FINAL

Environmental Assessment for the Proposed Deice Pad

Charlotte Douglas International Airport

Charlotte, North Carolina

PREPARED FOR

CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
As lead Federal Agency pursuant to the National Environmental Policy Act of 1969

PREPARED BY

Landrum & Brown, Incorporated

July 2020

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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Acronyms

The following is a list of acronyms used in the EA:

AC	Advisory Circular
ACEP	Airport Capacity Enhancement Plan
ACM	Asbestos Containing Material
ADG	Airplane Design Group
ALP	Airport Layout Plan
APE	Area of Potential Effect
ATCT	Air Traffic Control Tower
BFE	Base Flood Elevations
BMP	Best Management Practice
C&D	Construction and Demolition
CAA	Clean Air Act (as amended in 1990)
CBP	Customs and Border Patrol
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
C.F.R.	Code of Federal Regulations
CH_4	Methane
CLOMR	Conditional Letter of Map Revision
CLT	Charlotte Douglas International Airport
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CTA	Central Terminal Area
dB(A)	Decibel - A weighted
DMS	North Carolina Division of Mitigation Services
DOT	Department of Transportation
EA	Environmental Assessment
EAT	End-Around Taxiway
FAA	Federal Aviation Administration
FBFM	Flood Boundary and Floodway Map
FEMA	Federal
FIRM	Flood Insurance Rate Map
GA	General Aviation
GAO	General Accounting Office
GHG	Greenhouse Gas
HFC	Hydrofluorocarbon
H_2O	Water Vapor
HUC	Hydrologic Unit Code
ICAO	International Civil Aviation Organization
ILS	Instrument Landing System

LOMR	Letter of Map Revision
LWCA	Land and Water Conservation Act
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NCANG	North Carolina Air National Guard
NCDEQ	North Carolina Department of Environmental Quality
NEM	Noise Exposure Map
NEPA	National Environmental Policy Act of 1969, as amended
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOx	Nitrogen Oxide
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
O_3	Ozone
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
RCRA	Resource Conservation and Recovery Act of 1976
SF_6	Sulfur Hexafluoride
SFHA	Special Flood Hazard Areas
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SPCC	Spill Prevention, Control and Countermeasure
SWPPP	Stormwater Pollution Prevention Plan
TSCA	Toxic Substances Control Act of 1976
USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VOC	Volatile Organic Compound

1 INTRODUCTION AND BACKGROUND

This Environmental Assessment (EA) has been prepared pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended (40 C.F.R. 1500-1508),[1] in accordance with Federal Aviation Administration (FAA) Orders 1050.1F, *Environmental Impacts: Policies and* Procedures and 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.* This EA analyzes the potential environmental effects of a Proposed Action involving improvements to the south airfield area at Charlotte Douglas International Airport (CLT or Airport). The EA has been prepared in compliance with NEPA because the project will require FAA to approve a change to the Airport Layout Plan (ALP) for CLT, which is a Federal action, and because Federal funds may be used to implement the Proposed Action.

1.1 BACKGROUND

CLT is a publicly-owned airport operated by the City of Charlotte and managed by the Aviation Department. CLT is located on approximately 6,000 acres of land in the City of Charlotte, in west Mecklenburg County, North Carolina. The Airport is bounded to the north by parallel transportation corridors, I-85 and US 74 (Wilkinson Boulevard) and the Norfolk Southern Railroad. To the east, the Airport is bounded by Billy Graham Parkway (a limited-access highway) which connects the Airport to I-85 to the north and I-77 to the southeast, as well as providing access to other areas in south Charlotte. To the south, there is no single boundary feature, but Douglas Drive and Pine Oaks Drive serve as road boundaries for the Airport. To the west, CLT is bounded by the I-485 Outer Beltway. **Exhibit 1-1, *Airport Location***, shows the general Airport location and surroundings.

The airfield system consists of four runways, of which include three parallel runways and a crosswind runway. The three parallel runways (18R/36L, 18C/36C, and 18L/36R) are oriented in a north-south direction. Runway 05/23, the crosswind runway, is oriented in a northeast to southwest direction and intersects Runway 18L/36R. All eight runway ends have Instrument Landing System (ILS) approaches.

The passenger terminal at CLT is located at the center of the airfield, between Runway 18L/36R and Runway 18C/36C, and north of Runway 05/23. The Airport's terminal consists of one main building with five passenger concourses designated Concourses A through E. CLT currently utilizes three areas during a deicing operation: Runway 05/23, the northwest ramp adjacent to Concourse A, and the south cargo ramp. Runway 05/23 is used for deicing as it is not active during daytime hours, has four deice positions, and allows for a more efficient deicing operation by keeping deice trucks in one location. During nighttime hours either the northwest ramp or south cargo ramp is used depending on the aircraft's assigned departure runway. These two areas are not used during daytime hours as they would spilt the deicing operation, resulting in more inefficient deicing operation.

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

1.2 DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action involves the construction of a new approximately 780,000 square foot deice pad located on the south airfield, east of Runway 36C. The Proposed Action and its connected actions are described in detail below and are shown in **Exhibit 1-2, *Proposed Action.***

Proposed Action

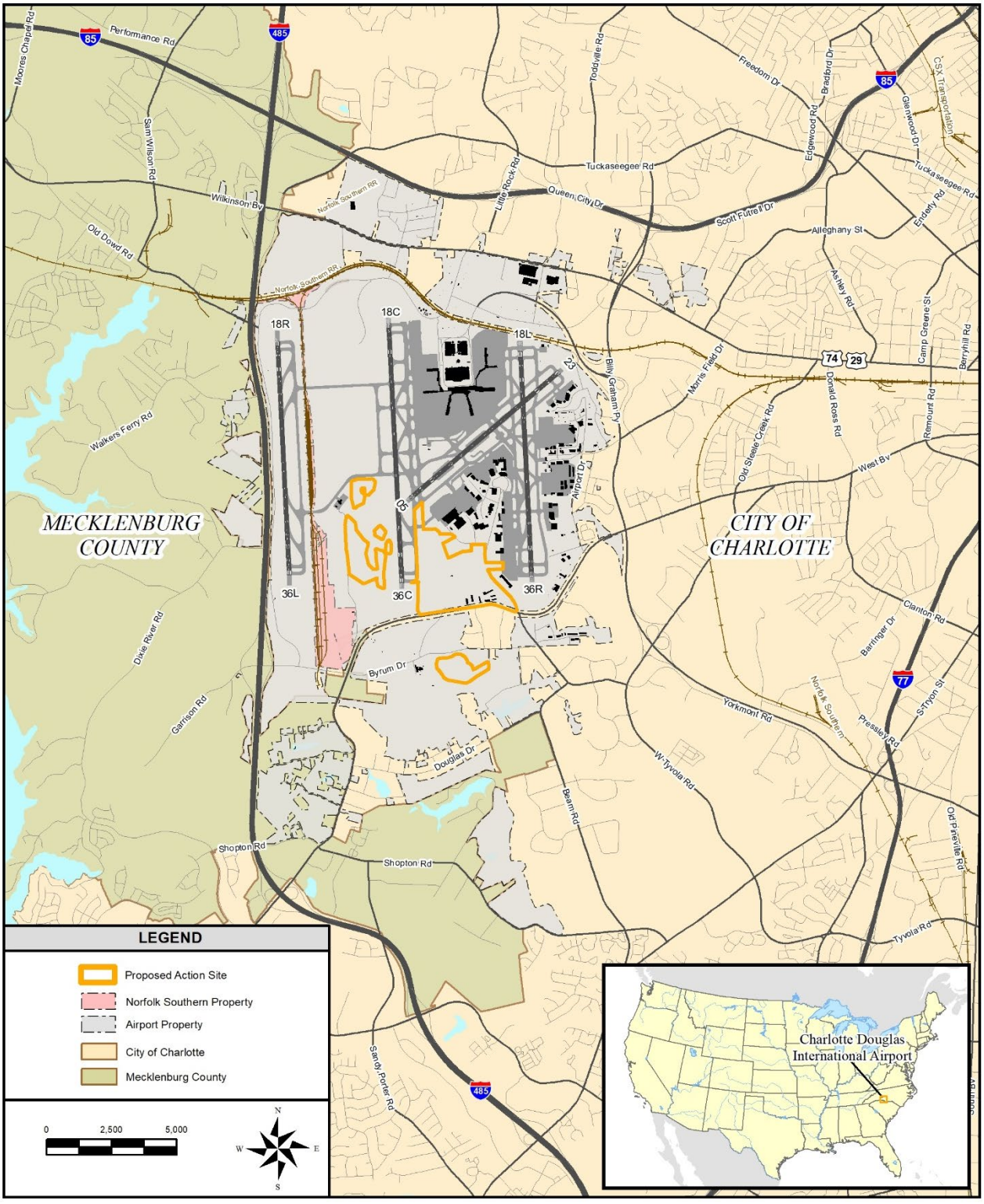
- Construction of a new deice pad, that is approximately 780,000 square feet, located on the south airfield, east of Runway 36C, to provide up to four positions for Airplane Design Group (ADG) V aircraft or nine ADG III aircraft

Connected Actions

- Extension of Taxiway F by approximately 3,000 feet to provide access to the proposed deice pad
- Construction of a new approximately 3,100 foot long crossfield taxiway to connect Taxiway C and Taxiway E/F on the south side of the airfield to prevent aircraft departing on Runway 18L/36R from exceeding the holdover[2] time after deicing
- Construction of a new approximately 2,500 foot long service road parallel to the new crossfield taxiway connecting the east apron area to the new deice pad to provide additional access to the proposed deice pad
- Construction of new apron lighting, taxiway edge and centerline lighting, and additional roadway lighting on Yorkmont Road and under-bridge lighting at the taxiway bridge
- Realignment of Yorkmont Road to ensure constructability of the crossfield taxiway and service road bridge to preserve access to the South Cargo Ramp area
- Clearing and grading of approximately 50 acres to provide a designated construction staging area
- Demolition of Building 206 and the former Robert McGinn House located in the south airfield to allow for construction of the Proposed Action
- Excavation of approximately 2 million square feet in the west airfield area to provide fill for the construction of the new deice pad
- Construction of an open detention pond south of Byrum Drive for stormwater management

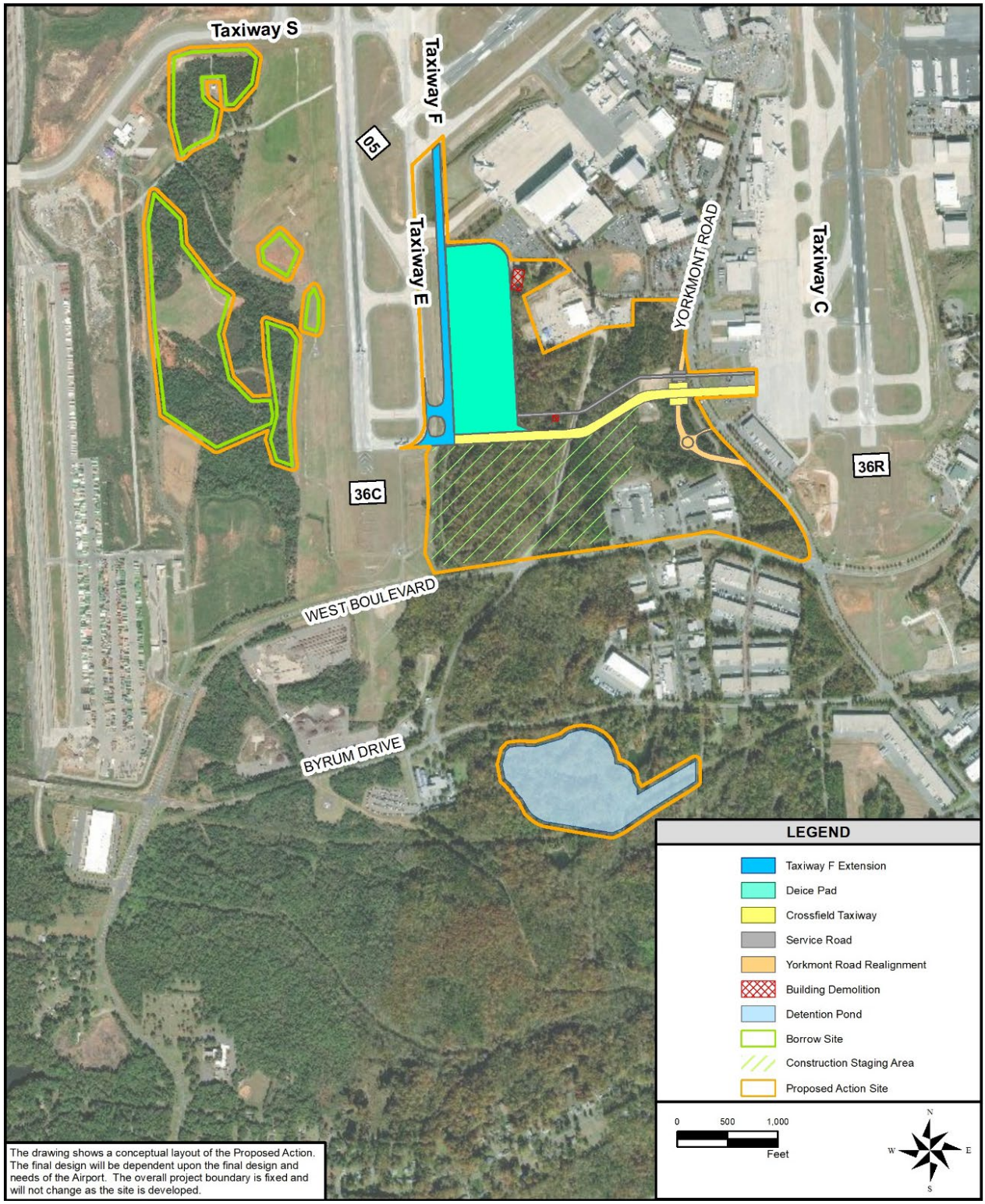
[2] Federal Aviation Administration, Advisory Circular 150/5300-14C defines holdover time as the estimated time the application of anti-icing fluid will prevent the formation of frozen contamination on the protected surfaces of an aircraft. The exceedance of holdover time typically occurs when aircraft taxi times exceed the allowed time to arrive at the departure runway or because the taxi route encounters a variety of weather conditions.

EXHIBIT 1-1, AIRPORT LOCATION



Source: L&B, 2020

EXHIBIT 1-2, PROPOSED ACTION



Source: L&B, 2020

1.3 DOCUMENT CONTENT AND ORGANIZATION

This document is organized as follows:

- Chapter 2.0 describes the purpose and need for the Proposed Action
- Chapter 3.0 describes alternatives to the Proposed Action
- Chapter 4.0 describes the affected environment
- Chapter 5.0 describes the potential environmental impacts of the Proposed Action and of the No Action Alternative

An EA is a disclosure document prepared for the Federal agency (in this case the FAA) responsible for approving a proposed Federal or Federally-funded action, in compliance with the requirements set forth by the Council on Environmental Quality (CEQ) in its regulations implementing NEPA. The purpose of this EA is to investigate, analyze, and disclose the potential impacts of the Proposed Action and its reasonable alternatives. In this case, the FAA is responsible for reviewing and approving actions that pertain to airports and their operation. As such, this EA has been prepared in accordance with FAA Orders 1050.1F Change 1, *Environmental Impacts: Policies and Procedures* and 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects and* took into consideration guidance included in the *FAA Environmental Desk Reference for Airport Actions*.

