GREATER ASHEVILLE REGIONAL AIRPORT AUTHORITY
NOTICE OF AVAILABILITY and REQUEST FOR COMMENT

DRAFT Focused Environmental Assessment
Passenger Terminal Building Expansion & Air Traffic Control Tower Relocation
Asheville Regional Airport, North Carolina

In accordance with the National Environmental Policy Act (NEPA), NOTICE IS HEREBY GIVEN that copies of a Draft Focused Environmental Assessment (EA) for the Passenger Terminal Building Expansion and Air Traffic Control Tower Relocation at Asheville Regional Airport are available for public review and comment.

The Draft Focused EA identifies the proposed action, project alternatives, and presents an evaluation of potential environmental impacts. The Draft Focused EA can be viewed and downloaded from the Airport's website, at www.flyavl.com. Copies of the Draft Focused EA can also be reviewed during regular business hours between 9:00AM and 3:00PM EDT Monday through Friday at the following location:

Greater Asheville Regional Airport Authority
2nd Floor Terminal Building
61 Terminal Drive, Ste 1
Fletcher, NC 28732

Or an electronic version is available upon request using the below contact.

Members of the public may issue comments on the Draft Focused EA within 30 days of this notice or request a public hearing within 15 days of this notice. Comments or request for a hearing should be addressed to the following:

Jared Merrill
Planning Manager
Greater Asheville Regional Airport Authority
61 Terminal Drive, Suite 1
Fletcher, NC 28732

Or emailed to airportea@flyavl.com.

Focused Environmental Assessment

FEDERAL AVIATION ADMINISTRATION
MEMPHIS AIRPORTS DISTRICT OFFICE

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF AVIATION

Airport Name: Asheville Regional Airport
Proposed Project: Passenger Terminal Building Expansion & Air Traffic Control Tower Relocation
Date Submitted to FAA/SBG: _____

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

_____ _____
Responsible FAA/SBG Official Date

General Information and applicability

This Focused Environmental Assessment (EA) is to be used only for federally obligated airports within the boundaries of the Federal Aviation Administration (FAA) Memphis Airports District Office (KY, NC, and TN). Prior to preparing any NEPA documentation, including this form, contact the MEM-ADO/SBG Environmental Protection Specialist or designated staff responsible for NEPA compliance for the subject airport to determine the level of documentation needed. Completed documentation without prior FAA/SBG concurrence may result in approval delays or rejection of NEPA documentation.

The Focused EA is intended to be used only when the following conditions are met: (1) the federal action cannot be categorically excluded (CATEX) because of involvement with extraordinary circumstances or because the action is not consistent with any CATEX described in FAA Orders 1050.1F or 5050.4B (or subsequent versions), (2) impacts from the federal action would be limited to one extraordinary circumstance, (3) the federal action would not create significant impacts to any environmental category unless it is mitigated to the point of non-significance, (4) the action is not considered controversial. Note that in certain cases the FAA/SBG may elect to prepare a full EA even if these conditions appear to be met.

Steps for completing Focused EA

This Focused EA is intended to comply with FAA requirements for satisfying NEPA. The preparer should be familiar with NEPA, CEQ, and FAA laws, requirements, and policies, including, but not limited to, FAA Orders 1050.1F and 5050.4B (or subsequent versions).

The Focused EA is formatted into three sections. Section I covers general information on the proposed action as well as information and certification from the preparer and airport sponsor. Section II addresses the purpose and need statement and alternatives. Section III covers affected environment and environmental consequences. All sections must be addressed for the form to be considered complete. The level of information needed to address each section is dependent upon the project and extent of impacts. However, for Section III, responses should provide enough information to allow the reviewer(s) to conclude there is no impact or no significant impact. A graphic depiction of the proposed action must be attached to the form. The use of additional graphics, pictures of the study area, and appendices is recommended and may be required pending upon the proposed action and environmental impacts.

As previously mentioned, Section III addresses the affected environment and environmental consequences. If the proposed action does not impact a particular resource, provide a brief explanation for why there is no impact. If the proposed action does impact a resource, describe the affected environment for the resource before discussing environmental consequences. For all resources, consider impacts caused by construction and post-construction activities. Also consider direct and indirect impacts. Cumulative impacts must be addressed in Section III (O).

