site 6CW and storage buildings along the narrow area with associated parking and circulation areas;

¹ P.L. 91-190, 42 U.S.C. 4321, et. seq., *National Environmental Policy Act*, 1969, Section 102(2)(c).

- Grading activities of land to facilitate stormwater flow; and
- Construction of detention basins.

The conceptual layout of the Proposed Action is shown on **Exhibit 1-2, Proposed Action**. All project activities, including construction equipment staging, are expected to occur on the sites.

1.3 PROPOSED FEDERAL ACTION

The Proposed Federal Action includes the following project components:

Approval of the changes to the Airport Layout Plan (ALP) to reflect the proposed development on Sites 6BE, 6BW, and 6CW

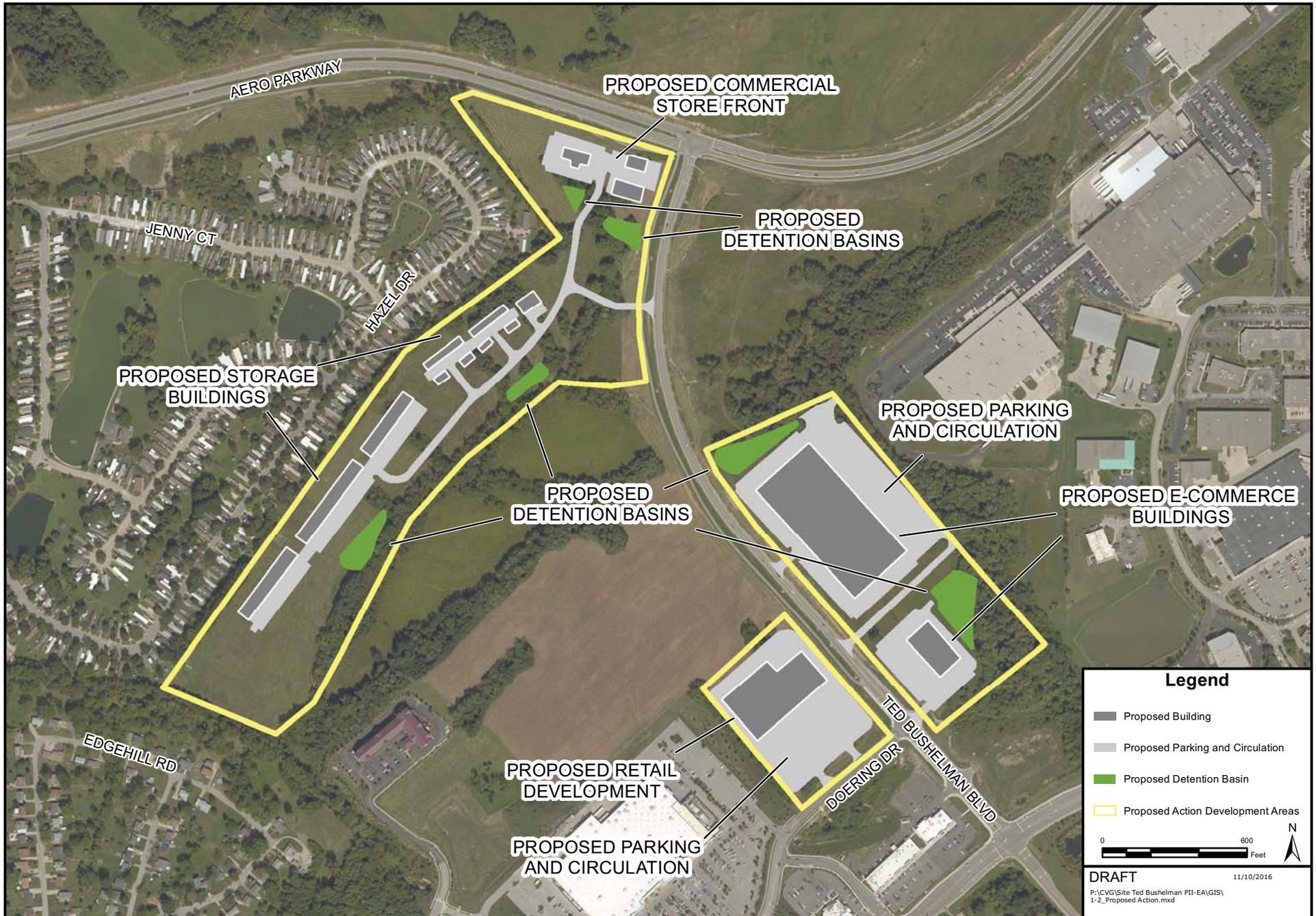
The FAA action is necessary in connection with the construction of the proposed commercial structures and parking on Sites 6BE, 6BW, and 6CW. Pursuant to 49 USC § 47107(a)(16), the FAA Administrator (under authority delegated from the Secretary of Transportation) must approve any revision or modification to an ALP before the revision or modification takes effect. The Administrator's approval includes a determination that the proposed alterations to the Airport, reflected in the ALP revision or modification, do not adversely affect the safety, utility, or efficiency of the Airport.

FAA consent to long-term leases converting airport-dedicated property to non-aeronautical, revenue-producing purposes

An FAA action is necessary in connection with the release, or consent to a long-term lease, of land purchased with Federal monies. An airport sponsor incurs specific obligations to use land for airport purposes when it accepts AIP financing to buy land for airport development or noise compatibility. If an airport sponsor no longer needs airport land for aeronautical purposes, the sponsor may request that the FAA release the sponsor from its Federal grant assurance obligations addressing the uses of the land. A land release may be required for any elements of the Proposed Action that are not considered an aeronautical use. According to FAA Order 5190.6B, *FAA Airport Compliance Manual*, section 22.33.d, long-term leases are normally those exceeding 20 years.



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Chapter Two

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CHAPTER TWO PURPOSE AND NEED

2.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

The Kenton County Airport Board (KCAB), which owns and operates the Cincinnati/Northern Kentucky International Airport (CVG or Airport), has undertaken a program to develop and lease underutilized Airport-owned land in a way that is compatible with Airport operations. The development of commercial structures on Site 6BE, 6BW, and 6CW (Proposed Action) are consistent with this goal. The following section discusses the purpose and need for the project.

The *purpose* of this project is to develop Airport-owned land that is currently under-utilized to accommodate the construction of distribution/warehouse facilities and other commercial uses that are compatible with FAA airspace restrictions and design standards and is easily accessible to roadways and utilities. The *need* for the project is to provide additional revenue to the KCAB.

2.2 FORECAST

The Proposed Action, when fully operational, would include commercial/warehouse facilities that would have no access to the airfield. Therefore, the proposed facilities would not cause an increase or decrease in operations and would not result in changes to the aircraft fleet at CVG.

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Chapter Three

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CHAPTER THREE ALTERNATIVES

3.1 BACKGROUND

The Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act of 1969 (NEPA) requires that the Federal decision-makers perform the following tasks:

- Evaluate all reasonable alternatives, including alternatives not within the jurisdiction of the Federal agency, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
- Devote substantial treatment to each alternative considered in detail, including a no action alternative and the proposed action, so that reviewers may evaluate their comparative merits.

This section describes alternatives to the Proposed Action, and evaluates the ability of the alternatives to meet the purpose and need described in Chapter Two, *Purpose and Need*. Federal and state guidelines concerning the environmental review process require that all prudent, feasible, reasonable, and practicable alternatives that might accomplish the objectives of a project must be identified and evaluated. Federal agencies may consider the applicant's purposes and needs and common sense realities of a given situation in the development of alternatives.²

3.2 INITIAL ALTERNATIVES SCREENING

Other Kenton County Airport Board (KCAB) owned sites at Cincinnati/Northern Kentucky International Airport (CVG or Airport) are vacant and available for non-aviation development. However, Sites 6BE, 6BW, and 6CW were determined the only sites suitable for the proposed development by the developers due to proximity to interstate-commerce, building height restrictions, highway/road access, site acreage, and utilities. As a result, only the No Action and Proposed Project alternatives are being environmentally assessed in the EA. **Exhibit 3-1, Non-Aviation Development Sites Owned by KCAB** shows the location of other developable sites around the Airport. Under the No Action, the proposed developments would not occur and the Proposed Project Sites would not be disturbed.