This EA was also prepared pursuant to other laws relating to the quality of the natural and human environments, including:

- Federal Aviation Act of 1958 recodified as 49 U.S.C. §§4010 et seq.
- Aviation Safety and Noise Abatement Act of 1979, 49 U.S.C. §§47501 et seq.
- The Airport and Airway Improvement Act of 1982, 49 U.S.C. §47108, as amended
- Clean Air Act, 42 U.S.C. §7401, et seq., and implementing regulations at 40 C.F.R. Parts 51 and 93
- Clean Water Act, 33 U.S.C. §1251 et seq.
- The Department of Transportation Act, 49 U.S.C., §303 (formerly Section 4(f))
- Land and Water Conservation Fund Act of 1965, 16 U.S.C. §§4601 et seq.
- Endangered Species Act, 16 U.S.C. §§661 et seq., as amended
- 49 U.S.C., §40114, as amended (codifying Public Law 103-272, Section 1(e), 1994) (Reports and Records)
- 49 U.S.C., §§47101 et seq. (codifying Public Law 103-272, Section 1(e), 1994) (Airport Improvement)
- National Historic Preservation Act, 16 U.S.C. §470(f), as amended
- 36 C.F.R. Part 800, Advisory Council on Historic Preservation

- Archaeological and Historic Preservation Act, 16 U.S.C. §469(a)
- Archaeological Resource Protection Act, 16 U.S.C. §§470 et seq.
- Farmland Protection Policy Act, 7 U.S.C. §73, and implementing regulations at 7 C.F.R. §658
- Federal Facilities Compliance Action, 42 U.S.C. §6961
- Hazardous Materials Transportation Act of 1975, 49 U.S.C. §§5101 et seq.
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Community Environmental Response Facilitation Act of 1992, 42 U.S.C. §§9601 et seq.
- Resource Conservation and Recovery Act of 1976, as amended by the Solid Waste Disposal Act of 1980, 42 U.S.C. §§6901 et seq.
- 33 C.F.R. Parts 320-330, Regulatory Programs of the Corps of Engineers
- Magnuson-Stevens Fishery Conservation and Management Act of 1976, 16 U.S.C. §§1801 et seq., as amended
- Migratory Bird Treaty Act, 16 U.S.C. §§703 et seq.
- Energy Independence and Security Act, 42 U.S.C. §§17001 et seq.
- Executive Order 11990, *Protection of Wetlands*
- Executive Order 11988, *Floodplain Management*
- Executive Order 11593, *Protection and Enhancement of the Cultural Environment*
- Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*
- Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act, 74 Fed Reg. 66495 et seq. (2009)
- U.S. Department of Transportation (DOT) Order 5610.2, Environmental Justice in Minority Populations and Low-Income Populations, was issued on April 15, 1997. Order 5610.2(a), *Department of Transportation Updated Environmental Justice Order*, was issued on May 2, 2012
- Other laws, regulations, and policies as applicable

Notice about the subject project was published in the Charlotte Observer. Copies of this document are available online at https://www.airportprojects.net/clt-deice-pad-ea/.

2 PURPOSE AND NEED

The City of Charlotte Aviation Department has identified deficiencies in the current deicing operation at CLT. This EA analyzes the proposed solution (purpose) to meet the needs of the identified deficiencies.

2.1 PURPOSE

The Proposed Action would provide a centralized deice facility that complies with FAA guidance and improves the efficiency of deicing operations and deicing fluid runoff collection.

2.2 NEED

The primary need for the Proposed Action is that CLT is lacking a sufficient deice pad location in a centralized and efficient area on the airfield. As previously mentioned, CLT does not have a centrally located deice pad and currently utilizes three areas for deicing aircraft: Runway 05/23, the northwest ramp located west of Concourse A, and the south cargo ramp as shown in **Exhibit 2-1, *Existing Deice Locations***. None of these locations are intended for a deicing operation nor are they located in an efficient area on the airfield. FAA Advisory Circular (AC) 150/5300-14C, *Design of Aircraft Deicing Facilities* recommends that a deicing facility should be constructed along taxi routes leading to the departure runway(s) on a designated apron or on an apron away from the terminal area.

Runway 05/23 currently accommodates four ADG III deice positions. A runway is not ideal for deice operations because is not intended to act as a dual-purpose area and is not designed for deicing aircraft. Runway 05/23 is not an efficient location for a deice operation for multiple reasons. First, the runway is designated as the Airport's nighttime noise abatement runway. Therefore, this runway is only available to deice during daytime hours when the runway is not active. Second, aircraft deicing on Runway 05/23 must line up nose-to-tail in the deicing positions. Once an aircraft enters the runway to be deiced, options for exiting the runway are limited and can cause delay. Aircraft in the middle two positions must wait to exit the runway until the aircraft in front has moved. Finally, deicing on Runway 05/23 interferes with taxi flows around the terminal area. Aircraft, waiting to deice on Runway 05/23, queue on Taxiway B and Taxiway F, reducing efficiency in the terminal area due to blocking taxiways and taxilanes used for movement around the terminal.

The northwest ramp accommodates five ADG III deice positions. This area is inefficient because the Airport typically operates in north flow during a deicing operation, which means aircraft depart from Runway 36C or Runway 36R. As a result, aircraft must exit the deice pad onto Taxiway E to taxi south. This requires coordination between ground control and the Air Traffic Control Tower (ATCT), causing ground delays on the airfield. In addition, deicing trucks have to travel across aircraft movement areas numerous times during the deicing operation to the fueling and deicing storage material facility located in the south airfield. This current deice arrangement is not efficient and creates additional congestion on the airfield.

The south cargo ramp accommodates two ADG III deice positions and is only used when Runway 05/23 is not available for a deicing operation (i.e., nighttime hours). This area is currently congested, because it is primarily used for cargo operations that involve loading and unloading aircraft. It is also an

inefficient location, since it results in long taxi times for aircraft departing Runway 18C/36C. Long taxi times could potentially result in aircraft exceeding holdover times of applied glycols, requiring additional deicing.

Construction of the proposed deice pad within the south airfield would provide a centralized deicing pad location in accordance with FAA guidance. A deice pad within the south airfield would alleviate inefficiencies associated with deicing on Runway 05/23, the northwest ramp, or the cargo ramp. The deice pad would allow multiple aircraft to line up in a wing-to-wing configuration to be deiced simultaneously. The wing-to-wing configuration is optimal and would allow aircraft to exit the deice pad more quickly and allow a new aircraft to enter the deice pad when a position becomes available. This would alleviate the congestion that is currently experienced when aircraft line up in single file on Runway 05/23 by reducing the time aircraft would otherwise wait in a single-file line for the preceding aircraft to be deiced.

Additionally, FAA AC 150/5300-14C, 1.1.b(2) states that centralized aircraft deicing facilities built closer to departure runways and taxi routes minimize aircraft taxi times to the departure runways. Minimized taxi times of aircraft using the deicing facility en route to departure runways prevent the potential of exceeding the holdover time of applied glycols. If an aircraft exceeds the holdover time of applied glycols, the aircraft would be required to deice again prior to departure. For this reason, the centralized facility must be located in a manner that provides efficient taxi routes to departure runways.

2.3 IMPLEMENTATION

Construction of the Proposed Action is planned to occur between February 2021 and December 2023.

2.4 REQUIRED LAND USE/ENVIRONMENTAL PERMITS

Federal

- FAA approval of modification of the ALP
- Federal environmental approval pursuant to NEPA
- Section 404/401 Permits

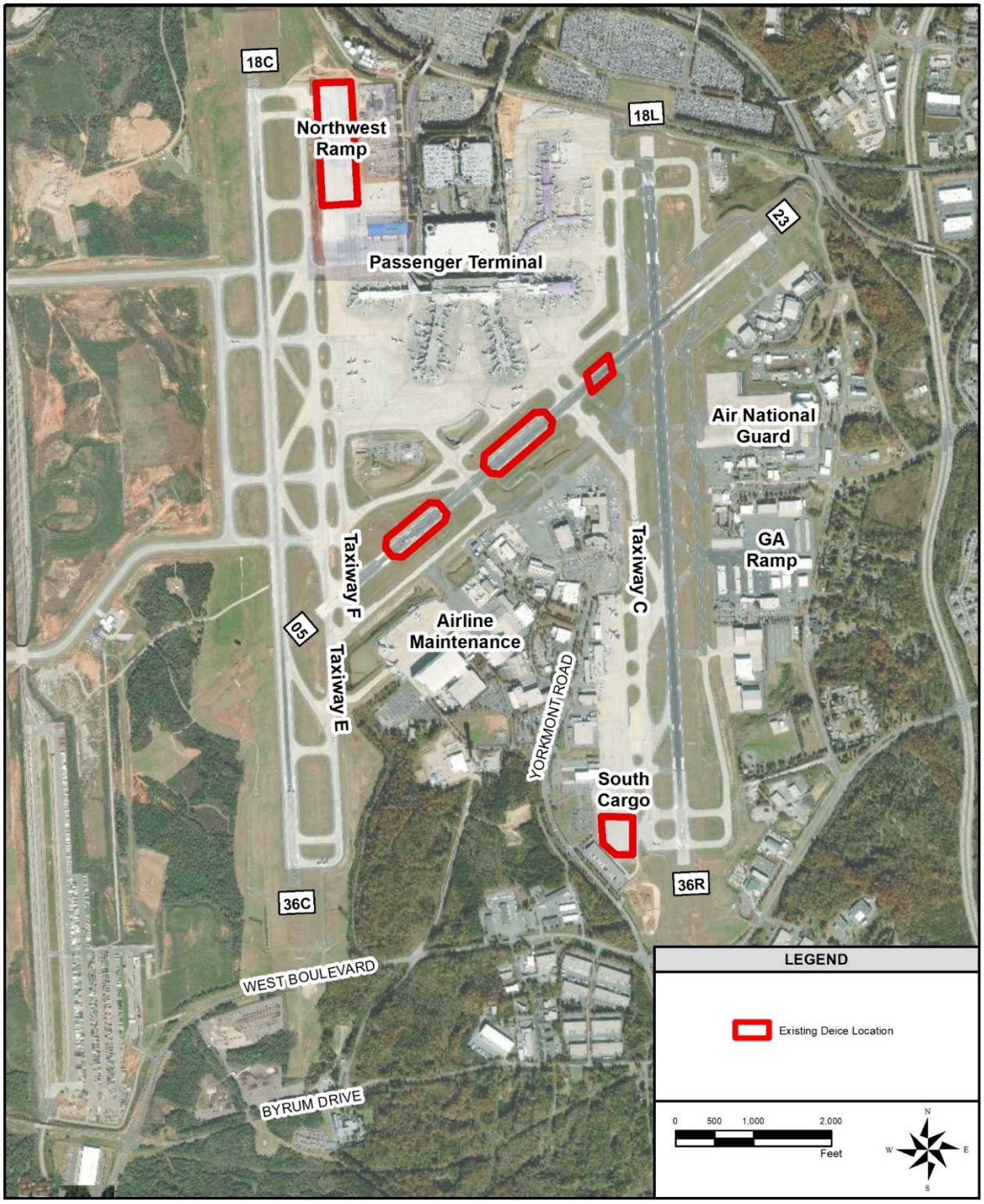
State

- Approval per State Environmental Policy Act
- Updated National Pollutant Discharge Elimination System (NPDES) Permit administered by the North Carolina Department of Division of Energy, Mineral, and Land Resources
- Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.O100 through 2Q.0300)
- Erosion and sedimentation control plan approval and coverage under NCG01 construction
- Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 20.1110 (a) (1) which requires notification and removal prior to demolition.

Local

- Mecklenburg County building permit
- Floodplain development permit

EXHIBIT 2-1, EXISTING DEICE LOCATIONS



Source: L&B, 2020

3 ALTERNATIVES

The Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA)[3] require that the Federal Aviation Administration (FAA), as Federal decision-maker for this project, perform the following tasks when preparing an Environmental Assessment (EA):

- Evaluate all reasonable alternatives, including alternatives not within the jurisdiction of the Federal agency, and for alternatives which were eliminated from detailed study, discuss briefly the reasons for eliminating the alternative.

- Devote substantial treatment to each alternative considered in detail, including the No Action alternative and the Proposed Action, so that reviewers may evaluate their comparative merits.

This section describes the Proposed Action and alternatives to the Proposed Action (including the No Action alternative) and evaluates the ability of each to meet the Purpose and Need described in Chapter 2, *Purpose and Need*. The Proposed Action would fulfill the Purpose and Need for the project. The No Action alternative would not meet the Purpose and Need; however, it is analyzed in this EA, pursuant to the requirements of FAA Orders 1050.1F and 5050.4B, NEPA and CEQ regulations.

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 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.[4] Federal agencies may also afford substantial weight to the alternative preferred by the applicant, provided there is no substantially superior alternative from an environmental standpoint.

3.1 ALTERNATIVES CONSIDERED FOR FURTHER ENVIRONMENTAL EVALUATION

Various alternatives were considered for further detailed environmental review. If the alternative did not meet the stated needs in Chapter 2, the alternative was eliminated and not evaluated in Chapter 5, *Environmental Consequences*. The following summarizes the alternatives considered. The alternatives are shown in **Exhibit 3-1, *Alternative Deice Pad Locations***.

Alternative 1 - Central Terminal Area (CTA)

The Central Terminal Area (CTA) is located between Runway 18C/36C and Runway 18L/36R and is north of Runway 05/23. The area consists of the existing passenger terminal and associated apron and automobile parking. As previously mentioned, this area is an inefficient location for a deice pad due to the additional requirements of coordination with the ground control and the Air Traffic Control Tower (ATCT) as aircraft taxi from the north to the south. In addition, this area requires deicing trucks to cross

[3] CEQ regulations codified at 40 C.F.R. 1502.14
[4] Guidance Regarding NEPA Regulations, CEQ, 48 Federal Register 34263 (July 28, 1983).

aircraft movement areas numerous times to access the fueling facility on the south airfield. Therefore, the CTA was eliminated from further analysis.

Alternative 2 - Airline Maintenance Facility

The Airline Maintenance facility is located south of Runway 05/23. The area is built out and has no space to accommodate an aircraft deice pad. Therefore, this area was eliminated from further analysis.

Alternative 3 - South Cargo Ramp

The South Cargo Ramp is located on the southeast side of the airfield at CLT just west of Runway 36R. The ramp is adjacent to several air cargo buildings. Currently, aircraft are deiced on this cargo ramp; however, the ramp lacks the space for additional deice positions without taking space dedicated for other cargo-related uses. Therefore, expanding deice operations within the south cargo area was eliminated from further analysis.

Alternative 4 - East Airfield (GA Ramp and NC Air National Guard Facility)

The East Airfield is located east of Runway 18L/36R and includes the North Carolina Air National Guard (NCANG) facility and General Aviation (GA) Ramp. This area is currently built out, and there is little vacant space available to accommodate a deice pad. Furthermore, the terrain within the East Airfield limits redevelopment options. Therefore, the East Airfield was eliminated from further analysis.

Alternative 5 - West Airfield

The West Airfield includes land between Runway 18C/36C and Runway 18R/36L. Deicing within the West Airfield is impractical due to the distance from Runway 18L/36R, which would require aircraft departing from this runway to cross Runway 18C/36C when taxiing from a deice pad to the departure runway, resulting in aircraft taxi times that exceed holdover times of applied glycols. Therefore, the West Airfield was eliminated from further analysis.