Helpful factors that should be considered as part of the assessment and internet websites are listed below each resource section. The factors to be considered and websites provided are not intended to be a comprehensive list. Additional factors and sources should be reviewed as needed. Consultation with resource agencies, field analysis, or computer modeling may be required to aid the FAA/SBG in determining the extent of impacts. The preparer should contact the MEM-

ADO/SBG representative to determine the level of agency coordination, field analysis, and modeling needed.

Although multiple variations exist for adequately completing the NEPA process, the MEM-ADO recommends following the generalized steps below for Short-Form EAs:

1. Finalize planning process
2. Conduct preliminary environmental analysis
3. Obtain concurrence from MEM-ADO/SBG on use of this form
4. Conduct agency scoping, field analysis, and modeling as needed
5. Complete draft short form EA
6. Submit draft EA to MEM-ADO/SBG
7. Revise draft EA as needed
8. Obtain concurrence from MEM-ADO/SBG to initiate public involvement
9. Make draft EA available to public and issue public notice
10. Hold public meeting (if required)
11. Revise draft EA as needed
12. Submit final draft EA to MEM-ADO/SBG
13. Receive FONSI
14. Issue public notice for availability of final EA and FONSI

Completion of the Focused EA will permit the FAA/SBG to issue one of the following determinations: (1) issue a Finding of No Significant Impact (FONSI), (2) request that a full EA be prepared, (3) request that an Environmental Impact Statement (EIS) be prepared.

TABLE OF CONTENTS

LIST OF APPENDICES

Section I

1. Airport and Project Information:
Airport Name and Three Letter Identifier: Asheville Regional Airport (AVL)
Airport Address: 61 Terminal Drive, Suite 1
City: Fletcher County: Buncombe State: NC
Project Name: Passenger Terminal Building Expansion & Air Traffic Control Tower Relocation
Estimated Start Date: October 2021 Estimated Completion Date: February 2025

2. Preparer Information:
Name: Nicole Frazer
Title: Senior Scientist
Organization: CHA
Address: III Winners Circle
City: Albany State: NY
Telephone: 518-453-8211
E-mail: nfrazer@chacompanies.com

Preparer Certification
I certify that the information I have provided in this document is, to the best of my knowledge, correct.

Signature

8/31/20
Date

3. Airport Sponsor Information:
Name: Michael A. Reisman
Title: Deputy Executive Director
Organization: Asheville Regional Airport
Address: 61 Terminal Drive, Suite 1
City: Fletcher State: NC
Telephone: 828-684-2226 x3253
E-mail: mreisman@flyavl.com

Airport Sponsor Certification
I certify that the information I have provided in this document is, to the best of my knowledge, correct. I also recognize and agree that no construction activity, including but not limited to site preparation, demolition, or land disturbance, shall proceed until the FAA/SBG issues a final environmental decision for the proposed action described in this document.

M. A. Reisman
Signature

8-31-2020
Date

Section II

1. Provide purpose and need statement.

The Asheville Regional Airport Master Plan Update (2013), identified the need for additional terminal building area to meet the demands of tenants and passengers. Since 2013, activity has continued to grow. The most recent FAA Terminal Area Forecast (TAF), released January 2020, included a 2019 forecast for airport operations of 71,070. However, based on recent FAA ATADS data, AVL experienced 75,184 total 2019 operations, or 4,114 operations more than the TAF indicated. The resulting recorded growth rate in 2019 was an unprecedented 42%. The TAF also anticipated continued strong growth at AVL of approximately 5% annually through 2025 (forecasts were prepared prior to the COVID-19 crisis).

To accommodate higher activity Airport Master Plan specifically recommended that "the size and configuration of the terminal area including the terminal building, boarding gates, aircraft parking positions, and apron, be able to accommodate the fleet mix of commercial aircraft types during periods of peak demand. A review of the existing terminal area found that additional aircraft parking positions, boarding gates, and expansion of the terminal building may be necessary to accommodate future demand throughout the planning period. It is anticipated that the Airport will need additional aircraft parking positions on the terminal apron, one to three boarding bridges with holding rooms, and substantial additional area in the terminal building by 2030 in order to meet the projected increase in commercial airline passenger demand."