² *Guidance Regarding NEPA Regulations*, CEQ, 48 Federal Register 34263 (July 28, 1983).

3.3 ALTERNATIVES CARRIED FORWARD FOR DETAILED EVALUATION

Alternative 1: No Action

To satisfy the intent of NEPA, FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*; FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*; and other special purpose environmental laws, a No Action alternative is carried forward in the analysis of environmental consequences provided in Chapter Four. With the No Action alternative, Sites 6BE, 6BW, and 6CW would remain undeveloped.

The No Action does not meet the stated purpose and need for this project. Although not always reasonable, feasible, prudent, nor practicable, the No Action alternative is a required alternative under NEPA and serves as the baseline for the assessment of future conditions/impacts.

Alternative 2: Proposed Action

As described in Chapter One and shown in Exhibit 1-2, the Proposed Action includes:

- Site preparation, including tree clearing, of Site 6BE, 6BW, and 6CW which measure approximately 60 acres in size and are located on the east and west sides of Ted Bushelman Boulevard;
- Construction of one building approximately 200,000-275,000 square feet with associated parking, loading docks, and circulation on Site 6BE;
- Construction and operation of one commercial building approximately 98,000 square feet with two retail spaces and associated parking and circulation areas on Site 6BW;
- Construction of a commercial store front on corner of Site 6CW and storage buildings along the narrow area with associated parking and circulation areas;
- Grading activities of land to facilitate stormwater flow; and
- Construction of detention basins.



Legend

 Non-Aviation Development Sites Owned by KCAB

0 4,000 Feet

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Chapter Four

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CHAPTER FOUR

AFFECTED ENVIRONMENT

Pursuant to the environmental documentation requirements of FAA Orders 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and 1050.1F, *Environmental Impacts, Policies, and Procedures*, this chapter succinctly describes the existing environmental conditions and potential impacts of those resources potentially affected by the Proposed Action at the Cincinnati/Northern Kentucky International Airport (CVG or Airport).

4.1 ENVIRONMENTAL SETTING

CVG is an international airport located on approximately 7,000 acres of land within Boone County, Kentucky. The Project Sites for the Proposed Action are located on the southern portion of the Airport, on the east and west sides of Ted Bushelman Boulevard. The Proposed Action would occur on property that is currently owned by the Kenton County Airport Board (KCAB). Exhibit 1-1, *Project Sites*, shows the location of the Project Sites. Site features include a combination of maintained grassy areas and undeveloped wooded areas, as well as some areas that have been previously disturbed.

4.2 RESOURCES NOT POTENTIALLY AFFECTED

The No Action and Proposed Action do not have the potential to affect the following categories because it has been demonstrated through numerous previous NEPA documents for similar development at the Airport that either the resources do not exist at the Airport and/or the nature of the project does not result in impacts to these resources:

- Coastal resources
- Department of Transportation Act, Section 4(f)
- Farmland
- Floodplains
- Natural resources and energy supply
- Noise and Compatible Land use
- Socioeconomics, environmental justice, and children's environmental health and safety risks
- Wild and scenic rivers

Therefore, no discussion of the existing conditions or potential impacts related to these categories is included in this chapter.

4.3 RESOURCES POTENTIALLY AFFECTED

The Proposed Action has the potential to include impacts to the following resource categories:

- Air quality
- Biological resources (including fish, wildlife, and plants)
- Climate
- Hazardous materials, solid waste, and pollution prevention
- Historical, architectural, archeological, and cultural resources
- Land use
- Visual effects (including light emissions)
- Water resources (including wetlands, surface waters, and groundwater)*
noting that there are no floodplains or wild and scenic rivers on the site

The current conditions and potential impact for each of these resource categories is described in the following sections.

4.3.1 AIR QUALITY

The Airport is located within Boone County, Kentucky, which is included in the Metropolitan Cincinnati Interstate Air Quality Region. The U.S. Environmental Protection Agency (USEPA) has determined that levels of the eight-hour concentration of ozone exceed the Federal standards defining healthful air quality within this area. In the past, Boone County was designated as nonattainment for 24 hour concentrations of fine particulate matter (PM_{2.5}); however, on December 15, 2011, the USEPA determined the area had attained the PM_{2.5} standard and the region was re-designated to attainment for PM_{2.5}. The area now operates under a maintenance plan for PM_{2.5}.

4.3.2 BIOLOGICAL RESOURCES

A biological survey and habitat assessment was completed in July 2015, August 2015, December 2015, February 2016, and September 2016 for the proposed development sites at CVG. The purpose of these surveys was to determine the presence or absence of Federal or state-listed species and if potential habitat for both Federal and state-listed species existed in the proposed development areas. **Exhibit 4-1, Existing Ground Cover/Vegetation of the Proposed Action Sites** shows the locations and the existing ground cover observed during the survey. Results of the survey found the Project Sites consist primarily of open field habitat, with upland woodlots and a wooded drainage that runs east to west on the west side of Ted Bushelman Boulevard and upland woods and wooded drainage on the east side of Ted Bushelman Boulevard. The upland woodlots and drainage consist of mature woods habitat. No caves, rock shelters, sink holes, or mine portals were identified during the field assessments.

The open field habitat is dominated by tall fescue (*Schedonorus arundinaceus*), bluegrass (*Poa cf. pratensis*), and broomsedge (*Andropogon virginicus*). Common species within the upland woods and scrub habitats include sugar maple (*Acer saccharum*), hackberry (*Celtis occidentalis*), American elm (*Ulmus americana*), black walnut (*Juglans nigra*), bush honeysuckle (*Lonicera maackii*), Japanese honeysuckle (*Lonicera japonica*), grape vine (*Vitis sp.*), field garlic (*Allium vineale*), garlic mustard (*Alliaria petiolata*), and jewelweed (*Impatiens capensis*). The emergent wetland habitats are dominated by green bulrush (*Scirpus atrovirens*), fowl mannagrass (*Glyceria striata*), and tall fescue. The forested wetland included American elm and riverbank grape (*Vitis riparia*).