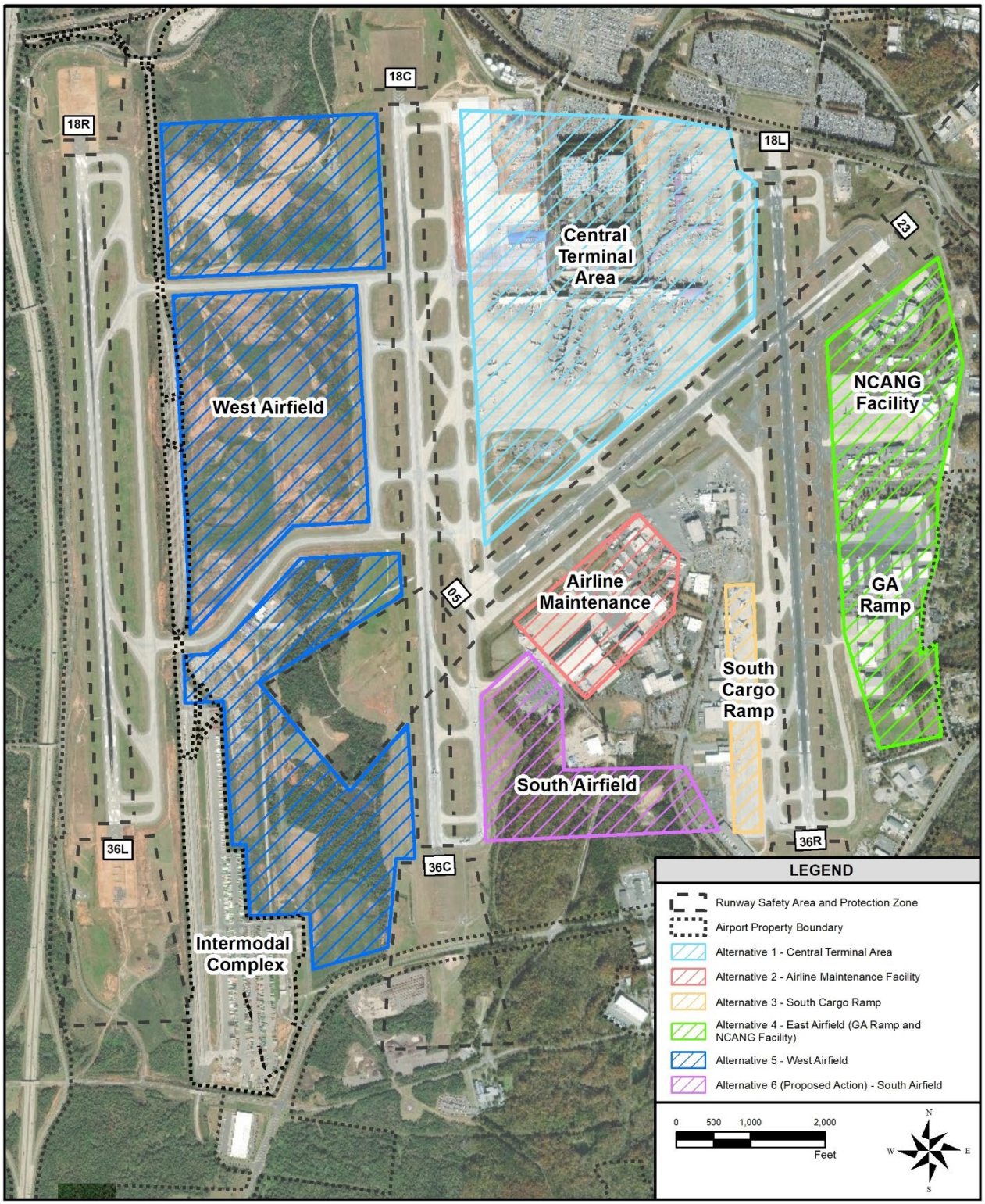
Alternative 6 (Proposed Action) - South Airfield

This alternative includes construction of a new deice pad located on the south airfield. A deice pad within the south airfield would allow multiple aircraft to line up in a wing-to-wing configuration to be deiced simultaneously. The wing-to-wing configuration would allow aircraft to exit the deice pad more quickly and allow a new aircraft to enter the deice pad when a position becomes available. This would alleviate the congestion that is currently experienced when aircraft line up in single file on Runway 05/23 by reducing the time aircraft would otherwise wait in a single-file line for the preceding aircraft to be deiced. The construction of a new crossfield taxiway to connect Taxiway C and Taxiway E/F on the south side of the airfield would prevent aircraft departing on Runway 18L/36R from exceeding the holdover time after deicing. Therefore, this alternative is being carried forward for detailed environmental review.

TABLE 3-1: ALTERNATIVES EVALUATION SUMMARY

ALTERNATIVE	PROPOSED ACTION NEEDS			CARRIED FORWARD FOR FURTHER ENVIRONMENTAL REVIEW?
	WOULD THE ALTERNATIVE ALLOW FOR A CENTRALIZED DEICING PAD LOCATION?	WOULD THE ALTERNATIVE ALLOW FOR AN EFFICIENT DEICING OPERATION?	WOULD THE ALTERNATIVE COMPLY WITH FAA GUIDANCE FOR DEICE PADS?	
No Action Alternative	No	No	No	Yes
Alternative 1 – Central Terminal Area	No	No	No	No
Alternative 2 – Airline Maintenance Facility	No	No	No	No
Alternative 3 – South Cargo Ramp	No	No	No	No
Alternative 4 – East Airfield (GA Ramp and NC Air National Guard Facility)	No	No	No	No
Alternative 5 – West Airfield	No	No	No	No
Alternative 6 (Proposed Action) – South Airfield	Yes	Yes	Yes	Yes

EXHIBIT 3-1, ALTERNATIVE DEICE PAD LOCATIONS



Source: L&B, 2020

4 AFFECTED ENVIRONMENT

Federal Aviation Administration (FAA) Order 5050.4B states the affected environment section of an Environmental Assessment (EA) should succinctly describe only those environmental resources the Proposed Action and its reasonable alternatives, are likely to affect. The amount of information on potentially affected resources should be based on the expected impact and be commensurate with the impact's importance. The following provides a description of the existing environmental conditions in and around the vicinity of the Charlotte Douglas International Airport (CLT or Airport).

4.1 PROPOSED ACTION SETTING

CLT is an international airport located on approximately 6,000 acres of land within Mecklenburg County, North Carolina. The Proposed Action is located within the south airfield, east of Runway 18C/36C. The Proposed Action would occur on property that is currently owned by the City of Charlotte. Exhibit 1-2, *Proposed Action*, shows the location of the Proposed Action Site.

4.2 ENVIRONMENTAL RESOURCES

4.2.1 Air Quality

Under the federal Clean Air Act (CAA), as amended, the US Environmental Protection Agency (USEPA) has developed National Ambient Air Quality Standards (NAAQS) for the following air pollutants, referred to as criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), lead (Pb), particulate matter up to 10 micrometers in size (PM_{10}), and particulate matter smaller than 2.5 micrometers in size ($PM_{2.5}$). Individual states are required to identify general geographic areas where the NAAQS for these criteria air pollutants are not met. A state with a nonattainment or maintenance area must prepare a State Implementation Plan (SIP) that describes the programs and requirements that the state will implement to attain or maintain the NAAQS by the deadlines specified in the CAA, as well as subsequent related documents promulgated by the USEPA.

The Airport is located within the Metropolitan Charlotte Interstate Air Quality Region.[5] In the past, Mecklenburg County was designated as nonattainment for ozone. However, the USEPA determined the area had attained the 2008 8-Hour ozone standard on August 27, 2015, re-designating the region to attainment for the pollutant. The area operates under a maintenance plan for ozone. Mecklenburg County was determined to be compliant with all other Federally-regulated air quality standards in effect at the time of the preparation of this document (see **Appendix B, *Air Quality***).

4.2.2 Biological Resources

According to FAA Order 1050.1F, biological resources are valued for their intrinsic, aesthetic, economic, and recreational qualities and include fish, wildlife, plants, and their respective habitats. Typical categories of biological resources include terrestrial and aquatic plant and animal species;

[5] Title 40 Protection of the Environment. Code of Federal Regulations (C.F.R.) Chapter 1, Subchapter C, Part 81 Subpart B §81.75 Metropolitan Charlotte Interstate Air Quality Control Region (2012).

game and non-game species; special status species (state or Federally-listed threatened or endangered species, marine mammals, or species of concern, such as species proposed for listing or migratory birds); and Environmentally-sensitive or critical habitats.

Biological surveys and habitat assessments of the Proposed Action Site were completed in August 2018, May 2019, December 2019, and January 2020. The purpose of the surveys was to determine the potential occurrence of Federal or state-listed species or habitat to exist on the Proposed Action Site at CLT. The following ground cover/vegetation types were identified in the survey areas:

- **Forest Edge** consists of sun-exposed transition area between the Maintained Open Area and the Mixed Hardwood Forest, White Pine forest, and Stream Bank and Riparian forest.
- **Mixed Hardwood Forest** contains well-drained, moderately moist soils in upland areas with a tree canopy layer, shrub/sapling layer and an herbaceous/vine layer.
- **White Pine Forest** includes a white pine habitat with a sparsely developed shrub/herbaceous layer.
- **Stream Bank and Riparian Forest** includes the streambanks of flowing waters with a tree canopy layer, shrub/sapling layer, and an herbaceous/vine layer.
- **Abandoned Borrow Pit** consists of an approximately 1-acre old borrow pit.
- **Maintained Open Area** consists of maintained turfgrass areas near the airfield, recently disturbed land under construction, and periodically maintained easements and hillslopes.
- **Early Successional Clear Cut** consists of a recently clear cut forest edge and an unmaintained open field that includes some small trees.
- **Piedmont Dry Oak-Hickory Forest** consists of hilltops and hillslopes forested by a viariety of oak, pine, and hickory species.
- **Piedmont Floodplain Forest** consists of species that are tolerant to wetter conditions than those found in the piedmont dry oak-hickory habitat.
- **Palustrine Edge** runs along the margins of the open water feature in the new drainage pond area.
- **Maintained Disturbed Area** consists of a gravel driveway edge, pipeline corridor, roadside margin, and cleared hilltop.

4.2.2.1 THREATENED AND ENDANGERED SPECIES

According to the U.S. Fish and Wildlife Service (USFWS), the following Federal listed species of plants and animals, shown in **Table 4-1,** are found or have the potential to be found in Mecklenburg County.

TABLE 4-1: FEDERAL THREATENED AND ENDANGERED SPECIES

TAXONOMIC GROUP	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS
Bird	Bald eagle	*Haliaeetus leucocephalus*	*BGPA*
Mammal	Northern long-eared bat	*Myotis septentrionalis*	*Threatened*
Freshwater Bivalve	Carolina Heelsplitter	*Lasmigona decorata*	*Endangered*
Insect	Rusty-patched bumble bee	*Bombus affinis*	*Endangered*
Vascular Plant	Michaux's Sumac	*Rhus michauxii*	*Endangered*
Vascular Plant	Schweinitz's Sunflower	*Helianthus schweinitzii*	*Endangered*
Vascular Plant	Smooth Coneflower	*Echinacea laevigata*	*Endangered*

Note: BGPA denotes protection under the Bald and Golden Eagle Protection Act
Source: http://www.fws.gov/raleigh/species/cntylist/mecklenburg.html, May 2019.

4.2.2.2 STATE DESIGNATED THREATENED, ENDANGERED, OR SPECIAL STATUS SPECIES

In addition to the USFWS information, the North Carolina Natural Heritage Program database was reviewed. The list of the North Carolina state designated threatened, endangered or special concern species that are found in Mecklenburg County is provided in **Appendix C, *Biological Resources***.

4.2.2.3 SURVEY FINDINGS

On-site habitat assessments found suitable summer habitat for the northern long-eared bat, Schweinitz's sunflower, and Michaux's sumac. Schweinitz's sunflower surveys were conducted outside of and during the flowering period within the Proposed Action Site. No Schweinitz's sunflower was identified during the flowering season surveys. In addition, no Michaux's sumac was observed. Suitable habitat was not present for any of the other federal species in Mecklenburg County. See Appendix C, *Biological Resources* for additional information on the habitat assessments.

4.2.3 Climate

Greenhouse gases (GHGs) are gases that trap heat in the earth's atmosphere. Both naturally occurring and man-made GHGs primarily include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons, and sulfur hexafluoride (SF_6). 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 EPA data," compared with other industrial sources including the remainder of the transportation sector (20 percent) and

power generation (41 percent).[6] The International Civil Aviation Organization (ICAO) estimates that GHG emissions from aircraft account for roughly three percent of all anthropogenic (man-made) GHG emissions globally.[7] Climate change due to GHG emissions is a global phenomenon, so the affected environment is the global climate.[8]

4.2.4 Coastal Resources

FAA Order 1050.1F defines coastal resources as all natural resources occurring within coastal waters and their adjacent shorelands. The Airport is not located within a coastal zone; therefore, no discussion of coastal resources is included in this EA.

4.2.5 Department of Transportation Act (DOT) Section 4(f)

The U.S. Department of Transportation Act of 1966 (DOT Act) protects publicly owned parks, recreation areas, wildlife and waterfowl refuge areas, or public and private historic sites. Section 4(f) of the DOT Act provides that "…the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land from an historic site of national, state, or local significance as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such program, and the project includes all possible planning to minimize harm resulting from the use."

A review of records maintained by the National Park Service (NPS), the North Carolina State Historic Preservation Office (SHPO), and the City of Charlotte Mecklenburg County was conducted to identify known Section 4(f) resources near the Proposed Action Site. There are no parks, recreation areas, or wildlife/waterfowl refuges within the Proposed Action Site. Historic resources are discussed in Section 4.2.8 and shown on **Exhibit 4-2, *Historic Resources*** and listed in **Table 4-2**. Based on the NPS, the closest resource on or eligible for the National Register of Historic Places (NRHP) is the Steele Creek Presbyterian Church and Cemetery which is located approximately one mile southwest of the Proposed Action Site.

4.2.6 Farmlands

FAA Order 1050.1F defines farmlands as those agricultural areas considered important and protected by Federal, state, and local regulations. No farmlands are located within the Proposed Action site; therefore, no discussion of farmlands is included in this EA.

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

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

8 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).

4.2.7 Hazardous Materials, Solid Waste, and Pollution Prevention

FAA Order 1050.1F states that hazardous materials, solid waste, and pollution prevention includes an evaluation of the waste streams, potential hazardous materials, and pollution prevention procedures used at the Airport.

4.2.7.1 HAZARDOUS MATERIALS

According to the USEPA website, there are no sites on the National Priorities List located in the vicinity of the Airport.[9] However, according to the North Carolina Department of Environmental Quality (NCDEQ), there is one known past underground storage tank (UST) release site within the Proposed Action Site (south of Taxiway S), as shown in **Exhibit 4-1, *Hazardous Material Sites***. Active permitted or inactive waste sites, other USTs, and past spills are in the vicinity of, but not within, the Proposed Action Site. There are no existing sites that contain hazardous materials known to be present within the Proposed Action Site.