The Proposed Action is intended to accommodate the recent and forecast growth in enplanements and operations.

The Asheville Regional Airport (AVL) terminal building was designed in the later 1950's and opened for business in 1961 with 25,000 square feet (SF). Over the years, the structure had multiple additions constructed and several interior remodels. Today, the structure is 116,430 SF. As the structure was expanded, much of its core infrastructure remained unchanged. Over the years, the building systems have experienced ongoing problems and require replacement in order to accommodate the existing use and future growth of the Airport. The terminal facility is operating on old utility infrastructure in dire need of replacement before failure occurs. Old terracotta pipes are still in use for sewer lines and electric/telephone wiring requires updating.

AVL completed a Terminal Building Assessment Study in June 2018. That study included an architectural assessment, as well as engineering evaluation of the water system, sanitary sewer system, electrical, fire protection and plumbing systems and mechanical. The study noted the following:

- Some roof areas are in poor condition. There are areas that leak and others that have the potential to leak. Some spots have visible areas of standing water that have degraded the roof membrane.
- The sealant of many windows is generally in poor condition. The sealant has failed at the head of the clerestory window.

- There was observed age and loss of elasticity of the terminal doors. Some landside entry doors should be wider to promote better passenger circulation and the depth of the entry vestibule along the curbside is not sufficient to allow the first door to close before the next opens negating the potential energy savings.
- Some accessibility and safety issues require improvement.
- The original water distribution system is nearing the end of its useful life. With a least one section leaking.
- The sanitary sewer has had instances of system failure. A section of 6" sanitary waste pipe from the point where it routes down from the second floor, through Storage Room N1-147, and to the point where it exits the building foundation wall in the basement has been recommended for replacement.
- The electrical system has been kept up-to-date or at least at peak operational capacity. There are some older panelboards that have reached their useful life. The fire alarm system is functioning, but concerns were noted. The Access Control System appeared to be in fairly good condition and well maintained.
- For the telecommunications systems, power reliability is a concern. Several telecommunication rooms did not have ground bars and conduit pathways between floors and between main distribution frame (MDF) and Intermediate Distribution Frames (IDF) were found to be full or limited. There are no access points to the roof for future cabling.
- The FAA tower third floor, fourth floor and tower cab do not have an automatic sprinkler system.
- The mechanical assessment recommended the replacement of packaged rooftop units and split system units due to service age. The chilled water and boiler systems serving the landside terminal and Gates 4-7 should be replaced due to service age and condition of the heating, ventilation and air conditioning (HVAC) equipment.

Overall, the existing terminal building has aged and needs infrastructure updates before failures occur. These improvements are needed for existing activity as well as to accommodate growth.

The 2018 Terminal Building Assessment Study also evaluated the capacity of the current passenger terminal building through a forecast of commercial aviation demand, space utilization and operational characteristics. The study included conceptual planning options for building expansion. Terminal building deficiencies include:

- Security- Transportation Security Administration (TSA) offices are not contiguous.
- Circulation- Inefficient, non-intuitive wayfinding, ticketing queuing depth insufficient.
- Concessions-Insufficient airside, no receiving area.
- Hold rooms- Split into two separate areas.
- Checked Baggage Inspection System (CBIS)- Consolidate outbound screening, reduce secure openings.
- Administration-Insufficient space for growth.

Based on the planning and programming conducted in the Terminal Building Assessment Study, it was determined that the existing AVL passenger terminal facility is currently well undersized to meet the existing demand. This deficiency will continue to grow as demand increases in the future.

Specifically, the existing terminal building covers just over 113,000 SF on two levels. Based on the sizing analysis conducted in this study, the size of AVL's terminal building needs to be expanded to cover an area of over 221,000 SF on two levels in the short term. The ultimate size requirements of the two-level terminal building is projected to be 275,000 SF with 12 contact gates. The existing building needs to be nearly twice as large as currently provided to effectively handle the demand in the near term. The ultimate size of the building requirement is 2 ½ times larger than the existing building to accommodate the anticipated airline passenger activity, tenants, and airport staff.