4.3.2.1 Threatened and Endangered Species

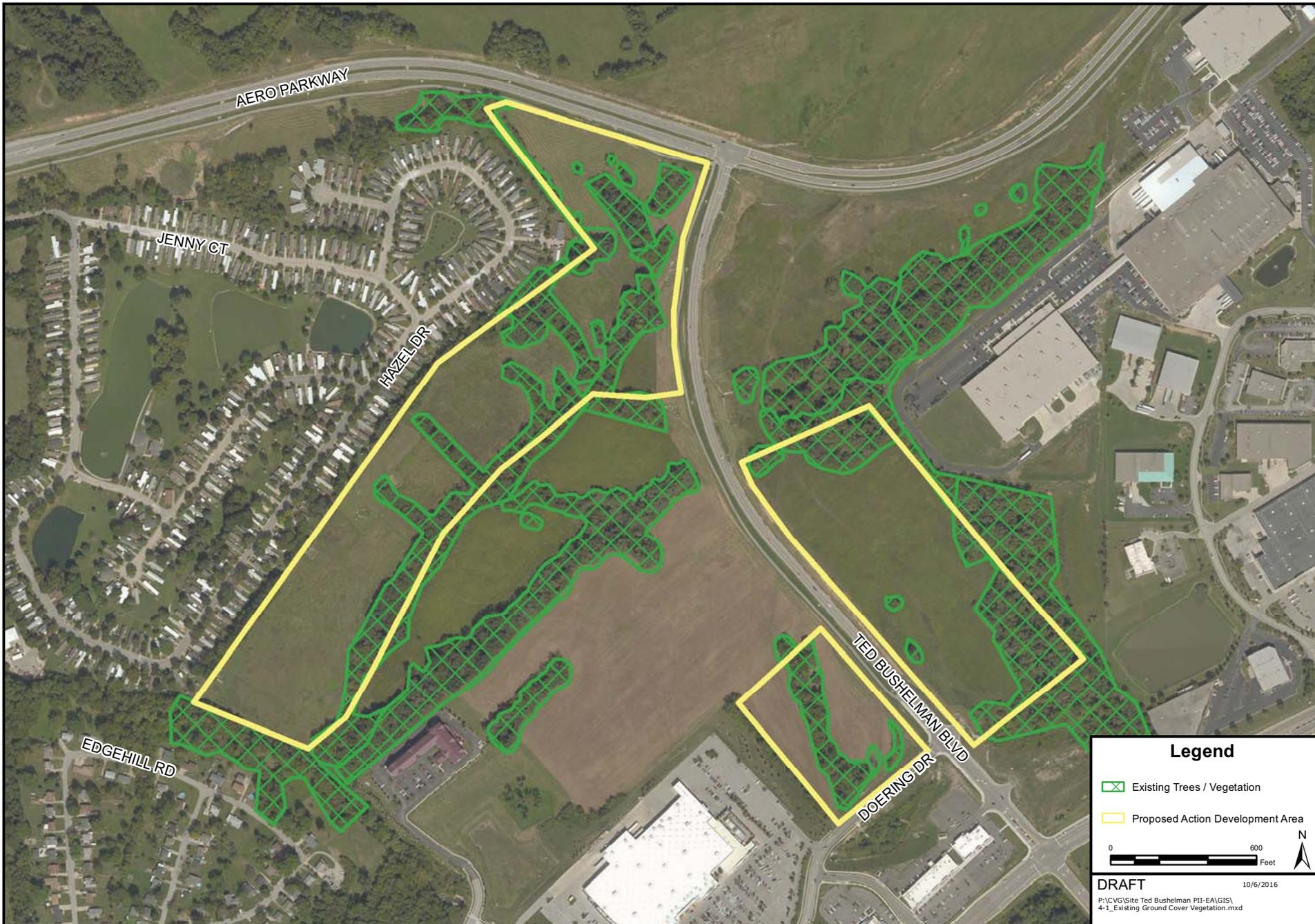
According to the US Fish and Wildlife Service (USFWS), the following Federal listed species of plants and animals, shown in **Table 4-1**, are found in Boone County.

**Table 4-1
FEDERAL THREATENED AND ENDANGERED SPECIES
Cincinnati/Northern Kentucky International Airport**

TAXONOMIC GROUP	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS
Mammal	Gray Bat	<i>Myotis grisescens</i>	<i>Endangered</i>
Mammal	Indiana Bat	<i>Myotis sodalis</i>	<i>Endangered</i>
Mammal	Northern Long-Eared Bat	<i>Myotis septentrionalis</i>	<i>Threatened</i>
Mussels	Clubshell	<i>Pleurobema clava</i>	<i>Endangered</i>
Mussels	Pink Mucket	<i>Lampsilis abrupta</i>	<i>Endangered</i>
Mussels	Orangefoot Pimpleback	<i>Plethobasus cooperianus</i>	<i>Endangered</i>
Mussels	Sheepnose	<i>Plethobasus cyphyus</i>	<i>Endangered</i>
Mussels	Rough Pigtoe	<i>Pleurobema plenum</i>	<i>Endangered</i>
Mussels	Fanshell	<i>Cyprogenia stegaria</i>	<i>Endangered</i>
Mussels	Ring Pink	<i>Obovaria retusa</i>	<i>Endangered</i>
Plants	Running Buffalo Clover	<i>Trifolium stoloniferum</i>	<i>Endangered</i>

Source: <https://ecos.fws.gov/ipac/project/66U5HJR2BZFCJNDKYUHFMOFAQI/resources>, October 4, 2016

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4.3.2.2 State Designated Threatened, Endangered, or Special Status Species

In addition to the USFWS information, the Kentucky Department of Fish & Wildlife Resources and the Kentucky State Nature Preserves Commission (KSNPC) were contacted to obtain information on threatened and endangered species. The list of species monitored by the KSNPC that are found within one mile of the Project Sites is provided in **Appendix C, Biological Resources and Water Resources**.

4.3.2.3 Survey Findings

No Federally-protected or state-protected plant or animal species were observed in the areas surveyed. The habitat surveys found potentially suitable habitat for two Federal threatened or endangered species or species of special concern, the Indiana bat and the northern long-eared bat. Summer habitat for this species includes trees with cavities, hollows, cracks or loose bark. Potentially suitable summer habitat for these species is present on all the Project Sites.

4.3.3 CLIMATE CHANGE/GREENHOUSE GASES

Greenhouse gases (GHG) are gases that trap heat in the earth's atmosphere. Both naturally occurring and man-made, GHGs primarily include water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons, and sulfur hexafluoride (SF₆). Sources that require fuel or power at an airport are the primary sources that would generate GHGs.

Research has shown there is a direct correlation between fuel combustion and GHG emissions. In terms of U.S. contributions, the General Accounting Office (GAO) reports that "domestic aviation contributes about three percent of total carbon dioxide emissions, according to USEPA data," compared with other industrial sources including the remainder of the transportation sector (20 percent) and power generation (41 percent).¹ The International Civil Aviation Organization (ICAO) estimates that GHG emissions from aircraft account for roughly three percent of all anthropogenic GHG emissions globally.² Climate change due to GHG emissions is a global phenomenon, so the affected environment is the global climate.³

The scientific community is continuing efforts to better understand the impact of aviation emissions on the global atmosphere. The FAA is leading and participating in a number of initiatives intended to clarify the role that commercial aviation plays in GHG emissions and climate. The FAA, with support from the U.S. Global Change

¹ *Aviation and Climate Change*. GAO Report to Congressional Committees, (2009)

² Alan Melrose, "European ATM and Climate Adaptation: A Scoping Study," in *ICAO Environmental Report*. (2010)

³ As explained by the U.S. Environmental Protection Agency, "greenhouse gases, once emitted, become well mixed in the atmosphere, meaning U.S. emissions can affect not only the U.S. population and environment but other regions of the world as well; likewise, emissions in other countries can affect the United States." Climate Change Division, Office of Atmospheric Programs, U.S. Environmental Protection Agency, *Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act 2-3* (2009).

Research Program and its participating federal agencies (e.g., National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), EPA, and Department of Energy (DOE)), has developed the Aviation Climate Change Research Initiative (ACCRI) in an effort to advance scientific understanding of regional and global climate impacts of aircraft emissions. FAA also funds the Partnership for Air Transportation Noise & Emissions Reduction (PARTNER) Center of Excellence research initiative to quantify the effects of aircraft exhaust and contrails on global and U.S. climate and atmospheric composition. Similar research topics are being examined at the international level by ICAO.⁴

4.3.4 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Currently there is no hazardous material storage or generating activities within the Proposed Project sites. The Proposed Project sites are vacant land that consists primarily of mowed field with wooded stream corridors and small woodlots. Past known uses include agricultural activities. There are no known past uses that would have generated or stored hazardous materials on-site. In addition, there are no records of fuel spills or any other ground contaminating events at the site.