According to NCDEQ records, a UST release occurred within the Proposed Action Site south of Taxiway S in 1989. The UST served as the fuel storage for an emergency power generator.[10] The UST was removed, and cleanup activities were conducted at the site. On June 5, 1995, the North Carolina Division of Environmental Management issued a letter of no further action for the incident.[11,12] Additionally, a UST release occurred near the Proposed Action Site west of Taxiway C in 1993 at a former rental car facility. The UST was removed, and cleanup was conducted at the site. The North Carolina Division of Water Quality issued a letter of no further action for the incident on July 1996.

4.2.7.2 SOLID WASTE AND POLLUTION PREVENTION

Solid waste, in the form of construction and demolition (C&D) debris, is a common by-product of airport development. There are several waste management landfills in Mecklenburg County that can accept solid waste and C&D debris. These include: Foxhole Recycling/Yard Waste Center, Hickory Grove Recycling/Yard Waste Center, N. Mecklenburg Recycling/Yard Waste Center, and Compost Central & Recycling Center.[13]

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9 http://www.epa.gov/superfund/sites/query/queryhtm/nplmapsg.htm

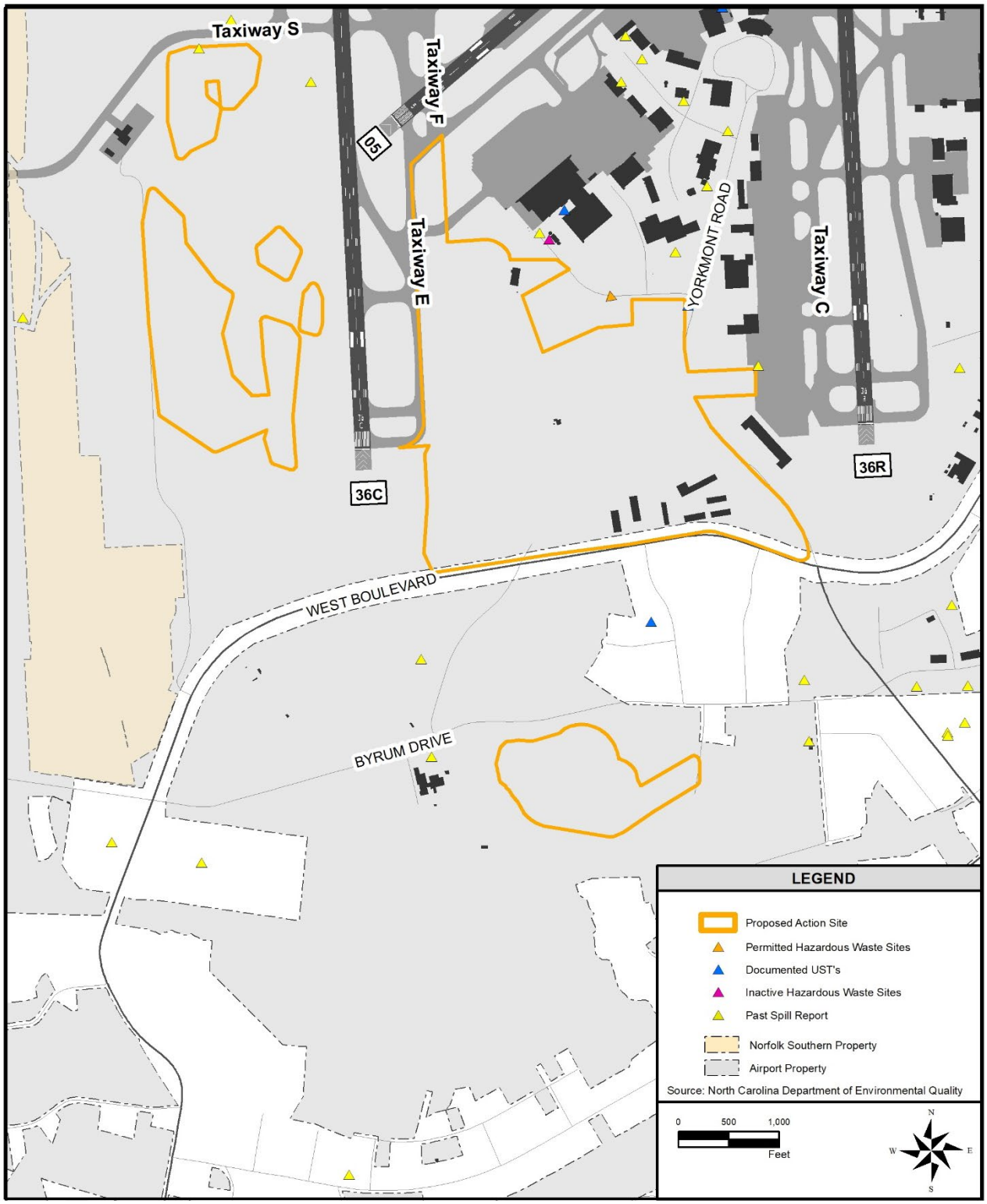
10 Department of the Army Wilmington District, Corps of Engineers, Letter to the North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Management, Groundwater Section, July 16, 1992

11 RE: Soil Sample Results from Underground Storage Tank Closure, Douglas International Airport, Mecklenburg County, N.C., North Carolina Department of Environmental Health and Natural Resources, Division of Environmental Management, Letter to the Federal Aviation Administration, June 5, 1995.

12 EDR Area/Corridor Report, Environmental Data Resources Inc., August 14, 2018. See pages 366-368 for Incident Number 15879.

13 Mecklenburg County, Mecklenburg County's Full-Service Recycle Centers, Online at: https://www.mecknc.gov/LUESA/SolidWaste/Disposal-Recycling/Pages/Full-Service-Centers.aspx, Accessed: July 27, 2018.

EXHIBIT 4-1, HAZARDOUS MATERIAL SITES



Source: L&B, 2020

Ongoing pollution prevention measures include the Airport's series of Spill Prevention, Control and Countermeasure (SPCC) plans for multiple onsite facilities that are designed to minimize spill risk and identify measures to be used to respond to spills that do occur. The SPCC plans are reviewed at least every five years and revised if necessary. These plans include the CLT Airport SPCC Master Plan, the Hourly Parking Deck and Consolidated Rental Car Facility SPCC Plan, and the Airfield Fuel System Master Plan. Some airport tenants also prepare, certify, and maintain their own SPCC Plans, which must also abide by state and federal regulations.

4.2.8 Historic, Architectural, Archaeological, And Cultural Resources

The National Historic Preservation Act (NHPA) is the primary Federal law governing the preservation of historic and prehistoric resources, encompassing art, architecture, archaeological, 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). The NRHP is maintained by the U.S. National Park Service (NPS). The North Carolina State Historic Preservation Office (SHPO) maintains records of other sites of local significance.

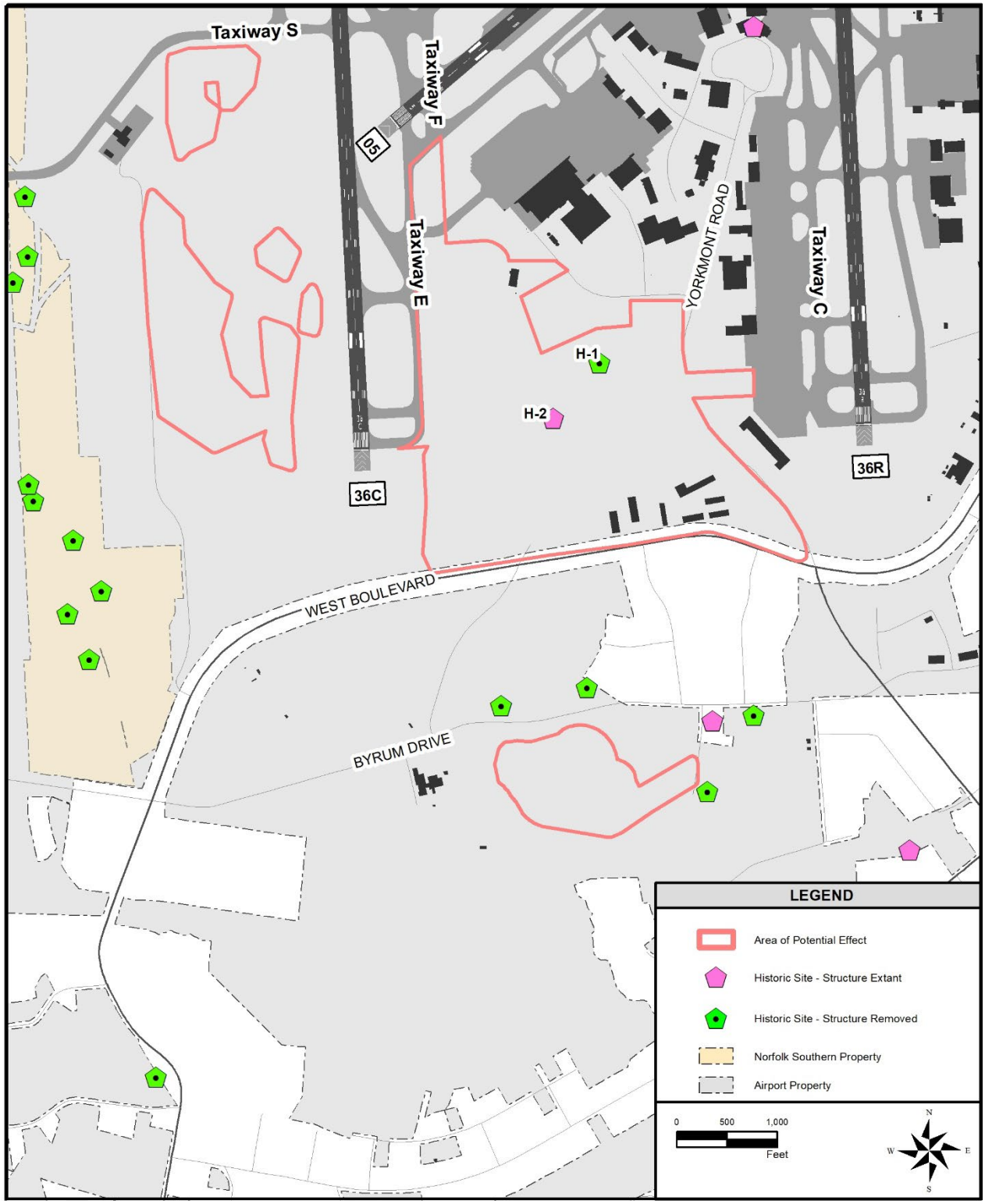
The Area of Potential Effect (APE) is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties" (36 C.F.R. § 800.16(d)). For purposes of Section 106, the term "historic properties" can include architectural, archeological, or cultural resources. The determination of the APE considers the character of a project area and the potential for resources to be found.

The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 C.F.R. § 800.16(d)). The APE must include all direct and reasonably foreseeable indirect effects. Although the NHPA regulations do not define the term "indirect effect," the criteria of adverse effects cover reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative (36 C.F.R. § 800.5(a)(1)). For the purpose of this study, the APE was defined as the Proposed Action Site.

A review of records maintained by the NPS and the SHPO was conducted to identify historic properties in or adjacent to the APE. As shown in **Exhibit 4-2, *Historic Resources***, and **Table 4-2**, two historic properties were identified within the APE. The J.W. Auten House was surveyed in 1990; however, no determination for NRHP eligibility was made. The Robert McGinn House was built circa 1855 and was surveyed in 1990; however, no determination for NRHP eligibility was made.

A survey conducted in December 2018 confirmed the J.W. Auten House is no longer extant. Furthermore, a survey of the Robert McGinn House was conducted in March 2019 which confirmed the structure is extant but no longer has the integrity needed for eligibility; therefore, the property was not recommended for NRHP eligibility. See **Appendix D, *Historic, Archaeological, and Cultural Resources*** for more information. As previously stated, the closest resource on or eligible for the NRHP is the Steele Creek Presbyterian Church and Cemetery which is located approximately one mile southwest of the project site.

EXHIBIT 4-2, HISTORIC RESOURCES



Source: L&B, 2020

TABLE 4-2: HISTORIC RESOURCES

MAP ID	NAME	RESOURCE TYPE
H-1	J. W. Auten House	Historic Property
H-2	Robert McGinn House	Historic Property

Source: U.S. National Park Service, North Carolina State Historic Preservation Office, Landrum & Brown analysis, 2019.

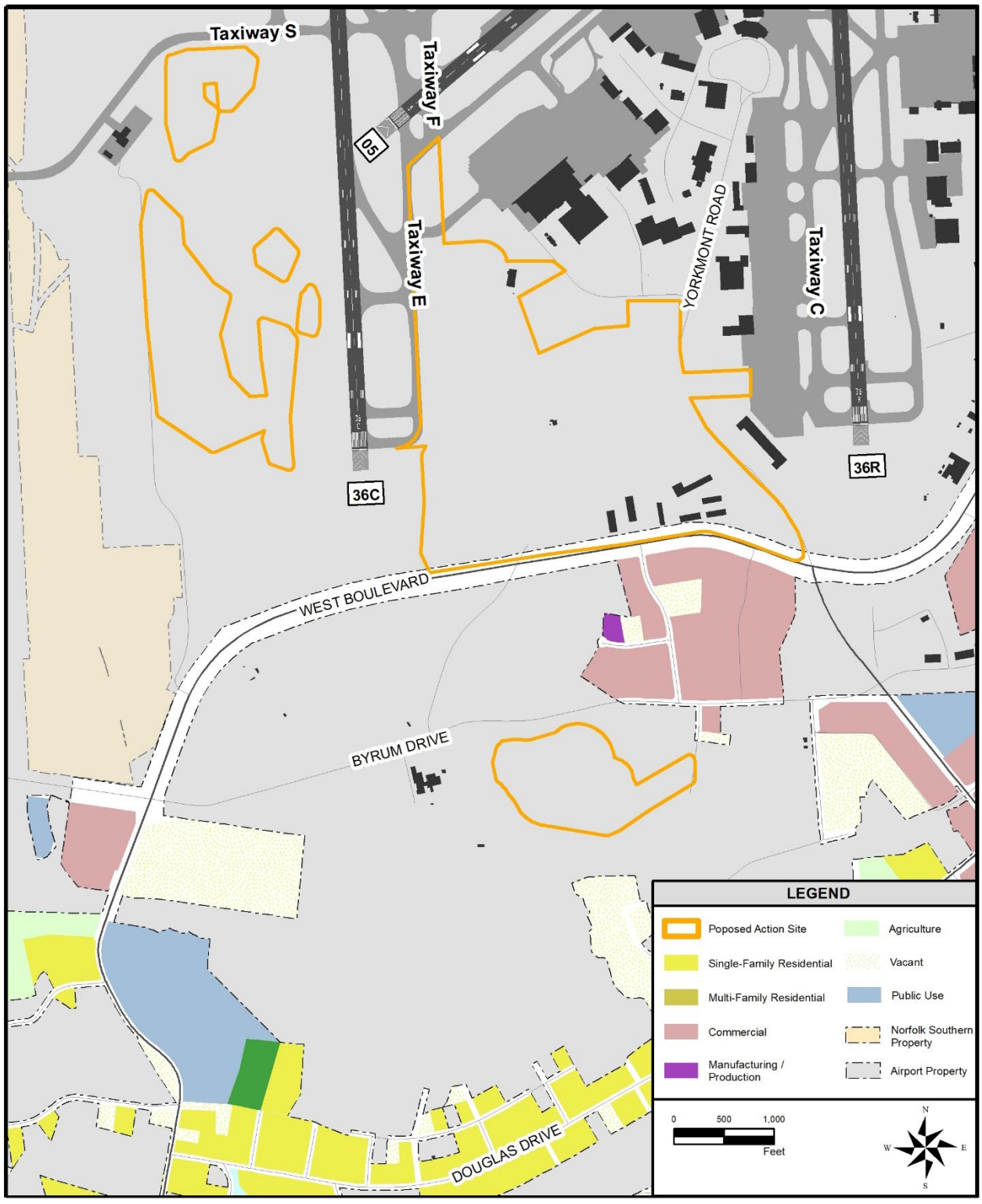
It is assumed that the entire APE would be graded, cleared, or disturbed from its current state. As a result, Phase I archaeological surveys were completed and consisted of a literature search and archaeological field survey to determine potential impacts to archaeological resources. The literature review collected data on known cultural resources within the vicinity of the APE. Several previously recorded sites were found in the vicinity of the Airport; however, none of the sites were located within or adjacent to the APE.