The airport activity level and forecasts were reviewed and updated as part of this study and have been approved by the FAA. The forecast details are included a memo to FAA dated March 23, 2020 (Appendix F) and the noise analysis (Appendix F). The activity projection utilized the FAA Terminal Area Forecast (TAF) growth, updated for 2019 activity levels. The forecast was built out over a five-year period from the base year (through 2025) and is summarized below.

Activity Forecast for EA		
Year	Airline Operations	Total Operations
2019	21,160	75,184
2025	25,049	77,780
Change	18%	4%

The Air Traffic Control Tower (ATCT) dates back to 1959 and it is one of the oldest operating FAA towers in the U.S. Based on its location integrated and on top of the existing terminal building, it must be relocated in order to accommodate the terminal building development needs. It is impractical to retain the current ATCT for logistical, safety and security reasons. It is FAA standard practice to separate the ATCT from passenger processing facilities, which is included in this EA.

2. Describe the preferred alternative and include all connected actions. Attach a graphic depiction of the proposed action, including haul routes and staging areas if applicable, to the back of this form or in an appendix.

Terminal Expansion

The Greater Asheville Regional Airport Authority (GARAA) plans to redevelop and expand the airport passenger terminal on the site of the current facility. The project area is primarily contained within the location of the existing terminal building. The terminal project area does not contain new development area since it has already been graded and paved as a result of the existing terminal. Refer to Figures 1 and 2 (Appendix A) for further details. The terminal expansion will generally include the following:

- Expanding the current terminal footprint of 110,100 SF to approximately 162,800 SF (Figure 3- Appendix A). The expansion including the second floor would provide a total of 275,000 SF for floor area. The expansion will generally add to the north and south of the existing terminal. The obstacles to northward expansion include the new Aircraft Rescue and Fire Fighting (ARFF) Station/Public Safety Building, the existing Fixed Base Operator (FBO) Hangars, new taxiway entrances and travel distance. Obstacles to southward expansion include the airfield lighting vault, steep grade/backfill south of existing apron, relocation of parking lot, and alignment of taxiway entrances
- Future terminal building height would be approximately 50 feet.
- Total project cost is expected to be approximately $150,000,000 to $200,000,000.
- Construction will be phased, with a total duration of approximately 3 years.
- A new second level security screening checkpoint will allow for future growth and adaptability to evolving security needs.
- An expanded ticket lobby will provide space to accommodate new carriers and emerging technology and check-in procedures.
- An enhanced curbside and entrance facade will be part of the integrated overall aesthetic to the site.
- Expanded administrative office area.
- An expanded baggage claim hall sized to meet the intended fleet mix and provide the necessary airline and airport support space.
- The consolidation of four individual baggage inspection rooms into a single checked baggage inspection system with supporting baggage makeup areas for outbound baggage.
- A new second level boarding concourse with expanded hold rooms supporting the projected fleet mix and new amenities such as expanded restrooms and new passenger boarding bridges.
- Additional area for amenities such as concessions, retail and common use club.
- A dedicated loading dock for airport deliveries and supplemented by additional storage space.
- Expansion from 7 to 12 operational gates.
- Access will be via the existing roads; no road relocation will be necessary.
- Passenger curbside will remain in the current location but improved and expanded for peak daily activity.

The construction vehicle access route and staging areas are shown on Figure 4 (Appendix A) and rely on existing developed areas.

Central Energy Plant (CEP)
A CEP is proposed to support the growing power needs while providing expandability and redundancy. The CEP will include a small separate building in proximity to the terminal. Work at the CEP would include a small parking lot and utility connections. The preferred alternative for the CEP is 3a. CEP Site 3a is located to the north end of the existing terminal, to the east of the DPS Building. Infrastructure is present. Site 3a is preferred because it is the closest to the terminal building, would not require building demolition, and has been previously disturbed.

Air Traffic Control Tower (ATCT)
The preferred alternative for the ATCT is Site 6. Site 6 is located on the west side of the runway, across from the existing terminal on the western edge of the airport boundary. Currently, there are no ramps or movement areas on this side of the airport that would require look down visibility. A west side field location is preferred by the controllers because it provides a better view of the airport surrounding and minimizes sun glare.