4.3.5 HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

It is assumed that the entire area of the Project Sites would be graded, cleared, or disturbed from their current state. As a result, a Phase I archaeological survey was completed and consisted of a literature search and archaeological field survey to determine potential impacts to historic, archaeological, and cultural resources. The literature review collected data on known cultural resources within a 1.2-mile radius of the Project Sites. No previously recorded sites were identified within Sites 6BE, 6BW, 6CW, or within the 1.2-mile radius. The archaeological survey was conducted within Sites 6BE, 6BW, 6CW between April 28, 2014 and May 2, 2014. These surveys did not completely cover the boundary of the Project Sites; therefore, additional surveying within a portion of Site 6A was conducted in August 2015. As a result of the surveying, two new archaeological sites were identified within the Project Sites. These newly identified cultural resource sites were determined unlikely to yield new and significant information pertaining to prehistoric or historic cultures in the Outer Bluegrass region of Kentucky. Therefore, it was concluded these cultural resource sites are not considered eligible for inclusion in the National Register of Historical Places (NRHP) under Criteria A, B, C, or D. The Kentucky Heritage Council / State Historic Preservation Office (SHPO) agreed with this conclusion in a letter dated August 7, 2014. A copy of this letter is included in Appendix D, Cultural Resources.

An analysis of the area in which potential indirect visual effects may occur was conducted within the 1,000-foot viewshed of the Project Sites. There are approximately 300 mobile homes and 80 single-family detached homes located

⁴ Lourdes Q. Maurice and David S. Lee. *Chapter 5: Aviation Impacts on Climate*. Final Report of the International Civil Aviation Organization (ICAO) Committee on Aviation and Environmental Protection (CAEP) Workshop. October 29th November 2nd 2007, Montreal.

within the 1,000-foot viewshed. The single family detached homes include ranch-style homes that were built in the 1950s. Area reconnaissance did not identify any features that would indicate the homes are in any way unique or different than the multitude of 1950s ranch homes in the area. There is no additional information on the mobile homes due to the transient nature of these homes. A review of the National Park Service NRHP database did not find any properties listed on the NRHP within the 1,000-foot viewshed.

4.3.6 LAND USE

The Project Sites are located on the southern edge of the Airport in a predominantly commercial area. The land uses immediately adjacent to the Project Sites are a mix of commercial uses and undeveloped Airport property. There is a residential area located west of the Project Sites on the west side of Ted Bushelman Boulevard. The Project Sites have frontage on Ted Bushelman Boulevard and Aero Parkway, which provide automobile access. **Exhibit 4-2, Existing Land Use**, shows the location of the site and the surrounding land uses. Property acquisition is not required for the Proposed Action; therefore, it would not disrupt communities nor require the relocation of residences or businesses.

The Project Sites are located within an area that is zoned as "Airport" district and is part of the Houston-Donaldson Study Corridor Overlay District (HDO). The Airport zoning designation allows airport development and commercial, office and industrial uses. The HDO is an overlay zoning district that applies additional conditions related to design and signage while maintaining the provisions of the underlying Airport zoning district.

4.3.7 VISUAL EFFECTS

Visual effects include potential impacts to views and from lights. The Project Sites are located in an area where increasingly commercial and light industrial development is occurring. There are no designated scenic areas or overlooks in the area and the views to/from the Project Sites are not notable for any reason. There would be an increase in lighting due to the Proposed Action. However, the number of lights would be minimal and shielded from any adjacent uses. The Project Sites are located on KCAB-owned land and are surrounded by other commercial development and vacant land. The closest residences are located west of the site on Hazel Drive and Edgehill Road.

4.3.8 WATER RESOURCES

Water resources include wetlands, surface waters, and groundwater. As previously discussed, no impacts to floodplains or wild and scenic rivers would occur.

4.3.8.1 Wetlands and Streams

Wetland surveys were conducted at the Project Sites in August 2014, August 2015, December 2015, and September 2016. Several areas of wetlands and streams were identified within the area of disturbance of the Project Sites as shown on **Exhibit 4-3, Wetlands and Streams** and **Table 4-2**. More detailed information regarding the wetlands and streams is located in Appendix C, *Biological Resources and Water Resources*.

**Table 4-2
WETLANDS AND STREAMS
Cincinnati/Northern Kentucky International Airport**

Waterbody Name	Waterbody Type	Hydrologic Status	Linear Footage	Acreage
Streams				
S-1	Intermittent	Connected	419*	0.03
S-4	Ephemeral	Connected	202	0.01
S-6	Ephemeral	Connected	722	0.07
S-8	Intermittent	Connected	604	0.07
S-9	Ephemeral	Connected	531	0.03
S-10	Ephemeral	Connected	240	0.01
S-15	Ephemeral	Connected	268	0.01
Total			2,985	0.23
Wetlands				
W-1	PEM	Connected	N/A	0.02
W-2	PEM	Connected	N/A	0.03
W-11	PEM	Connected	N/A	0.03
Total			N/A	0.08

*Note: Additional length of Stream S-1 is located outside of the area of disturbance.
Source: Environment & Archaeology, LLC; 2016

4.3.8.2 Surface Waters

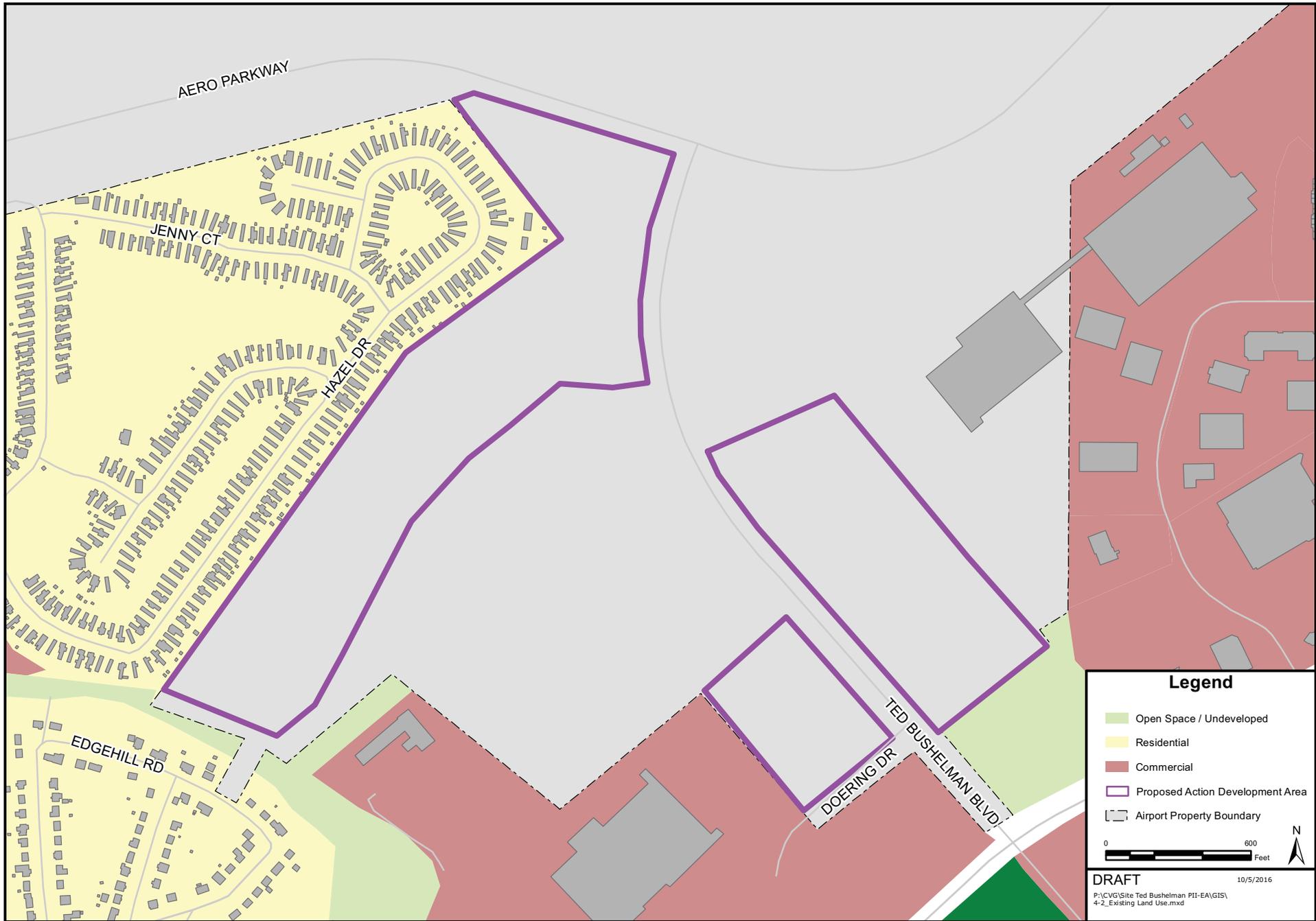
The main sources of hydrology to the Project Sites are precipitation, surface runoff from adjacent properties, and the various streams on the sites (see Exhibit 4-3). In general, surface water is collected and migrated across the sites in an east to west direction until it is off the site. Topography within the study area is gently sloping, and is located within the Gunpowder Creek watershed (HUC 05090203). Gunpowder Creek is defined as a warm-water aquatic habitat by the Kentucky Division of Water and the streams are not identified as a Special Resource Water. In Kentucky, stormwater discharges are regulated by the Kentucky Pollutant Discharge Elimination System (KPDES) as administered by the Kentucky Division of Water.