The archaeological surveys conducted within the APE in December 2018 and December 2019 identified ten total archaeological sites. It was concluded these archaeological resource sites are not considered eligible for inclusion on the NRHP under Criteria A, B, C, or D. See Appendix D for more information.

4.2.9 Land Use

Land use refers to the types of activities or development that occurs on the land. **Exhibit 4-3, G*eneralized Existing Land Use***, depicts the land uses surrounding the Proposed Action Site in terms of the generalized use categories. The Proposed Action would occur entirely on Airport property surrounded by Airport pavement and other airport-compatible uses, including industrial land uses and vacant land. The nearest residential land uses are located approximately 2,000 feet south of the Proposed Action Site north of Douglas Drive.

EXHIBIT 4-3, GENERALIZED EXISTING LAND USE



Source: L&B, 2020

4.2.10 Natural Resources and Energy Supply

FAA Order 1050.1F states that natural resources and energy supply identifies the consumption of natural resources and use of energy supplies. Consumption of natural resources and use of energy supplies may result from construction and operation of the Airport.

4.2.10.1 NATURAL RESOURCES

Materials that may be needed for construction of new runways and taxiways, terminal facilities, parking, and roadways include lumber, aggregate, concrete, gravel, steel, asphalt, sand, and water. These materials are not in short supply in the Charlotte area. Asphalt, cement, sand, gravel, and aggregate can be found at multiple vendor locations in and near Mecklenburg County, including the Charlotte Quarry, Mallard Creek Quarry, Matthews Quarry, Arrowwood Quarry, and Bonds Gravel Pit. Building materials are readily available and provided by numerous vendors in the Charlotte area.

4.2.10.2 ENERGY SUPPLY

Buildings and other structures at the Airport require electricity and natural gas for lighting, cooling, and heating. Electricity is used for cooling and lighting for buildings, lighting for aircraft and vehicle parking areas, airfield lighting systems, roadway lighting, and other facilities. CLT is located within a highly urbanized area with adequate access to natural resources for Airport operations, aircraft operations, and construction projects. Duke Energy, which is headquartered in Charlotte, provides electricity to 3.4 million customers in North Carolina, including CLT, and has over 49,500 megawatts of electric generating capacity.[14] Natural gas is provided to CLT by Piedmont Natural Gas, which operates as a business unit of Duke Energy.

4.2.11 Noise and Noise Compatible Land Use

FAA Order 1050.1F states that sound is a physical phenomenon consisting of pressure fluctuations that travel through a medium, such as air, and are sensed by the human ear. Noise is considered unwanted sound that can disturb routine activities (e.g., sleep, conversation, student learning) and can cause annoyance. Noise levels in the vicinity of CLT are a function of various Airport and non-airport sources. Noise sources include aircraft operations and roadway traffic on the main highways surrounding CLT. Future growth in operations would occur with or without the Proposed Action. Therefore, the Proposed Action would not result in a change in the noise environment at the Airport. The existing noise condition is consistent with the Airport's Noise Exposure Maps (NEMs) developed in 2016.[15] As a result, an existing contour is not presented in this EA.

[14] Duke Energy. 2018. Fast Facts.

[15] Noise Exposure and Contour Maps, Noise, Charlotte Douglas International Airport, 2019, Available on-line: https://www.cltairport.com/community/noise/maps/ Accessed January 2020.

4.2.12 Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

Socioeconomic conditions describe the elements of the human environment such as population, employment, housing, public services, and transportation.

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations,* requires all Federal agencies to identify and address disproportionate and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The Executive Order also directs Federal agencies to incorporate environmental justice into their overall missions by conducting their programs and activities in a manner that provides minority and low-income populations an opportunity to participate in agency programs and activities.

DOT Order 5610.2(a) defines minorities as people who are Black, Hispanic or Latino, Asian American, American Indian, Alaskan Native, Native Hawaiian, or other Pacific Islander. Minority populations are defined as "any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity."[16] The DOT Order defines a low-income population as "any readily identifiable group" of persons whose median household income is at or below the poverty guidelines of the U.S. Department of Health and Human Services, "who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity." [17]

Pursuant to EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, federal agencies are directed to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. Environmental health risks and safety risks include risks to health or to safety that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products to which they might use or be exposed.

CLT is located in the City of Charlotte within Mecklenburg County, North Carolina. As shown in Exhibit 1-2, Proposed Action, the Project Site is entirely on Airport property. As such, no environmental justice communities are located within or adjacent to the Proposed Action Site. Additionally, there are no schools or day care centers where the potential for a child to be exposed to environmental health risks would occur. **Table 4-3** presents a comparison of the socioeconomic characteristics of the City of Charlotte and Mecklenburg County.

[16] Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994.
[17] Ibid.

TABLE 4-3: EXISTING POPULATION AND DEMOGRAPHICS

	CITY OF CHARLOTTE	MECKLENBURG COUNTY
Population	**826,060**	**1,034,290**
Not Hispanic	710,681	901,341
White	348,789	495,078
Black / African American	285,294	318,010
Native American / Alaskan Native	1,763	2,162
Asian	51,259	56,769
Native Hawaiian or Pacific Islander	454	484
Other	2,616	2,984
Hispanic	115,379	132,949
Percent Hispanic	**14.0%**	**12.9%**
Percent Total Minority	**57.8%**	**52.1%**
Percent Below Poverty Level*	**14.9%**	**13.4%**

*Note: For 2017, the U.S. Census Bureau determined the poverty threshold to be an income of $12,488 for an individual and $25,094 for a family of four.
Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates; Landrum & Brown, 2019.

CLT ranks as the nation's sixth busiest airport in operations and provides service to 178 destinations throughout the world.[18] CLT is also a major employment center. Employers who maintain staff on-site have nearly 30,000 workers, including airlines, tenants, other businesses and the City of Charlotte's Aviation Department. The economic activity that CLT generates is a major contributor to the region's economy. The Airport also contributes nearly $23 billion in annual total economic impact to the region. Additionally, more than 300,000 jobs in the region are directly or indirectly related to the Airport and its services. Those workers earn $12.6 billion in wages and salaries. CLT's state and local tax contribution is approximately $1.1 billion.

[18] CLT Fast Facts. Available online: https://assets.ctfassets.net/jaw4bomip9l3/5F2nlKBcnntqIGJqEMaU3X/b29e68b6a9d680ee215eef1ed4412ad0/Fast_Facts-Jan._2020.pdf Accessed January 2020.

4.2.13 Visual Effects

FAA Order 1050.1F states that the Visual Effects environmental impacts category deals with the extent to which the proposed action would have the potential to either 1) produce light emissions that create annoyance or interfere with normal activities; or 2) affect the nature of the visual resources or visual character of the area. As such, light emissions and the visual character of the Airport are discussed in the following paragraphs.

4.2.13.1 LIGHT EMISSIONS

CLT is currently illuminated by various types of lighting on the airfield and landside facilities. Lighting that emanates from the airfield includes runway, apron, and navigational lighting such as, hold position lights, stop-bar lights, and runway and taxiway signage. Airfield lighting is located along taxiways and ramps for guidance during periods of low visibility, and to assist aircraft movement on the airfield. Aircraft lighting, such as landing lights, position and navigation lights, beacon lights, and vehicle lighting are other types of light sources on the airfield. Lights for landside facilities include buildings, roadways, and parking facilities. CLT is located in an urbanized area, which is comprised of other development that is also lighted and contributes to the overall light emissions in the area.

4.2.13.2 VISUAL RESOURCES/VISUAL CHARACTER

As previously mentioned, the Proposed Action Site is located on the Airport and is surrounded by similar uses.

4.2.14 Water Resources

Water resources are surface waters and groundwater that are vital to society; they are important in providing drinking water and in supporting recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems. Surface water, groundwater, floodplains, and wetlands do not function as separate and isolated components of the watershed, but rather as a single, integrated natural system.

4.2.14.1 WETLANDS AND STREAMS

The Proposed Action Site was delineated in 2019.[19,20] Linear footage of streams within the Proposed Action Site consists of approximately 8,050 linear feet of streams and 0.14 acres of wetlands. The wetlands and streams are shown on **Exhibit 4-4, *Wetlands and Streams***. See **Appendix E, *Water Resources***, for more information.

4.2.14.2 FLOODPLAINS

Floodplains are defined as the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a one-percent or greater chance of flooding in any given year (i.e., 100-year floodplain).[21] Floodplains within

[19] HDR environmental scientists conducted field surveys throughout the Airport on April 29th – May 3rd, May 13th, May 14th, September 17th, and October 1st– 11th, 2019.
[20] HDR to USACE, *Preliminary Jurisdictional Determination Verification Request,* November 1, 2019.
[21] FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, April 28, 2006.

the Proposed Action Site are depicted on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels 3710451300K, 3710452300K, and 3710451200K (effective September 2, 2015) as reproduced in **Exhibit 4-5, *Floodplains***. As shown in this exhibit, the Proposed Action Site is located in an area that is designated as a 100-year floodplain.

4.2.14.3 SURFACE WATERS

The Airport lies within the Catawba River Drainage Basin. Surface drainage flows from the Airport by numerous conveyances, such as ditches, creeks, and streams, and eventually enters the Catawba River or one of its impoundments. Most of the existing Airport drains southeast into Taggart Creek and south into Coffey Creek. Ticer Branch drains the northwest corner, Little Paw Creek drains the west side, and Beaverdam Creek drains the southwest corner of the Airport.

The primary source of drinking water in Mecklenburg County is the Catawba River. Water is pumped from the river either at Mountain Island Lake or Lake Norman intakes, to one of three treatment plants where the water is cleaned, tested, and pumped into the distribution system. The Catawba River is located to the west of CLT and several tributaries flow from CLT property into the Catawba River.

CLT property is situated within two watersheds as denoted by the 8-digit hydrologic unit codes (HUC) 03050101 (Upper Catawba) and 03050103 (Lower Catawba). The boundary between the two watersheds runs roughly northeast to southwest through CLT property between Runway 18C/36C and Runway 18R/36L. The HUC 03050101, which is located on the western side of CLT property, is designated by Mecklenburg County as a drinking water protection watershed. As shown in **Exhibit 4-6, *Watershed Protection Areas***, the Proposed Action Site is not in an area designated by Mecklenburg County as a drinking water protection watershed. Stormwater drainage from the Proposed Action Site enters the Catawba River downstream from the raw water intakes on Lake Norman, Mountain Isle Lake, and Lake Wylie. The nearest municipal water supply intake on the Catawba River is approximately 32 miles downstream from the Proposed Action Site.[22]

In North Carolina, stormwater discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) as administered by the NCDEQ Division of Energy, Mineral, and Land Resources. CLT currently holds an individual NPDES Permit (Permit No. NC0083887) for industrial/commercial activity.

4.2.14.4 GROUNDWATER

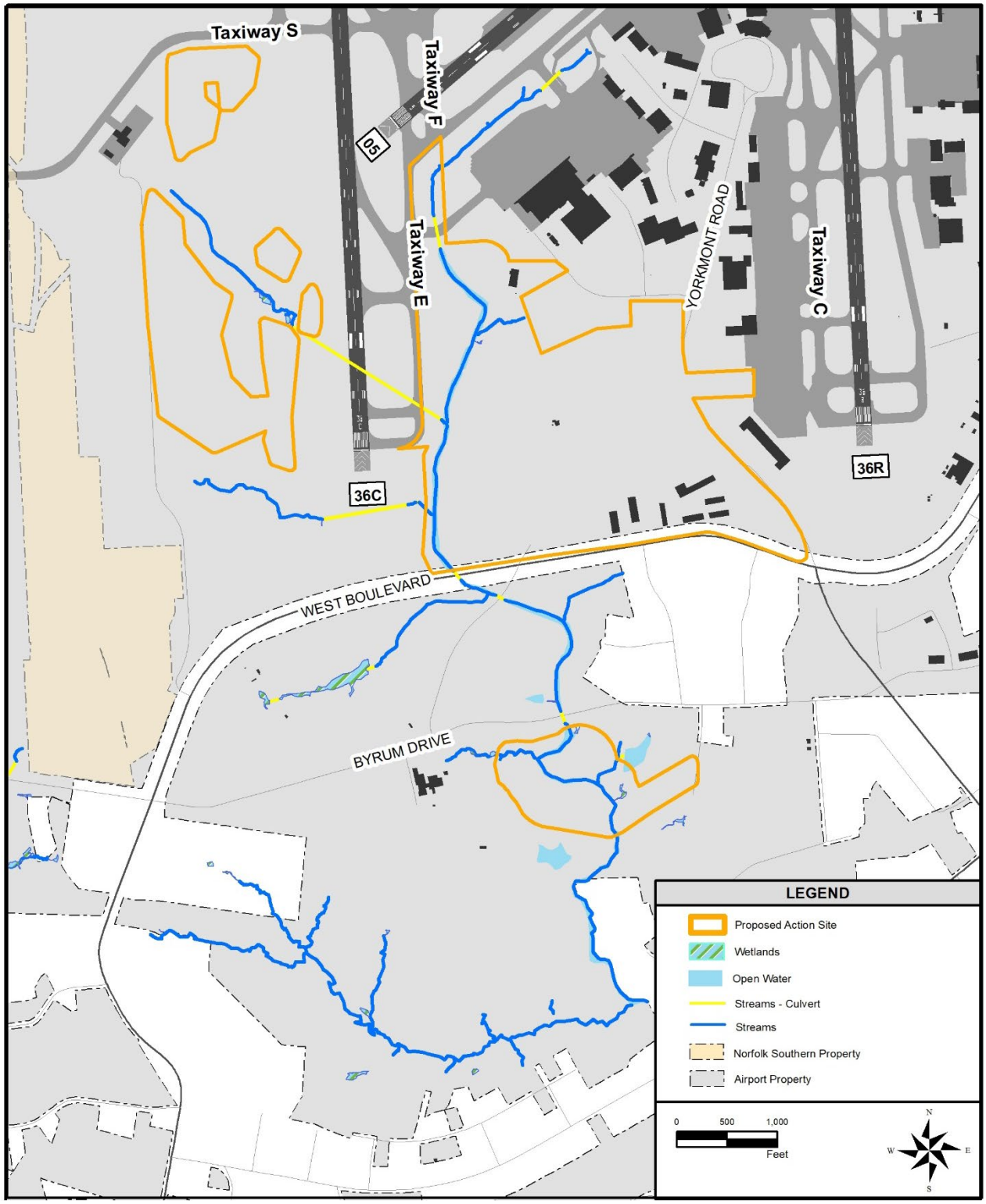
Approximately 15 percent of the water supply in Mecklenburg County comes from groundwater. Groundwater is obtained via wells that extract water from aquifers for drinking, irrigation, and industrial uses. There are no public drinking water wells located within the Proposed Action Site.