Most of the site has been previously disturbed by runway work and a borrow pit associated with the Runway Reconstruction and New Parallel Taxiway (EA 2011) project. An existing service road and a small forested area are also within the project area. The work at Site 6 generally includes a 10,000 SF building, tower, parking and access. Approximately 0.37 acres of tree cutting would be required (approximately 0.3 acres of this would be off airport property) and utilities and infrastructure would extend from the existing utilities and infrastructure to the southwest. Refer to Appendix A- Figure 1 for further details.

Site 6 has an excellent line of sight, is in the primary location to observe activity and has good views of the surrounding area. Additionally, this site has the best view of the terminal ramp area and the ranges to the runway ends are very familiar since this site is across from the existing ATCT. Since the site is on the west side of the runway, it has a better chance of providing visibility of all movement and non-movement areas. The existing ATCT would be in use during construction of the new ATCT, and construction will not block traffic visibility from the existing ATCT. Site 6 is an improvement over the current situation and would have no impact on the terminal design.

The alternatives discussed above for the terminal building, ATCT and CEP meet the purpose and need for the project and have been selected as the preferred alternative.

3. Describe the no action alternative including the environmental, operational, and economic impacts that would occur if used.

The No Action Alternative assumes that no passenger terminal building expansion would occur and that the conditions would stay as they are currently. Without expanding the terminal, the ATCT would not need to be relocated and a CEP would not be needed. This alternative does not meet the purpose and need for the project as it does not adequately accommodate existing or future airport passenger activity, however, it has been included in the EA as per National Environmental Policy Act (NEPA) and Federal Aviation Administration (FAA) Order 1050.1F.

4. List and describe other reasonable alternatives.

Impacts from the preferred alternatives as well as the other reasonable alternatives identified below have been evaluated in this document.

ATCT Site 2A
Site 2A is located on the west side of the runway, to the northwest of the existing terminal. Work generally includes a 10,000 SF building, tower, parking and access. The area consists of area disturbed by a borrow pit used for the Runway Reconstruction and New Parallel Taxiway (EA 2011) project, existing service road and forest. No infrastructure is present. Approximately 1.55 acres of tree cutting would be needed (approximately 0.69 acres of this would be off airport property).

ATCT Site 2A would not impact the terminal design and would have a good view from the west and fair visibility of the ramp. Sun streaks are not an issue with this location. Since the site is on the west side of the runway, it has a better chance of providing visibility of all movement and non-movement areas.

The existing ATCT would be in use during construction of the new ATCT. While under construction, since this site is on the west side of the airport, it should not block traffic visibility from the existing ATCT. ATCT construction sites farther from the existing ATCT will have less impact on visibility than sites closer to the existing ATCT.

There is no existing infrastructure at this site, and it is not an improvement over the current ATCT location. Additionally, the primary use Runway 35 arrival area is further away from this site than the current ATCT. This alternative is less favorable that Site 6. Therefore, it was not selected as the preferred alternative.

ATCT Site 10
Site 10 is located on the east side of the runway, to the north of the existing terminal, and infrastructure is presently available. Work generally includes a 10,000 SF building, tower, parking and access. The area is disturbed by existing airport facilities and consists of asphalt and mowed area. No tree cutting would be needed.

ATCT Site 10 has a good view of the movement areas and of Runway 17. The sun is an issue when it is setting, so this site would not be an improvement over the current situation. Visibility of the terminal is adequate; however, larger airline jets may partly block the view of smaller aircraft on the apron.

The distance from the existing ATCT to ATCT Site 10 is approximately 1,800 ft. At that distance a 300-foot-wide construction site would block about 9.5º of the total 360º of horizontal visibility from the ATCT.

This alternative is less favorable that the other two locations. Therefore, it was not selected as the preferred alternative.

5. Provide rationale for why other reasonable alternatives were removed from consideration.

Two potential CEP sites, Site 2a and Site 6b were removed from consideration, as they do not meet the purpose and need. A brief summary of these locations is provided below.