4.3.8.3 Groundwater

The geology of the Project Sites is predominantly limestone which yields 100 to 500 gallons per day from wells in valleys or on broad ridges, but almost no water from drilled wells on narrow ridges or hilltops.⁵ There are no public or private drinking water wells or wells used for agricultural purposes within a one-mile radius of the Project Sites.⁶

⁵ Kentucky Geological Survey; Groundwater Resources of Boone County, Kentucky; 2004

⁶ Kentucky Geological Survey; Water Well Records Search Results, Kentucky Groundwater Data Repository; Online at: <http://kgs.uky.edu/kgsweb/datasearching/water/waterwellsearch.asp>; Accessed: April 4, 2016



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Chapter Five

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CHAPTER FIVE

ENVIRONMENTAL CONSEQUENCES

This chapter presents the assessment of environmental impacts addressed in considering reasonably foreseeable environmental consequences of the Proposed Action and the No Action alternative at the Cincinnati/Northern Kentucky International Airport (CVG or Airport).

As required by the Federal Aviation Administration (FAA) Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects*, and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, the environmental categories listed below are addressed in this Environmental Assessment (EA). Construction activities could result in potential impacts to multiple categories. Per FAA Order 1050.1F, the assessment of potential construction related impacts is discussed where applicable for each of the categories listed.

- Air quality
- Biological resources
- Climate
- Hazardous materials, solid waste, and pollution prevention
- Historical, architectural, archeological, and cultural resources
- Land use
- Visual effects
 - Light emissions
 - Visual resources and visual character
- Water resources
 - Wetlands
 - Surface waters
 - Groundwater

As discussed in Chapter Four, *Affected Environment*, the No Action and Proposed Action do not have the potential to affect the following categories because the either the resources do not exist at the Airport or the nature of the project would not result in impacts: coastal resources; Department of Transportation Act, Section 4(f); farmland; floodplains; hazardous materials, solid waste, and pollution prevention; natural resources and energy supply; noise and compatible land use; socioeconomics; environmental justice, and children’s environmental health and safety risks; and wild and scenic rivers. Therefore, no discussion of potential impacts related to these categories is included in this EA.

5.1 AIR QUALITY

The Clean Air Act (CAA), as amended in 1990, defines a non-attainment area (NAA) as a geographic region that has been designated as not meeting one or more of the National Ambient Air Quality Standards (NAAQS). The Airport is located within

Boone County, Kentucky, which is included in the Metropolitan Cincinnati Interstate Air Quality Region. As noted in Chapter Four, *Affected Environment*, this region is nonattainment for ozone and under a maintenance plan for PM2.5. Therefore, pollutants that apply are volatile organic compounds (VOC), nitrogen oxides (NOx), sulfur oxides (SOx), and PM2.5.

The impacts to air quality due to the Proposed Action were determined in accordance with the guidelines provided in FAA, *Aviation Emissions and Air Quality Handbook Version 3*,¹ and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, which together with the guidelines of FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, constitute compliance with all the relevant provisions of NEPA and the CAA.

Proposed Action

A construction emissions inventory was also calculated for the Proposed Action using USEPA NONROAD and MOVES emission factors to calculate emissions for construction equipment. The emissions estimated to occur during construction of the Proposed Action at CVG is given in **Table 5-1**. For more information, see Appendix B, *Air Quality*.

**Table 5-1
EMISSIONS INVENTORY SUMMARY – PROPOSED ACTION
Cincinnati/Northern Kentucky International Airport**

2017 ANNUAL EMISSIONS SUMMARY						
EMISSION SOURCES	CRITERIA AND PRECURSOR POLLUTANTS					
	(tons per year)					
	CO	VOC	NO_x	SO_x	PM₁₀	PM_{2.5}
	CAA DE MINIMIS THRESHOLDS					
	100	100	100	100	100	100
Construction Emissions	10.75	16.97	15.13	0.07	2.13	0.93
Operational Emissions	0.14	0.04	0.17	0.00	0.01	0.01
Proposed Project Total	10.89	17.01	15.30	0.07	2.14	0.94

Note: Emissions of CO and PM10 were provided for disclosure purposes.

Source: Landrum & Brown Analysis, 2016.

The air quality assessment demonstrates that the Proposed Action would not cause an increase in air emissions above the applicable *de minimis* thresholds. Therefore, the Proposed Action conforms to the State Implementation Plan (SIP) and the CAA and would not create any new violation of the NAAQS, delay the attainment of any

¹ FAA, *Aviation Emissions and Air Quality Handbook Version 3*, July 2014.

NAAQS, nor increase the frequency or severity of any existing violations of the NAAQS. As a result, no adverse impact on local or regional air quality is expected by construction of the Proposed Action. No further analysis or reporting is required under the CAA or NEPA.

Construction of the Proposed Action would result in short term air quality impacts from exhaust emissions from construction equipment and from fugitive dust emissions from vehicle movement and soil excavation. As provided in Table 5-1, emissions due to construction equipment would not exceed applicable thresholds.

While the construction of the Proposed Action would be expected to contribute to fugitive dust in and around the construction site, KCAB as the Sponsor would ensure that all possible measures would be taken to reduce fugitive dust emissions by adhering to guidelines included in FAA Advisor Circular 150/5370-10G, *Standards for Specifying Construction of Airports*.²

Methods of controlling dust and other airborne particles will be implemented to the maximum possible extent and may include, but not limited to, the following:

- Exposing the minimum area of erodible earth.
- Applying temporary mulch with or without seeding.
- Using water sprinkler trucks.
- Using covered haul trucks.
- Using dust palliatives or penetration asphalt on haul roads.
- Using plastic sheet coverings.

No Action

The No Action alternative does not involve any development and therefore would not cause any impacts to air quality.