4.2.14.5 WILD AND SCENIC RIVERS

No wild and scenic rivers are present in Mecklenburg County.

[22] HDR, Catawba-Wateree River Basin Water Supply Master Plan, Figure 15-3 and Figure 15-4, May 2014

EXHIBIT 4-4, WETLANDS AND STREAMS

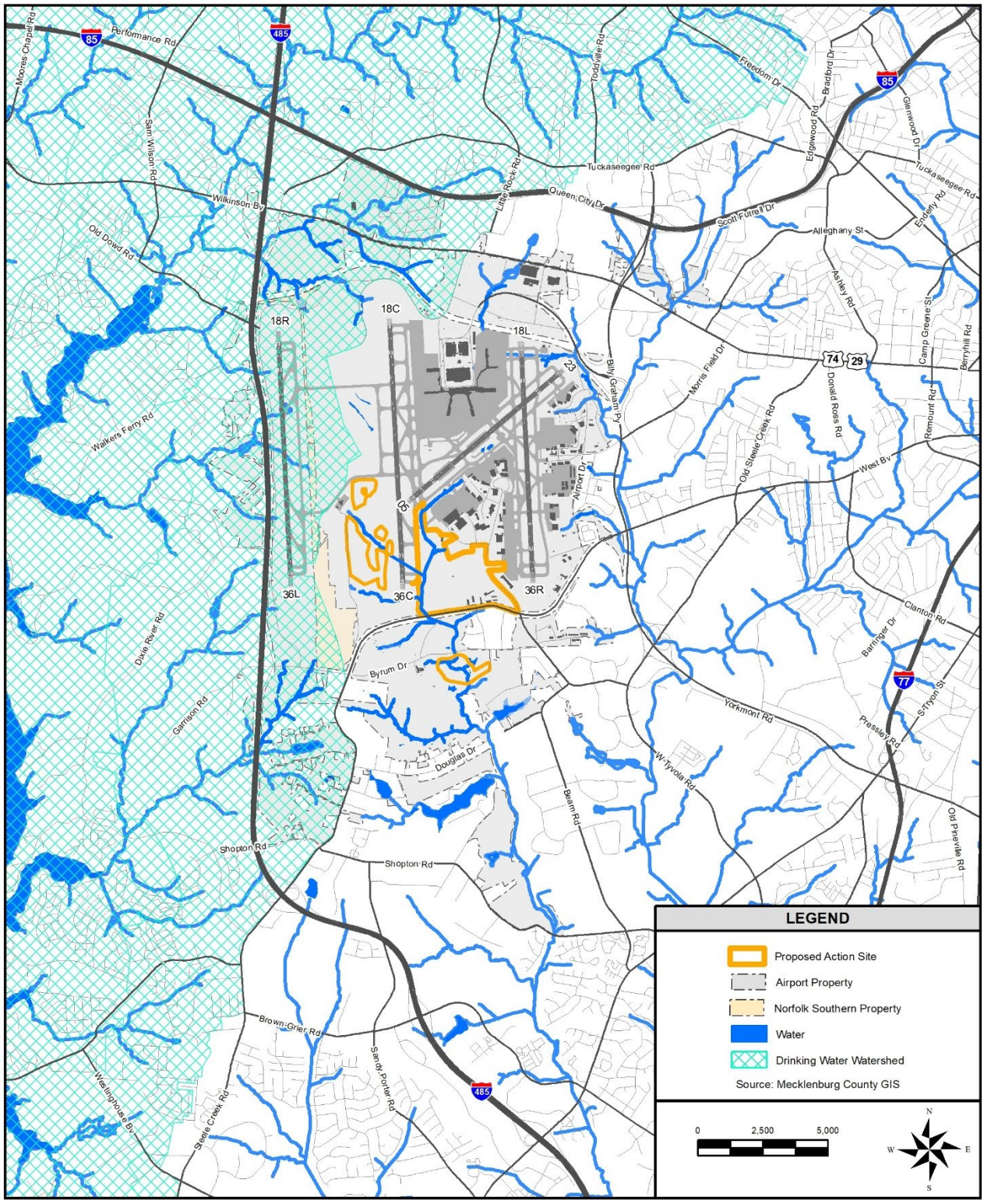


Source: L&B, 2020

EXHIBIT 4-5, FLOODPLAINS

Source: L&B, 2020

EXHIBIT 4-6, DRINKING WATER PROTECTION AREAS



Source: L&B, 2020

5 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.

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
- Coastal Resources
- Department of Transportation (DOT) Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Noise Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects
  - Light Emissions
  - Visual Resources and Visual Character
- Water Resources
  - Wetlands
  - Floodplains
  - Surface Waters
  - Groundwater
  - Wild and Scenic Rivers

5.1 AIR QUALITY

The Proposed Action would be implemented in Mecklenburg County, North Carolina, which the U.S. Environmental Protection Agency (USEPA) has designated as maintenance for ozone (O_3). At the time of the preparation of this EA, the County was designated attainment for all the other Federally regulated pollutants. Therefore, the net emissions of the Proposed Action are limited to less than 100 tons per year for the ozone precursor pollutants, nitrogen oxides (NO_X) and volatile organic compounds (VOC).

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*, *Update 1*[23] 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 Clean Air Act (CAA), as amended in 1990.

No Action

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

Proposed Action

Table 5-1 shows that the estimated net emissions from construction of the Proposed Action would be less than the applicable *de minimis* thresholds. Because construction of the Proposed Action would not result in increased emissions above the applicable *de minimis* thresholds, no further analysis is required under the General Conformity Rule and the Proposed Action is determined to conform to the State Implementation Plan (SIP). For more information see Appendix B, *Air Quality*.

[23] FAA, *Aviation Emissions and Air Quality Handbook Version 3, Update 1*, January 2015.

TABLE 5-1: CONSTRUCTION EMISSIONS INVENTORY – PROPOSED ACTION

ANNUAL EMISSIONS SUMMARY						
EMISSION SOURCES	**CRITERIA AND PRECURSOR POLLUTANTS (short tons per year)**					
	CO	**VOC**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
	CAA *DE MINIMIS* THRESHOLDS					
	NA	***100***	***100***	***NA***	***NA***	***NA***
CONSTRUCTION YEAR 1						
Building Demolition	0.4	0.1	0.8	0.0	0.0	0.0
Tree Clearing	0.5	0.1	0.3	0.0	0.0	0.0
Borrow Area	3.4	0.5	6.4	0.0	0.4	0.4
Construction Year 1 Subtotal	*4.3*	*0.7*	*7.4*	*0.0*	*0.5*	*0.5*
CONSTRUCTION YEAR 2						
Taxiway F Extension	2.2	0.2	2.1	0.0	0.9	0.2
Borrow Area	3.4	0.5	6.4	0.0	0.4	0.4
Detention Basin	11.5	0.8	7.8	0.0	0.5	0.5
Yorkmont Road Realignment	1.5	0.3	0.8	0.0	0.1	0.1
De-Ice Pad	6.0	0.5	4.7	0.0	1.7	0.4
Crossfield Taxiway	2.6	0.1	1.1	0.0	0.4	0.1
Taxiway Bridge	0.4	0.0	0.4	0.0	0.1	0.0
Construction Year 2 Subtotal	*27.7*	*2.4*	*23.1*	*0.1*	*4.1*	*1.8*
CONSTRUCTION YEAR 3						
De-Ice Pad	6.0	0.5	4.7	0.0	1.7	0.4
Crossfield Taxiway	5.3	0.3	2.2	0.0	0.9	0.2
Taxiway Bridge	0.9	0.1	0.8	0.0	0.1	0.1
Construction Year 3 Subtotal	*12.2*	*0.8*	*7.7*	*0.0*	*2.8*	*0.7*
CAA *DE MINIMIS* THRESHOLDS EXCEEDED?	***NA***	***NO***	***NO***	***NA***	***NA***	***NA***

NA Not Applicable
Note Total emissions may not sum exactly due to rounding.
Source: Landrum & Brown analysis, 2019.

While the construction of the Proposed Action would be expected to contribute to fugitive dust in and around the construction site, the City of Charlotte Aviation Department (Sponsor) would ensure that all possible measures would be taken to reduce fugitive dust emissions by adhering to guidelines included

in FAA Advisor Circular, *Standard Specifications for Construction of Airports*.[24] Methods of controlling dust and other airborne particles would 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.

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;
- 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.

[24] FAA Advisory Circular, *Standard Specifications for Construction of Airports, Item C-102, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control*, AC 150/5370-10H (December 21, 2018).

No Action

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

Proposed Action

As discussed in Chapter Four, *Affected Environment*, the Proposed Action Site contains potentially suitable habitat for endangered species, including the Michaux's sumac and the Schweinitz's sunflower. However, neither species were observed during the habitat assessments. The Proposed Action Site also contains suitable summer habitat for the northern long-eared bat, which is a threatened species. However, the Proposed Action Site is not located within a hydrologic unit code identified as having known identified occurrences of hibernation or maternity sites for the northern long eared bat. Furthermore, incidental take of the northern long eared bat or its habitat with the proposed activity would be exempt under the 4(d) rule. Additionally, Best Management Practices (BMPs) will be implemented to avoid tree clearing during the maternity roosting season for bats (May 15-August 15). Therefore, the implementation of the Proposed Action is not likely to adversely affect federally threatened or endangered species. See Appendix C, *Biological Resources*, for the habitat survey reports.

5.3 CLIMATE

Although there are no federal standards for aviation-related greenhouse gas (GHG) emissions, it is well-established that GHG emissions can affect climate.[25] The Council on Environmental Quality (CEQ) has indicated that climate should be considered in NEPA analyses.

No Action

Under the No Action alternative, there would be no increase in project specific GHG emissions.

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.

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

TABLE 5-2: YEARLY GHG EMISSIONS INVENTORY – PROPOSED ACTION

METRICS	ANNUAL METRIC TONS		
	CO_2	CH_4	N_2O
CONSTRUCTION YEAR 1			
Construction	5,300	0.05	0.00
GWP_{100}	*1*	*25*	*298*
CO_{2e}	5,300	1.21	0.00
CO_{2e} Net Emissions	**5,301**		
CONSTRUCTION YEAR 2			
Construction	16,923	0.16	0.00
GWP_{100}	*1*	*25*	*298*
CO_{2e}	16,923	4.12	0.00
CO_{2e} Net Emissions	**16,927**		
CONSTRUCTION YEAR 3			
Construction	5,046	0.06	0.00
GWP_{100}	*1*	*25*	*298*
CO_{2e}	5,046	1.58	0.00
CO_{2e} Net Emissions	**5,047**		

CO_2: Carbon Dioxide
CO_{2e}: Carbon Dioxide equivalent
CH_4: Methane
N_2O: Nitrous oxide
GWP: Global Warming Potential
Total emissions may not sum exactly due to rounding.
Source: L&B Analysis, 2019.

5.4 COASTAL RESOURCES

The Airport is not located within a coastal zone therefore no significant impacts to coastal resources would occur with implementation of the No Action or Proposed Action.

5.5 DEPARTMENT OF TRANSPORTATION (DOT) ACT: SECTION 4(F) RESOURCES

The Federal statute that governs impacts in this category is commonly known as the Department of Transportation (DOT) Act of 1966, Section 4(f) provisions. Section 4(f) of the DOT Act was recodified and renumbered as Section 303(c) of U.S. Code Title 49 (49 U.S.C.). FAA Orders 5050.4B and 1050.1F continue to refer to this statute as Section 4(f) to avoid confusion. Section 4(f) provides that the "Secretary of Transportation may approve a transportation program or project requiring the use of publicly-owned land of a park, recreational area, or wildlife and waterfowl refuge of national, state, or local significance or land of a historic site of national, state, or local significance as determined by the official having jurisdiction over those resources only if: there is no prudent and feasible alternative that would avoid using those resources, and the program or project includes all possible planning to minimize harm resulting from the use."[26] Two types of impacts to a Section 4(f) resource, physical or constructive use, can occur from a Proposed Action. A physical use would occur if the Proposed Action or alternative(s) would involve an actual physical taking of Section 4(f) property through purchase of land or a permanent easement, physical occupation of a portion or all of the property, or alteration of structures or facilities on the property. Constructive use occurs when the impacts of a project on a Section 4(f) property are so severe that the activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. The FAA may also make a *de minimis* impact determination with respect to a physical use of Section 4(f) property if, after taking into account any measures to minimize harm, the result is either:

- A determination that the project would not adversely affect the activities, features, or attributes qualifying a park, recreation area, or wildlife or waterfowl refuge for protection under Section 4(f); or

- A Section 106 finding of no adverse effect or no historic properties affected.

- Section 6(f) of the Land and Water Conservation Act (LWCA) is also pertinent to Section 4(f) lands. Section 6(f) prohibits recreational facilities funded under the LWCA from being converted to non-recreational use unless approval is received from the director of the grantor agency.

No Action

The No Action alternative would not cause any impacts to Section 4(f) resources.

Proposed Action

Section 4.2.5 of Chapter Four, *Affected Environment*, determined that there are no known Section 4(f) resources within or near the vicinity of the Proposed Action Site. Based on the NPS, the closest resource on or eligible for the NRHP is the Steele Creek Presbyterian Church and Cemetery which is located approximately one mile southwest of the project site.

[26] FAA Environmental Desk Reference for Airport Actions, Section 7.1(b), Section 4(f) Resources, October 2007.

Because there are no Section 4(f) resources within the Proposed Action Site, no Section 4(f) resources would be directly impacted by the Proposed Action. Therefore, the Proposed Action would not result in the physical use of any Section 4(f) resource. In addition, the Proposed Action is limited to the construction of a deice pad and the implementation of its connected actions. The Proposed Action would create a temporary increase in noise due to the construction of the Proposed Action. However, construction noise would be temporary and is not expected to be at sufficient enough levels to cause impacts that would result in a direct or indirect taking of a Section 4(f) resource for transportation purposes. Therefore, the Proposed Action would not result in a constructive use Section 4(f) resources. Therefore, no significant impacts to Section 4(f) resources would result from the Proposed Action.

5.6 FARMLANDS

No farmlands are located in the Proposed Action area; therefore, no significant impacts to farmlands would occur with the implementation of the No Action or Proposed Action.

5.7 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

The potential impacts resulting from hazardous materials, solid waste collection, control, and disposal due to airport projects are assessed under four primary laws that govern the handling and disposal of hazardous materials, chemicals, substances, and wastes:

- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), (as amended by the Superfund Amendments and Reauthorization Act of 1986 and the Community Environmental Response Facilitation Act of 1992);[27]
- Pollution Prevention Act of 1990;[28]
- Toxic Substances Control Act of 1976, as amended (TSCA);[29] and
- Resource Conservation and Recovery Act of 1976 (RCRA), (as amended by the Superfund Amendments and Reauthorization Act of 1986 and the Community Environmental Response Facilitation Act of 1992).[30]

The two statutes of most pertinence to FAA actions to construct and operate airport facilities and navigational aids are RCRA and CERCLA. RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides for consultation with natural resources' trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment.

27 42 U.S.C. 9601-9675.
28 42 U.S.C. 1310-1319.
29 15 U.S.C. 2601-2692
30 42 U.S.C. 6901-6992(k)

No Action

With the No Action alternative, the existing conditions at CLT would remain in place. Therefore, there would be no hazardous materials or solid waste impacts not already occurring or expected to occur.