5.2 BIOLOGICAL RESOURCES

FAA Order 1050.1F states a significant impact to biological resources (including fish, wildlife, and plants) would occur when the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) determines that the action would be likely to jeopardize the continued existence of a Federally-listed threatened or endangered species, or would result in the destruction or adverse modification of federally-designated critical habitat. The FAA has not established a threshold of significance for species of concern or non-listed species; however, the following factors should be considered, as noted in Order 1050.1F:

- A long-term or permanent loss of unlisted plant or wildlife species (i.e., extirpation of the species from a large project area);
- Adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats;

² FAA Advisory Circular, *Standards for Specifying Construction of Airports*, Item P-156, *Temporary Air and Water Pollution, Soil Erosion, and Siltation Control*, AC 150/5370-10G (July 21, 2014)

- Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or
- Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance.

Proposed Action

As discussed in Chapter Four, *Affected Environment*, habitat and species presence surveys were conducted at the Project Sites. Results of the surveys found the Project Sites consist primarily of open field habitat, with approximately 12 acres of woodlands. The Proposed Action would result in removal of approximately 12 acres of mixed hardwood forest and early successional forest within the entire 60 acres of the Project Sites. This includes approximately 2 acres of trees on Site 6BW, 5 acres of trees on Site 6BE, and 5 acres of trees on Site 6CW as shown in **Exhibit 5-1, Wetland, Stream, and Habitat Impacts**. As noted in Chapter Four, during the assessment, no Federally or state-protected plant or animal species were observed. However, suitable summertime habitat for the Indiana bat and northern long-eared bat was identified. During the summer, both the bat species roost underneath bark, in cavities or in crevices of both live trees and dead trees. The field survey identified the project area to contain approximately 12 acres of suitable habitat for these species that will be cleared.

Coordination was conducted with the USFWS Kentucky Field Office (KFO) to determine the effects on Federally protected species per Section 7 of the Endangered Species Act. In a correspondence dated April 4, 2016, April 18, 2016, and September 29, 2016 the KFO noted that the Proposed Action is not likely to jeopardize the continued existence of the Indiana bat or northern long-eared bat or result in the destruction or adverse modification of designated critical habitat for either species. Furthermore, any incidental take of Indiana and/or northern long-eared bats that will or could result from the forest habitat removal would be permitted under the Conservation Memoranda of Agreement for the Indiana bat and/or northern long-eared bat.³

The KFO's 2015 Conservation Strategy for Forest-Dwelling Bats (Conservation Strategy) identifies the types of conservation measures that are appropriate when impacts to known or potential habitat for listed forest-dwelling bats are unavoidable. One of those measures is a voluntary contribution to the Imperiled Bat Conservation Fund (IBCF) to off-set forest losses that occur as a result of project implementation. The current rate for mitigation is \$3,350/acre if the habitat is removed between April 1st and October 14th, or half of said amount (\$1,675) if between October 15th and March 31st. At this time, the Conservation Strategy does not cover tree removal in June or July. The mitigation and tree clearing avoidance during June and July would prevent potential significant impacts to protected bat species; therefore, the Proposed Action would not cause a significant impact to protected bat species.

³ U.S. Fish and Wildlife Service, Southeast Regional Office; Biological Opinion Kentucky Field Office's Participation in Conservation Memoranda of Agreement for the Indiana Bat and/or Northern Long-eared Bat, April 2015

The Kentucky Division of Fish & Wildlife Resources and the Kentucky State Nature Preserves Commission (KSNPC) were contacted to obtain information on threatened and endangered species. The KSNPC noted that two state protected species, the Indiana bat and running buffalo clover, have the potential to occur at the Project Sites. Mitigation for potential impacts to the Indiana bat and northern long-eared bat was discussed in the previous paragraphs. Surveys for running buffalo clover were performed at the Project Sites and no running buffalo was found to occur. Therefore, no state protected species would be impacted by the Proposed Action.

As previously mentioned, the potential impacts to the Indiana bat and the northern long-eared bat would be mitigated per USFWS guidelines. No other Federal or state protected species was found to occur at the Project Sites. Therefore, the Proposed Action would not cause a significant impact to biological resources.

No Action

The No Action alternative does not involve any development and therefore would not cause any impacts to biological resources.

5.3 CLIMATE

Although there are no federal standards for aviation-related Green House Gas (GHG) emissions, it is well-established that GHG emissions can affect climate.⁴ The Council on Environmental Quality (CEQ) has indicated that climate should be considered in NEPA analyses. As noted by CEQ, however, “it is not currently useful for the NEPA analysis to attempt to link specific climatological changes, or the environmental impacts thereof, to the particular project or emissions, as such direct linkage is difficult to isolate and understand.”⁵

Proposed Action

Table 5-2 provides an estimate of the yearly GHG emissions inventory. These estimates are provided for information only as no Federal NEPA standard for the significance of GHG emissions from individual projects on the environment has been established. Due to construction activity associated with the Proposed Project, GHG emissions would increase by 2,893.32 metric tons over the No Action alternative in 2017. This increase would comprise less than 7.67×10^{-7} percent of U.S. based GHG emissions and less than 1.07×10^{-7} percent of global GHG emissions.⁶

⁴ See *Massachusetts v. E.P.A.*, 549 U.S. 497, 508-10, 521-23 (2007)

⁵ *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions*, CEQ (2010).
http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf.

⁶ U.S. based GHG emission estimated at 6,821.8 million metric tons CO₂ equivalent in Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2010, (April 2012). The IPCC estimates global GHGs in 2004 at 49 Gigatonnes.

No Action

Under the No Action alternative, there would be no increase in project specific GHG emissions. For more information, see Appendix B, Air Quality.

**Table 5-2
2017 GHG EMISSIONS INVENTORY
Cincinnati/Northern Kentucky International Airport**

Metrics	Annual Metric Tons		
	CO ₂	CH ₄	N ₂ O
Construction	2,887.86	0.1050	0.0111
GWP ₁₀₀	1.00	16.00	196.00
CO _{2e}	2,887.86	2.63	2.8350
CO _{2e} Net Emissions	2,893.32		

CO₂ = Carbon Dioxide, CO_{2e} = Carbon Dioxide equivalent, CH₄ = Methane, N₂O = Nitrous oxide

GWP: Global Warming Potential

Total emissions may not sum exactly due to rounding.

Source: Landrum & Brown Analysis, 2016.



Legend

- ▨ Trees / Vegetation Impacted
- ▨ Trees / Vegetation Not Impacted
- ▨ Wetlands Impacted
- ▨ Wetlands Not Impacted
- Streams Impacted
- Streams Not Impacted
- Proposed Action Development Area

0 600 Feet

N

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5.4 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Construction activities are not expected to generate any hazardous materials. Therefore, no significant impacts related to hazardous materials would occur as a result of the Proposed Project. The Proposed Project would generate solid waste during the construction period and operation. The amount of solid waste generated during construction activities would not be significant and would not require any special considerations for disposal options. The operation of the facility would not generate a significant amount of solid waste. All solid waste would be accommodated by the three solid waste facilities located within 25 miles of the Airport. No new sanitary landfills or bird attractants would be created and no significant changes in collection, control or disposal wastes are anticipated. All solid waste would be managed under the guidelines set for the by federal, state, or local regulations for solid waste.

5.5 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

The *National Historic Preservation Act of 1966* (NHPA)⁷ and the *Archeological and Historic Preservation Act of 1974*⁸ are the primary Federal laws governing the preservation of historic and prehistoric resources, encompassing art, architecture, archeological, and other cultural resources. Section 106 of the NHPA requires that, prior to approval of a Federal or Federally-assisted project, or before the issuance of a license, permit, or other similar approval, Federal agencies take into account the effect of the project on properties that are on or eligible for listing on the National Register of Historic Places (NRHP).

Proposed Action

The Proposed Action will include commercial development and associated roadways, parking, and infrastructure. As discussed in Chapter Four, *Affected Environment*, surveys for potential archaeological and historic resources were conducted at the Project Sites. No significant archaeological sites that are listed or eligible for the NRHP have been found within the area of disturbance for the Proposed Action. There are no known historic structures on or eligible for the NRHP within the 1,000-foot view shed for the Proposed Action. See Appendix D, *Cultural Resources*, for the correspondence and survey results. Based on this, it was determined the Proposed Action would not cause any impacts to any historical, architectural, archeological, or cultural resources.

No Action

The No Action alternative would not cause any impacts to historic or archeological resources.

⁷ Public Law 89-665; 16 U.S.C. 470 et seq.

⁸ Public Law 86-523, 16 U.S.C. 469-469c-2

5.6 LAND USE

The FAA has not established a significance threshold for land use impacts, other than those related to noise impacts. However, CEQ Regulations require that NEPA documents discuss any inconsistency with approved state and/or local plan(s) and law(s). Furthermore, the NEPA document should discuss potential hazards to aviation such as landfills, wildlife refuges, or wetland mitigation that may attract wildlife species hazardous to aviation and potential structure height impacts.

Proposed Action

The Project Sites are located on the southern edge of the Airport in a predominantly commercial area. The land uses immediately adjacent to the Project Sites are a mix of commercial uses and undeveloped Airport property. There is a residential area located approximately 75-100 feet adjacent to the Project Sites on the west side of Ted Bushelman Boulevard. The Project Sites have frontage on Ted Bushelman Boulevard and Aero Parkway, which will provide the automobile access. Exhibit 4-2, *Existing Land Use*, shows the location of the sites and the surrounding land uses. Property acquisition is not required for the Proposed Action; therefore, it would not disrupt communities nor require the relocation of residences or businesses. This area is increasingly being developed for commercial/light industrial uses. As noted in Chapter Four, Section 4.4.5, the Project Sites are within a zoning district that allows commercial and industrial uses. Therefore, the Proposed Action is consistent with local land use plans and zoning.

The proposed development, along with other development along Ted Bushelman and Aero Parkway, would cause an increase in surface traffic. A Traffic Impact Study (TIS) was prepared to describe and measure the impact of traffic generated by the proposed development on the existing roadway system.⁹ The TIS found that implementation of roadway improvements for the other development would ensure that the level of service will not significantly decrease; nor will there be a significant impact to operations on the adjacent roadway network. During construction, traffic to and from the site would also increase. However, the construction traffic would not result in a reduction in the level of service of the local roadways as traffic would be maintained at all times through the use of flaggers, arrow boards, and traffic control devices in order to reduce any potential congestion on the roads.

In addition, the Proposed Action would not create a new wildlife attractant or create an obstruction to navigation airspace per 14 CFR Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*. Therefore, no impacts to land use would occur with implementation of the Proposed Action.

No Action

The No Action alternative would not cause any changes to existing land use or traffic patterns; therefore, no land use compatibility impacts would occur.

⁹ Bayer Becker Engineers; Traffic Evaluation for Bosch Automotive Steering Facility Proposed Expansion & CVG Sites 6A-1 & 6CE-1, & 6BW, City of Florence, Boone County, Kentucky; October 2016.

5.7 VISUAL EFFECTS

According to FAA Order 1050.1F, visual effects include light emissions and visual resources/visual character. These factors should be considered in an environmental review.

5.7.1 LIGHT EMISSIONS

Proposed Action

The Proposed Action would include development that would increase light emissions to illuminate the proposed new buildings and parking areas. The potential lighting sources that could impact the closest residential area would be located in the parking lots and security lighting on the buildings. The parking lot lights would be directed at a downward angle and therefore would not impact the residences. The security lighting would illuminate the immediate area surrounding the building and would also not be directed at an angle that would cause lighting impacts to the residences. Light emissions during the construction of the Proposed Action are not anticipated to cause any impact to the surrounding areas as most of the construction would occur during daytime hours. Due to the distance from residences and the existing light emissions in the vicinity of the Proposed Action sites, no significant increase in light intensity is expected to occur within residential areas. Therefore, no significant impacts from light emissions would occur.

No Action

Under the No Action alternative, no changes would occur that would cause impacts from light emissions.

5.7.2 VISUAL RESOURCES/VISUAL CHARACTER

Proposed Action

The Project Sites are located on KCAB-owned land and are surrounded by other commercial development and vacant land. The closest residences are located west of the site on Hazel Drive and Edgehill Road. The Proposed Action would keep the closest buildings and parking lots on the eastern edge of the site west of Ted Bushelman Boulevard, as far from the residential area as possible.

These residential parcels on Hazel Drive are buffered from the development areas by trees and are within view of other commercial and industrial development. Therefore, the Proposed Action would not significantly alter the views from these areas and no significant visual impacts would occur.

No Action

Under the No Action alternative, no changes would occur that would cause visual impacts.

5.8 WATER RESOURCES

Water resources include surface water, groundwater, floodplains, and wetlands, which function as a single, integrated natural system. Disruption of any one part of this system can have consequences to the functioning of the entire system. As noted in Chapter Four, *Affected Environment*, there are no floodplains within the Project Sites and therefore are not being discussed further.

5.8.1 WETLANDS AND STREAMS

The U.S. Army Corp of Engineers and the USEPA define wetlands as: "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Proposed Action

As discussion in Chapter 4, field surveys were conducted at the site of the Proposed Action and several wetlands and streams were found on the Project Sites. The Proposed Action on Site 6BE would impact approximately 412 linear feet of ephemeral and intermittent streams and 0.05 acres of wetlands. Approximately 722 linear feet of ephemeral stream would be impacted on Site 6BW and 1,643 linear feet of intermittent and ephemeral stream and 0.03 acres of wetland would be impacted on Site 6CW, as shown in **Table 5-3** and **Exhibit 5-1**. Coordination with the U.S. Army Corps of Engineers and Kentucky Division of Water is underway to obtain the appropriate permits per the U.S. Clean Water Act and identify mitigation requirements. All permit and mitigation conditions would be met; therefore, no significant impacts would occur to wetlands and streams.

**Table 5-3
WETLAND AND STREAM IMPACTS
Cincinnati/Northern Kentucky International Airport**

Waterbody Name	Waterbody Type	Hydrologic Status	Linear Footage	Acreage
Streams				
S-1	Intermittent	Connected	419	0.03
S-4	Ephemeral	Connected	202	0.01
S-6	Ephemeral	Connected	722	0.06
S-8	Intermittent	Connected	604	0.07
S-9	Ephemeral	Connected	531	0.03
S-10	Ephemeral	Connected	240	0.01
S-15	Ephemeral	Connected	268	0.01
Total			2,985	0.22
Wetlands				
W-1	PEM	Connected	N/A	0.02
W-2	PEM	Connected	N/A	0.03
W-13	PEM	Connected	N/A	0.03
Total			N/A	0.08

Source: Environment & Archaeology, LLC; 2016.

No Action

Under the No Action alternative, no development would occur that would cause impacts to wetlands or streams.

5.8.2 SURFACE WATERS

Proposed Action

The Proposed Action would directly impact several ephemeral and intermittent streams as discussed in Section 5.7.1. The Proposed Action would create additional impervious surface area that would increase stormwater runoff and could potentially lower water quality. Potential indirect impacts to surface water quality from stormwater runoff would be limited through the construction of stormwater collection and detention facilities. Stormwater facilities would meet all applicable state and local regulations and stormwater discharges would comply with the terms of the Kentucky Pollution Discharge Elimination System (KPDES). A KPDES permit would be obtained. Best Management Practices (BMPs) would be incorporated into the construction. Contractors would be required to comply with all applicable Federal, state, and local laws and regulations, including FAA guidance contained in AC 150/5370-10G, *Standards for Specifying Construction of Airports*, including Item P-156 Temporary Air and Water Pollution, Soil Erosion and Siltation Control; AC 150/5320-15A *Management of Airport Industrial Waste*; and AC 150/5320-5D, *Subsurface Drainage Design*.