Proposed Action

As discussed in Section 4.2.7, there are no contaminated sites within, or in the immediate vicinity, of the Proposed Action Site. Therefore, there would not be any significant long-term solid waste or hazardous materials impacts with the implementation of the Proposed Action.

Short-term temporary environmental impacts due to solid and hazardous waste generated during construction may occur. The implementation of the Proposed Action includes the demolition of two structures, including the former Robert McGinn House and the Building 206, which is currently vacant. Due to their age, the structures may contain lead- and asbestos-containing materials (ACMs). Lead and asbestos testing of the structures would be conducted prior to demolition of the structures. If lead and/or ACMs are present, their removal (including abatement and disposal) would be conducted by qualified and properly licensed asbestos abatement contractors prior to demolition. Furthermore, all demolition activities would be conducted with regard to worker safety and according to all applicable regulations, including the RCRA. Solid waste would be generated from the Proposed Action in the form of soil resulting from the construction of the Proposed Action. Building materials and debris would be recycled to the greatest extent feasible. Materials that cannot be recycled would be disposed of in accordance with all Federal, state, and local regulations.

If any soils excavated during demolition or construction show evidence of petroleum contamination, they would be reported immediately to all relevant agencies, including the local Fire Marshall, and treated with respect to NCDEQ standards. Additionally, appropriate permits and notifications would be pursued. Furthermore, BMPs identified in the Airport's Stormwater Pollution Prevention Plan (SWPPP) will be implemented during construction of the Proposed Action. Therefore, the Proposed Action would not result in unique or significant impacts to hazardous materials, solid waste management, or pollution prevention plans.

5.8 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

The *National Historic Preservation Act of 1966* (NHPA)[31] and the *Archeological and Historic Preservation Act of 1974*[32] are 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).

[31] Public Law 89-665; 16 U.S.C. 470 et seq.
[32] Public Law 86-523, 16 U.S.C. 469-469c-2

No Action

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

Proposed Action

As previously discussed in Chapter Four, one known historic structure was identified within the APE, the former Robert McGinn House. However, a survey of the Robert McGinn House was conducted in March 2019 which confirmed the structure is extant but no longer has the integrity needed for eligibility; therefore, the property was not recommended for NRHP eligibility.

An archeological survey of previously undisturbed areas in APE was conducted. Archeological field investigations on the site conducted in December 2018 and December 2019 resulted in identifying ten total archeological sites. The sites do not meet any of the NRHP eligibility criteria and are recommended as being not eligible for the NRHP. As such, a finding of no historic properties affected was made. Therefore, no significant impacts due to the Proposed Action would occur to historical, architectural, archaeological, and cultural resources.

5.9 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.

No Action

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

Proposed Action

The Proposed Action would be constructed entirely on Airport property. The site is surrounded by airport pavement and other airport-compatible uses, including industrial land uses and vacant land. The Proposed Action would include construction of additional airfield pavement for a deice pad and taxiways as well as a detention pond for stormwater management. The Proposed Action is not inconsistent with local plans or laws related to land use and development. In addition, the detention basin contains design measures that would ensure it would not create a new wildlife attractant or create an obstruction to navigation per 14 C.F.R. Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*. See Section 5.14.3 for more information. Therefore, no significant impacts to land use would occur with implementation of the Proposed Action.

5.10 NATURAL RESOURCES AND ENERGY SUPPLY

Sections 1502.16(e) and (f) of the CEQ Regulations require that Federal agencies consider energy requirements, natural resource requirements, and potential conservation measures for a Proposed Action and its alternatives.

No Action

The No Action alternative would not cause any impacts to natural resources or the supply of energy.

Proposed Action

The Proposed Action includes the expansion of existing airfield pavement, which would require the installation of airfield lighting that would require the use of electricity. Construction of the proposed deice pad and taxiways would require natural resources such as gravel, sand, aggregate, concrete, asphalt, water, and other paving materials. These materials are not in short supply in the Charlotte area and consumption of these materials is not expected to deplete existing supplies. Additionally, construction equipment would require fuel. However, operation of the proposed deice pad is expected to decrease aircraft delay, which would decrease fuel consumption. The Proposed Action would not deplete the supply of natural resources, nor would it use a substantial amount of fuel or electricity that would exceed local supplies; therefore, the Proposed Action would not cause a significant impact to the supply of energy or natural resources.

5.11 NOISE AND NOISE-COMPATIBLE LAND USE

As previously stated, the Proposed Action is limited to the construction of a deice pad and the implementation of its connected actions. The Proposed Action would not result in an increase in operations, change fleet mix, or create new flight tracks. Therefore, the Proposed Action would not result in changes to the noise environment at the Airport. As such, the existing noise condition is consistent with the Airport's Noise Exposure Maps (NEMs) developed in 2016.[33] As a result, noise contours are not presented in this EA.

The Proposed Action would create a temporary increase in noise due to the construction of the Proposed Action. Per FAA guidance, noise due to construction of a Proposed Action should be assessed in an environmental document. Therefore, the following section addresses potential noise impacts related to the construction of the Proposed Action.

No Action

The No Action alternative would not include construction; therefore, no noise impacts would occur due to the construction of the Proposed Action.

[33] Noise Exposure and Contour Maps, Noise, Charlotte Douglas International Airport, 2019, Available on-line: https://www.cltairport.com/community/noise/maps/ Accessed January 2020.

Proposed Action

Table 5-3 depicts an estimate of the typical maximum sound level energy from various construction equipment that is likely to be used during construction of the Proposed Action. The total sound energy would be a product of a machine's sound level, the number of such machines in service, and the average time they operate.

Construction activities associated with the Proposed Action are not expected to result in noise impacts to residential or other public land uses due to the limited amount of time the construction activity would occur and distance to the nearest residence. Major construction activities would be limited to daylight hours. Additionally, noise from construction equipment would likely not be discernible from other background noise sources such as aircraft and roadway noise in most locations. Therefore, no significant noise impacts would occur with the implementation of the Proposed Action.

TABLE 5-3: CONSTRUCTION EQUIPMENT NOISE

CONSTRUCTION EQUIPMENT	TYPICAL MAXIMUM SOUND LEVEL (LMAX) IN DB(A) AT 50 FEET
Backhoe	78
Concrete Mixer Truck	79
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Paver	77
Pump	81
Pneumatic Tools	85
Rock Drill	81
Scraper	84

Source: Federal Highway Administration, *Construction Noise Handbook, 9.0 Construction Equipment Noise Levels and Ranges*. August 2006, Updated August 24, 2017 online at http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm, Accessed April 2, 2020.

5.12 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

5.12.1 Socioeconomics

The FAA has not established a significance threshold for socioeconomics; however, in general, the significance of socioeconomic impacts is determined by the magnitude and duration of the impacts, whether beneficial or adverse. Per FAA Order 1050.1F, potential impacts to consider include:

- inducing substantial economic growth,
- dividing or disrupting an established community,
- extensive relocation of housing when sufficient replacement housing is unavailable,
- extensive relocation of businesses that would cause economic hardship,
- disruption of local traffic patterns, or
- substantial loss of the community tax base.

No Action

The No Action alternative would not change any of the physical characteristics of the Airport and would have no impact on or off the Airport.

Proposed Action

Inducing Growth: The construction and implementation of the Proposed Action would not result in long-term economic growth for the area near the Airport. Temporary growth in economic activity from the creation of construction jobs is likely to occur during construction.

Disruption of Communities, Relocation of Residences, and Relocation of Businesses: The Proposed Action would not cause the relocation of housing, relocation of businesses, or the disruption of an established community. While the Proposed Action includes the demolition of Building 206 and the former Robert McGinn House, both structures are vacant and their demolition would not require any form of relocation. Therefore, no relocation of housing, relocation of businesses, or the disruption of an existing community would occur as a result of the Proposed Action.

Disruptions of Local Traffic Patterns: The Proposed Action includes the relocation of a 300-foot segment of Yorkmont Road north of West Boulevard that provides access to the South Cargo Area. The relocated roadway would maintain public access to the South Cargo Area. While temporary changes would occur to Yorkmont Road during the construction of the taxiway and service road bridges, traffic access would be maintained on this route through the implementation of control measures, such as temporary lanes and flaggers.

Temporary construction impacts could include increased commercial traffic, increased traffic congestion, increased travel distances, and increased travel times for drivers. However, a construction management plan would be prepared which, based on the selected contractor(s) haul plan, would specify hours of operation, haul routes, and similar controls. It is expected that such a plan would be consistent with normal contracting practices, because it is not likely that a contractor would schedule haul activities during extreme congestion periods or weather conditions because it could increase costs to the contractor and affect the schedule. Therefore, no significant changes in traffic patterns would occur as a result of the Proposed Action

Substantial Loss in Community Tax Base: The construction and implementation of the Proposed Action would not result in a substantial loss in community tax base. The Proposed Action has the potential to temporarily increase the community tax base.

In conclusion, no significant socioeconomic impacts would occur with the implementation of the Proposed Action.

5.12.2 Environmental Justice

A specific significance threshold for Environmental Justice has not been defined by the FAA. However, potential impacts would occur if disproportionately high environmental impacts in one or more environmental categories were to occur to minority or low-income populations. In addition, unique impacts to a minority or low-income population should also be considered even if there is no significant impact from other environmental categories.

No Action

Under the No Action alternative, no changes would occur that would cause impacts to minority or low-income populations.

Proposed Action

Under the Proposed Action, no significant or disproportionate impacts would occur to minority or low-income populations. The Proposed Action Site is located entirely on Airport property. An environmental justice population is located south of the Proposed Action Site north of Douglas Drive. However, the Proposed Action would not adversely impact minority and/or low-income populations because there are no significant impacts to other environmental impact categories. Therefore, no significant environmental justice impacts would occur from the Proposed Action.

5.12.3 Children's Health and Safety Risks

Executive Order 13045 directs Federal agencies to analyze their policies, programs, activities, and standards for any environmental health or safety risks that may disproportionately affect children. The FAA has not established a significance threshold for Children's Environmental Health and Safety Risks. However, per FAA Order 1050.1F, potential impacts from other environmental categories should be assessed to determine if they have the potential to lead to a disproportionate health or safety risk to children.

No Action

Under the No Action alternative, no changes would occur to create environmental health risks or safety risks for any persons, regardless of age.

Proposed Action

Implementation of the Proposed Action would not create environmental health risks or safety risks for any persons, regardless of age. Therefore, no potential or significant impacts to children's health and safety would occur with implementation of the Proposed Action.

5.13 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.

5.13.1 Light Emissions

No Action

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

Proposed Action

The potential lighting sources that could impact the closest residential area, which is located south of the Proposed Action Site north of Douglas Drive, would be airfield lighting for the deice pad and Taxiway F extension. The lighting would be located approximately one mile north of Douglas Drive and it would only illuminate the immediate area surrounding the deice pad and taxiway. Furthermore, the light would be shielded or directed at angles that would not 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. No significant increase in light intensity is expected to occur within residential areas due to parking facilities and Wilkinson Boulevard separating the proposed development from residences and the existing light emissions in the vicinity of the Proposed Action Site. Therefore, no significant impacts from light emissions would occur.

5.13.2 Visual Resources/Visual Character

No Action

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

Proposed Action

The Proposed Action would occur on sites surrounded by CLT property and visibility of these sites from residential areas would be limited. Therefore, the Proposed Action would not significantly alter the views from these areas and no significant visual impacts would occur.

5.14 WATER RESOURCES

In FAA Order 1050.1F, water resources include wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers, 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.

5.14.1 Wetlands

The U.S. Army Corps of Engineers (USACE) 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."

No Action

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

Proposed Action

As discussed in Chapter Four, the Proposed Action Site was delineated in 2019.[34] The Proposed Action would result in permanent impacts to approximately 4,435 linear feet of stream, consisting of 4,402.5 linear feet of perennial tributary and 32.5 linear feet of intermittent tributary. Additionally, the Proposed Action would result in permanent impacts to 0.14 acres of wetlands. See Appendix E, *Water Resources*, for more information.

Implementation of the Proposed Action would not result in significant impacts to wetlands and streams because compensatory mitigation will be provided. A detailed compensatory mitigation plan would be required to obtain the necessary authorizations to construct the Proposed Action. With implementation of a mitigation plan to compensate for the losses of wetland and streams resulting from the construction of the Proposed Action, the environmental impact of the Proposed Action would not be significant.

[34] HDR environmental scientists conducted field surveys throughout the Airport on April 29th – May 3rd, May 13th, May 14th, September 17th, and October 1st– 11th, 2019.

Coordination with the USACE and the City of Charlotte is underway to obtain a permit per the U.S. Clean Water Act (CWA) and identify mitigation requirements. All permit and mitigation conditions would be met; therefore, no significant impacts would occur to wetlands and streams. Section 5.14.5 outlines detailed mitigation measures for the impacts to the streams and wetlands.

In order for the USACE to issue a CWA permit, the proposed activity must comply with the CWA Section 404 (b) (1) Guidelines. As discussed in Chapter Three, *Alternatives*, the alternative sites do not meet the project purpose; therefore, they are considered not practicable. As no other alternative site was determined practicable, the Proposed Action is identified as the least environmentally damaging practicable alternative that meets the overall purpose of the proposed project. Implementation of the Proposed Action would meet the requirements of EO 11990, *Protection of Wetlands* and DOT Order 5660.1A, *Preservation of the Nation's Wetlands*, because there is no less environmentally damaging practicable alternative to constructing the proposed project than the Proposed Action.

5.14.2 Floodplains

Floodplains are defined by Executive Order 11988, Floodplain Management, as "the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year" (i.e., area inundated by a 100-year flood). U.S. DOT Order 5650.2 defines the values served by floodplains to include "natural moderation of floods, water quality maintenance, groundwater recharge, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, and forestry."

Executive Order 11988, Floodplain Management, directs Federal agencies to take actions to reduce the risk of flood loss, minimize flood impacts on human safety, health, and welfare and restore and preserve floodplain natural and beneficial values. According to FAA guidance contained in the FAA Order 1050.1F, encroachment upon a floodplain is considered significant if it would cause one or more of the following:

- A considerable probability of loss of human life;
- Likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility; or
- A notable adverse impact on natural and beneficial floodplain values.

No Action

Under the No Action alternative, no development would occur. Therefore, there would be no impacts to floodplains not already occurring or expected to occur.

Proposed Action

The Proposed Action would include development within the 100-year floodplain. As discussed in Chapter Two, *Purpose and Need*, and Chapter Three, *Alternatives*, no other alternative sites meet the project purpose. Therefore, it is not practicable to implement the Proposed Action without constructing in an area currently in the 100-year floodplain.

The Proposed Action would impact approximately 17 acres of a 100-year floodplain designated Zone AE through construction of the Deice Pad and detention pond.[35] However, these impacts would not be significant and would not result in: 1) a considerable probability of the loss of human life; 2) likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service or loss of vital transportation facility; or 3) a notable adverse impact on natural and beneficial floodplain values. Design measures considered to minimize floodplain encroachments include culverting Coffey Creek and construction of a detention basin downstream of the proposed deice pad.

Development within a FEMA regulated stream requires approval and possible FEMA flood map revisions governed by the State of North Carolina and Mecklenburg County. Discussions with Mecklenburg County confirmed that the planned improvements (both detention basin and upstream Coffey Creek culvert) are within a regulated floodplain requiring a new hydraulic model and revised mapping to be submitted to Mecklenburg County and subsequently to the State Floodplain Mapping Program for approval. A hydraulic model analysis was conducted in coordination with Mecklenburg County and the State Floodplain Mapping Program is ongoing. A Conditional Letter of Map Revision (CLOMR) would be submitted to the Federal Emergency Management Agency (FEMA) to demonstrate any modifications to the existing regulatory floodway, Base Flood Elevations (BFEs), or Special Flood Hazard Areas (SFHAs) that would be generated by the construction. After construction, a Letter of Map Revision (LOMR) would be submitted to FEMA to modify the Flood Insurance Rate Map (FIRM) or Flood Boundary and Floodway Map (FBFM), as applicable. Additionally, a Floodplain Development Permit would be required from the local Floodplain Administrator. Construction would not take place without approvals from both FEMA and from the Floodplain Administrator, satisfying both federal and local requirements.

Mecklenburg County will require the study area both upstream and downstream of the detention basin to be modeled and flood maps revised to show the effect with and without the detention basin embankment in place. The County will coordinate with State Floodplain Mapping officials as part of their review and approval. As such, it is anticipated that there would be no significant impact to floodplains due to the Proposed Action.

[35] Zone AE is an area inundated by the 1 percent annual chance flooding event.

5.14.3 Surface Waters

No Action

Under the No Action alternative, no development would occur and no additional impervious surface area would be created. Stormwater runoff would continue to occur from existing impervious surface areas and would be subject to the limits outlined in the existing NPDES permit.

Proposed Action

The construction and implementation of the Proposed Action would result in impacts to surface waters. A new detention basin is proposed for the development to provide post-construction stormwater quantity and quality control for stormwater runoff, in accordance with NCDEQ and City of Charlotte land development ordinances. The new detention basin would accommodate the increase in stormwater runoff due to the increase of approximately 46 acres in impervious surfaces. The amount of increase in impervious surface includes the new paved surfaces, including the deice pad, Taxiway F extension, south crossfield taxiway and service road, and Yorkmont Relocation.

The detention basin would be constructed to provide peak discharge control for the 2-year, 10-year, and 25-year events limiting the peak flow to pre-development conditions. Additionally, the attenuation of detention is designed to occur within 48 hours, in accordance with FAA requirements for glare and waterfowl attraction, both dangerous to aircraft operations. The detention basin is proposed in-line detention on Coffey Creek that will maintain baseflow conditions of Coffey Creek and associated tributaries. During storm events, the creeks would overtop their banks and flood the detention areas. The proposed detention basin would reflect the following additional design features and characteristics to comply with SD1 requirements for stormwater quantity control and quality control basins (dry extended detention basins), as well as FAA requirements for managing hazardous wildlife attractants.

Furthermore, BMPs will be incorporated into the construction of the Proposed Action. Contractors would be required to comply with all applicable Federal, state, and local laws and regulations, including FAA guidance contained in AC 150/5370-10H, *Standard Specifications for Construction of Airports*, including Item C-102, *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*. Additionally, the use of biodegradable and wildlife-friendly sediment and erosion control devices will be considered and utilized, if appropriate. As such, no significant impacts would occur to surface waters as a result of the implementation of the Proposed Action.

5.14.4 Groundwater

No Action

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

Proposed Action

The Proposed Action Site is in a well-developed area with public water available. As noted in Chapter Four, there are no drinking water wells or agricultural wells within the Proposed Action Site. 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 would occur.

5.14.5 Mitigation, Avoidance, and Minimization Measures

The City of Charlotte Aviation Department has initiated coordination for the anticipated compensatory mitigation. There are no private mitigation banks within HUC 03050103; therefore, compensatory mitigation for all permanent impacts will be ensured through purchase of stream and wetlands mitigation credits from either the City of Charlotte's Stream and Wetland Mitigation Bank or the North Carolina Division of Mitigation Services (DMS) In-Lieu Fee Program. The mitigation requirements for the Proposed Action are shown in **Table 5-4**.

TABLE 5-4: MITIGATION REQUIREMENTS FOR WETLAND AND STREAM IMPACTS

Waterbody	Type	Quality	Ratio	Amount	Proposed Credit
Wetlands	Wetland	High	2:1	0.14	0.75
Stream	Intermittent	High	2:1	32.5	65.0
Stream	Perennial	High	2:1	834.0	1,668.0
Stream	Perennial	Medium	1.75:1	41.5	72.6
Stream	Perennial	Low	1.5:1	913.0	1,369.5
Stream	Perennial	-	1:1	2,614.0	2,614.0
			Total Wetland	0.14	0.75
			Total Stream	4,435	5,789.1

Source: HDR to USACE, Preliminary Jurisdictional Determination Verification Request, November 1, 2019

Based on the conversations with the City of Charlotte's Stream and Wetland Mitigation Bank, credits are available for purchase. Formal, final USACE decision regarding compensatory mitigation amount has not yet been issued. Upon USACE approval of the proposed mitigation, the City of Charlotte will finalize negotiations.

As previously discussed, stormwater facilities would meet all applicable state and local regulations and stormwater discharges would comply with the existing NPDES permit. BMPs will be incorporated into the construction of the Proposed Action, including those identified in the Airport's SWPPP. Contractors would be required to comply with all applicable Federal, state, and local laws and regulations, including FAA guidance contained in AC 150/5370-10H, *Standard Specifications for Construction of Airports*, including Item C-102, *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*. Additionally, the use of biodegradable and wildlife-friendly sediment and erosion

control devices will be considered and utilized, if appropriate. Furthermore, the Airport is subject to the Surface Water Improvement and Management buffers, Water Supply Watershed Buffers, and Post-Construction Buffers as administered and reviewed by the City of Charlotte. Buffer disturbance would be approved and mitigated appropriately, as needed.

5.15 CUMULATIVE IMPACTS

The CEQ NEPA regulations (40 C.F.R. 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 from 2021 through 2023, which would overlap with several other projects at CLT. With the exception of temporary construction-related impacts, the cumulative environmental impact of the Proposed Action is expected to be minimal. Extensive preventive procedures would be put into place to avoid and minimize any potential adverse impacts during construction. As described in the following sections, the Proposed Action is consistent with the overall planning mission of the City of Charlotte and would not result in adverse cumulative impacts.

5.15.1 Past Projects

Past projects are actions that occurred in the past five years and may warrant consideration in determining the environmental impacts of an action. Past projects at the Airport include property acquisition and demolition, taxiway rehabilitations, terminal expansions, and parking lot expansions.

5.15.2 Present Projects

Present projects are any other actions that are occurring in the same general time frame as the Proposed Action. The following projects are currently under construction or construction is planned to begin in 2021.

<u>On-Airport Projects</u>

- Central Energy Plant – This project will construct a single-story 89,600 square foot Central Energy Plant on CLT property on a portion of the existing Daily North Parking Lot. The project is scheduled to be completed by August 2021.

- Concourse A Phase II – This project includes the construction of one new concourse to the north of the second Concourse A pier to accommodate existing and short-term demand and the paving of apron to the north of the new Concourse A pier. This project is scheduled to begin April 2020 with a duration of 26 months.

– Replacement of the Joint Sealant of Runway 18C/36C and Associated Taxiway E Connectors – This project includes the replacement of the concrete pavement to include joint sealant on Runway 18C/36C and associated Taxiway E connectors. This project will begin July 2020 and be completed by January 2021.

Potential impacts from the aforementioned projects include an increase in stormwater run-off due to an increase in impervious surfaces, an increase in solid waste, and temporary construction impacts.

Off-Airport Projects

– North Bridge Over Interstate 85 – This project will construct a bridge over Interstate 85 that will connect Research Drive to J.W. Clay Boulevard to accommodate motorists, bicyclists, pedestrians, and public transit users.

– Morris Field Drive Bridge Replacement – This project will replace a bridge on Morris Field Drive that spans the Norfolk southern railroad tracks. The bridge, which has reached the end of its functional life, will be replaced with a structure that will handle cars as well as pedestrians.

– Catawba Avenue Improvements – This project will improve congestion on Catawba Avenue from Furr Road (N.C. 73) north to Jetton Road in Mecklenburg County. The project will improve connections between Cornelius and Huntersville, improve route to I-77 that enhances regional travel options, additional lanes on Catawba Avenue from N.C. 73 to Jetton Road, and enhance safety for all types of travel (driving, public transit, walking, and bicycling).

– East John Street/Old Monroe Road Widening – This project will widen approximately 6.5 miles of East John Street and Old Monroe Road from Trade Street to Wesley Chapel-Stouts Road. Proposed work would improve traffic flow, reduce travel delays, and allow for more vehicles to travel in the area. Bicyclists and pedestrians would also have accommodations along the project corridor.

5.15.3 Reasonably Foreseeable Future Projects

Reasonably foreseeable future projects are actions that may affect projected impacts of a Proposed Action and are not remote or speculative.

– Capacity Enhancing Projects (Fourth Parallel Runway, Terminal Development, Support Facilities) – The City of Charlotte Aviation Department prepared an Airport Capacity Enhancement Plan (ACEP). The study identified long-term recommendations to improve the existing airfield, terminal, and support facilities to address deficiencies and meet forecasted demand, including the following major elements:

  - Construct 10,000-foot Fourth Parallel Runway 01/19 (including a partial north End-Around Taxiway (EAT) and a full south EAT)

  - Concourse B Expansion and Associated Ramp Expansion

- Concourse C Expansion and Associated Ramp Expansion

– Runway 18C/36C North End Around Taxiway, Hold Pads, and Associated Facilities – The City of Charlotte Aviation Department is proposing to provide a safe means of movement around runways to minimize runway crossings. This project includes the construction of an end-around taxiway on the north end of Runway 18C/36C, two hold pads, and associated facilities.

Potential environmental impacts are unknown. However, for purposes of disclosing potential cumulative impacts it is assumed these projects would result in an increase in impervious surface at the Airport, which would increase stormwater runoff. In addition, it is assumed this project would require removal of solid waste.

5.15.4 Cumulative Impacts by Environmental Category

Even when impacts are determined to be individually insignificant, the impacts can be collectively significant when taking place over a period of time. Therefore, the cumulative effects of environmental impacts were considered only for those categories determined to have impacts due to the Proposed Action.

5.15.4.1 AIR QUALITY

The Proposed Action would cause a temporary change in the net emissions due to the operation of construction equipment (see Appendix B, *Air Quality*). However, the emissions were shown to be *de minimis* under the Clean Air Act (as amended in 1990) General Conformity Rule. Furthermore, the *de minimis* emissions are assumed to comply with the SIP and are not expected to cause an exceedance of any of the National Ambient Air Quality Standards (NAAQS), delay the attainment of any NAAQS, or worsen an existing violation of any NAAQS.

Overall, the Proposed Action and other development projects are expected to improve air quality as a result of improved aircraft circulation on the aprons and increased operating efficiency. The other projects recently completed, under construction, or planned in the foreseeable future at the Airport, also have *de minimis* emissions. Therefore, no cumulative adverse air quality impacts are anticipated from the Proposed Action.

5.15.4.2 CLIMATE

The cumulative impact of this Proposed Action on the global climate when added to other past, present, and reasonably foreseeable future actions is not currently scientifically predictable. Aviation has been calculated to contribute approximately 3 percent of global carbon dioxide (CO_2) emissions; this contribution may grow to 5 percent by 2050. Actions are underway within the U.S. and by other nations to reduce aviation's contribution through such measures as new aircraft technologies to reduce emissions and improve fuel efficiency, renewable alternative fuels with lower carbon footprints, more efficient air traffic management, market-based measures and environmental regulations including an aircraft CO_2 standard.

5.15.4.3 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

The Proposed Action would not increase the quantity of hazardous materials present in the environment or exacerbate existing contamination. Based on the list of recent, ongoing, and future projects, there does not appear to be other projects that, when combined with the Proposed Action, would result in significant adverse cumulative impacts from hazardous materials. Therefore, the Proposed Action would not contribute to any cumulative impacts from future actions with respect to hazardous materials.

Solid waste would be generated from the Proposed Action in the form of soil resulting from the construction of the Proposed Action. Building materials and debris would be recycled to the greatest extent feasible. Materials that cannot be recycled would be disposed of in accordance with all Federal, state, and local regulations. There is sufficient disposal capacity in the area to handle the waste load. None of the other projects would result in significant amounts of solid waste. Therefore, the Proposed Action would not contribute to any cumulative impacts from future actions with respect to solid waste.

5.15.4.4 SURFACE AND GROUND WATER

The Proposed Action would increase the amount of impervious surfaces at the Airport. The other past, present, and future projects have the potential to increase stormwater runoff due to an increase in impervious surfaces. However, it is anticipated that any direct or cumulative impacts to surface water or groundwater quality resulting from these projects would be negligible, as it would be mandatory for all projects to comply with existing and future water quality permit requirements and regulations. In addition, CLT has prepared a Storm Water Master Plan to manage the impacts of runoff as a result of new development and redevelopment. Therefore, impacts to water quality, when combined with other past, present, and reasonably foreseeable future actions are not expected to cause significant impacts to water quality.

5.15.5 Summary of Cumulative Impacts

No potentially significant cumulative impacts are expected to result from implementation of the Proposed Action. It is unlikely that the incremental impact of the Proposed Action would cause or contribute to a significant impact on the environment when added to past, on-going, or reasonably foreseeable future projects or actions regardless of which Agency or person undertakes those actions. The Proposed Action is not expected to cause or contribute to a significant cumulative impact on the environment when considered with other past, present or future actions regardless of what agency or person undertakes such other actions.

6 PUBLIC INVOLVEMENT

To satisfy requirements for public involvement, an advertisement announcing the availability of the Draft EA was published in the Charlotte Observer on April 10, 2020. The advertisement informed the public on how to obtain a copy of the Draft EA, the public comment period, and how to submit a comment on the Draft EA. A copy of this notice is provided in **Appendix A, *Agency and Public Involvement***. Also provided in Appendix A are agency comments on the Draft EA. No public comments were received during the comment period (April 10, 2020 through May 11, 2020).

The Draft EA was made available for review online at the following website:

https://www.airportprojects.net/clt-deice-pad-ea/

In addition, the following agencies listed were sent a notice of the Draft EA availability for review via email.

Mr. David Shaeffer
U.S. Army Corps of Engineers:
Asheville Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801

Mr. Byron Hamstead
U.S. Fish and Wildlife Service
Asheville Field Office
160 Zillicoa Street, Suite B
Asheville, NC 28801

Ms. Renee Gledhill-Earley
North Carolina State Historic Preservation Office
109 East Jones St, MSC 4617
Raleigh, NC 27699

Ms. Crystal Best
North Carolina State Environmental Review Clearinghouse
1301 Mail Service Center,
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7 LIST OF PREPARERS

7.1 Federal Aviation Administration

Tommy Dupree, Assistant ADO Manager, provided input on the Environmental Assessment.

Tim Alexander, Environmental Protection Specialist, provided input throughout the process and responsible for the review of the Environmental Assessment.

7.2 Charlotte Douglas International Airport

Amber Leathers, C.M., A.A.E., Planning & Environmental Manager, provided input and Airport information throughout the process and responsible for managing and review of the Environmental Assessment.

7.3 Landrum & Brown

Sarah Potter, Associate Vice President, responsible for project management, technical input, and principal author of the Environmental Assessment.

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

Gaby Elizondo, AICP, Consultant, assisted with the preparation of the Environmental Assessment.

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