The proposed development would be connected to the public wastewater system. Implementation of stormwater management programs, adherence to the NPDES program requirements, and BMPs would prevent any significant water quality impacts to surface waters under the Proposed Action.

No Action

Under the No Action alternative, no development would occur and no additional impervious surface area would be created. Therefore, no impacts to surface water quality would occur.

5.8.3 GROUNDWATER

Proposed Action

The Project Sites are in a well-developed area with public water available. As noted in Chapter Four, *Affected Environment*, there are no drinking water wells or agricultural wells within a one-mile radius of the Project Sites. Construction and operation of the proposed development would abide by all applicable regulations related to spill prevention and control regulations to prevent spills from causing significant adverse impacts to groundwater. Therefore, no significant impacts to groundwater are anticipated.

No Action

Under the No Action alternative, no development would occur, thus no impacts to groundwater would occur.

5.9 OTHER CONSIDERATIONS

5.9.1 POSSIBLE CONFLICTS

There are no known conflicts between the Proposed Action and the objectives of Federal, state, regional, or local land use plans, policies, or controls.

5.9.2 INCONSISTENCY WITH APPROVED PLANS OR LAWS

The Proposed Action would not be inconsistent with plans, laws, or administrative determinations relating to the environment of Federal, state, regional, or local agencies. The Proposed Action is consistent with local zoning and capitalizes on existing roadways and other infrastructure that has been constructed to promote economic development in the area south of the Airport.

5.9.3 MEANS TO MITIGATE ADVERSE IMPACTS

Means of preventing, minimizing or mitigating potential adverse environmental impacts would be incorporated into the plans for constructing and operating the Proposed Action, where noted, in the above impact categories. Mitigation has been identified for biological resources (threatened and endangered species) and wetlands.

5.9.4 DEGREE OF CONTROVERSY ON ENVIRONMENTAL GROUNDS

The Proposed Action would expand existing commercial and light industrial development and would increase employment in the area. The Proposed Action is consistent with the historical pattern of commercial and light industrial development that has occurred on adjacent properties and in the vicinity of the Project Sites. The KCAB is not aware of any major environmental controversy that has been generated from past development similar to the Proposed Action. Furthermore, construction and operation of the proposed development would have no significant environmental impacts. Therefore, the Proposed Action is not expected to be controversial on environmental grounds.

5.10 CUMULATIVE IMPACTS

The CEQ NEPA regulations (40 CFR 1508.7) define a cumulative impact 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. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time." This cumulative impact analysis was conducted to comply with the intent of FAA Order 1050.1F, DOT Order 5610.1C, and the January 1997 CEQ guidance.

The construction of the Proposed Action is planned to occur between March 2017 and December 2017, which would overlap with several other projects at and around CVG. With the exception of temporary construction-related impacts, the cumulative environmental impact of the Proposed Action is expected to be minimal. Potential impacts to biological resources and wetlands would be mitigated as necessary. Best management practices would be implemented during construction to avoid and minimize any potential adverse impacts during construction.

Recently completed projects at CVG include development on the south airfield of a commercial building, parking facilities, and surface roads, and expansion of DHL's facilities. Current projects include the commercial development on the site known as 3B to the east of CVG. Additionally, the Ted Bushelman Phase I Development on Sites 6A, 6B west, and 6C will likely be concurrent with that of Phase II. Future projects in the area include the demolition of Terminals 1 and 2 and the possibility of development of other under-utilized land parcels north, east, south, and west of the airfield. These projects are discussed in more detail in the following sections and the cumulative impacts to biological resources (threatened and endangered species) and wetlands are summarized.

Ted Bushelman Phase I Development

This project includes the development of Sites 6BE, 6BW, and 6CW into commercial development, parking structures, above ground tunnels, storm water detention facilities, and sanitary sewer lines. This project spans approximately 104 acres in size and are located on the east and west sides of Ted Bushelman Boulevard. The project is estimated to take place over 12 months from 2016 through 2017.

South Airfield Road Development

The South Airfield Road Project included the construction of Aero Parkway and Ted Bushelman Boulevard. Aero Parkway stretches for 2.5 miles connecting Kentucky 18 and Turfway Road. Ted Bushelman Boulevard is approximately 0.6 miles and connects Aero Parkway to Houston Road. The new roads opened in October 2012.

DHL Cargo Distribution Building

This project included the development of a new cargo distribution building, airport roadway expansion, apron expansion, employee parking lot, and glycol storage facility location at the DHL facility on the southeast side of CVG property.

DHL Apron Expansion

This project included the expansion of the existing aircraft apron and construction of in-ground power system, glycol collection facilities, hydrant fueling, and lighting at the DHL facility on the southeast side of CVG property.

Site 3A Development

This project included the development of a commercial distribution facility on approximately 47 acres of vacant land east of CVG.

Demolition of Terminals 1 and 2

This project includes the demolition of the existing Terminal 1 and Terminal 2 facilities at CVG.

Future Development of Under-Utilized Airport Parcels

The KCAB owns other parcels that are currently under-utilized. These parcels are being marketed to potential developers to encourage economic development in accordance with KCAB strategy and local planning and growth objectives.

Summary of Potential Impacts

Previous environmental analysis of the above listed projects identified impacts to 5.56 acres of wetlands, 13,343 linear feet of intermittent and ephemeral streams and 54.57 acres of wooded areas. These past impacts, along with other present, and reasonably foreseeable future development projects, are not anticipated to result in significant cumulative impacts on any of the previously discussed environmental categories from the implementation of the Proposed Action. For

each of these projects, impacts to endangered species and wetlands (if applicable) have been or would be mitigated per regulatory agency requirements. Therefore, no significant cumulative impacts would occur.

5.11 ADVERSE IMPACTS THAT CANNOT BE AVOIDED IF THE PROPOSED ACTION IS IMPLEMENTED

Because implementation of the Proposed Action would not result in any significant adverse environmental impacts, there would not be any adverse impacts of the Proposed Action that cannot be avoided.

5.12 PERMITTING AND APPROVALS

- Wetlands permitting and water quality certification would be required per Section 401 and Section 404 of the Clean Water Act. In accordance, the KCAB has applied for a Nationwide Permit 39 for Site 6BW for the Proposed Action.
- The Proposed Action is approved under the USFWS Kentucky Field Office (KFO) Conservation Strategy for Forest-Dwelling Bats provided that conservation measures are followed which includes contribution to the Imperiled Bat Conservation Fund (IBCF). KCAB is committed to making the appropriate contribution to the IBCF.
- A KPDES permit or modification to an existing permit for stormwater would be required to be obtained through the KYDOW.

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Chapter Six

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CHAPTER SIX LIST OF PREPARERS

Federal Aviation Administration

Kristi Ashley, Environmental Protection Specialist, provided input throughout the process and was responsible for the review of the Environmental Assessment.

Cincinnati/Northern Kentucky International Airport

Debbie Conrad, Senior Project Manager provided input and Airport information throughout the process and responsible for managing and review of the Environmental Assessment.

Landrum & Brown

Sarah Potter, Senior Managing Consultant, responsible for project management, technical input, and principal author of the Environmental Assessment.

Charles Babb, Managing Consultant, responsible for preparing the air quality analysis.

Chuck Lang, Senior Consultant, responsible for the preparation of graphics for the Environmental Assessment.

Gabriela Elizondo, Analyst, assisted with the preparation of the Environmental Assessment.

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