CEP Site 2a
CEP Site 2a is located to the north of the existing terminal and east of the Aircraft Rescue and Fire Fighting (ARFF), at the location of the airport operations building. Work at the CEP would include a building, parking and utility connections. Infrastructure is present. The area consists of the existing building, pavement and maintained lawn. The existing building would need to be demolished for the construction of the CEP. The functions of the operations building would most likely be moved to the expanded administrative office area in the new terminal.

This alternative is not the closest alternative to the terminal and would require the demolition of a building and relocation of those offices, therefore, it was eliminated from further consideration.

CEP Site 6b
Site 6b is located the south of the existing terminal in an area between existing roads that consist of maintained lawn and scattered trees. Site 6b would impact undeveloped land and is not the closest alternative to the terminal, therefore, it was removed from further consideration.

Section III

(A) Air Quality

Factors to consider: (1) Impacts from aircraft, ground vehicle, and equipment emissions (2) Project location with respect to NAAQS attainment/maintenance/non-attainment areas. (3) Modeling requirements

Note: Impacts should be discussed for any action involving outside construction.

Resources:

(1) FAA 5050.4B Desk Reference air quality section: http://www.faa.gov/airports/environmental/environmental_desk_ref/media/desk-ref-chap1.pdf

(2) EPA Greenbook: http://www3.epa.gov/airquality/greenbook/

Preferred Alternatives/Reasonable Alternatives

The airport is located primarily in Buncombe County. Portions of the airport property are in Henderson County. Based on review of the Environmental Protection Agency (EPA) Green Book, both Buncombe and Henderson counties are in attainment for all National Ambient Air Quality Standards (NAAQS). As a result, General Conformity is not applicable to the project.

An emissions inventory was prepared pursuant to the FAA Aviation Emissions and Air Quality Handbook to estimate the change in emissions as a result of the project. Due to changes in the aircraft fleet mix, improved vehicle technology, and increased use of ground power units (GPU) and preconditioned air (PCA), emissions of some contaminants are estimated to decrease. For the purposes of the air quality analysis, peak operational and construction emissions were conservatively assumed to occur in the same year. Although General Conformity is not applicable, the *de minimis* thresholds under 40 CFR 93, Subpart B are used to assess the potential impacts from the project. The estimated emissions and *de minimis* thresholds are shown below.

Contaminant	NO_X	CO	VOC	SO_2	PM	CO_2
Operation Emissions (tons/yr)	13.5	28.9	-0.5	0.9	0.4	14,084
Construction Emissions (tons/yr)	62.7	33.6	19.2	0.3	4.5	51,635
Total (tons/yr)	76.2	62.5	18.7	1.2	4.9	65,719
Exemption Threshold (tons/yr)	100	100	50	100	100	N/A

NO_X: nitrogen oxides; CO: carbon monoxide; VOC: volatile organic compounds; SO_2: sulfur dioxide; PM: particulate matter; CO_2: carbon dioxide

Estimated emissions are below the *de minimis* thresholds and can be assumed to have no significant impact. The detailed emission estimate is in Appendix B.

No Action Alternative

The No Action Alternative will have no impact on air quality.

(B) Biological Resources

Factors to consider: (1) Impacts to federal and state-listed species (2) Impacts to non-listed species and migratory birds (3) Impacts to habitat

Note: Impacts should be discussed for any action involving terrain/vegetation disturbance.

Resources:

(1) USFWS IPAC: http://ecos.fws.gov/ipac/
(2) KY state list http://naturepreserves.ky.gov/pubs/Pages/cntyreport.aspx
(3) NC state list http://www.ncnhp.org/
(4) TN state list: http://environment-online.state.tn.us:8080/pls/enf_reports/f?p=9014:3:25305085995908:::::

Preferred Alternatives/Reasonable Alternatives
The project would take place on airport property, with most of the impact area on previously disturbed ground. Refer to Appendix D for an aerial of the project areas. The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) website was reviewed and the North Carolina (NC) Natural Heritage Program (NHP) was contacted to identify the potential presence of federal and state listed threatened and endangered species and critical habitats that may be potentially impacted by the project.

The IPaC (Appendix C) indicated that the following species may occur within the project areas or may be affected by the Proposed Action:

- Carolina Northern Flying Squirrel (*Glaucomys sabrinus coloratus*), endangered
- Gray Bat (*Myotis grisescens*), endangered
- Northern Long-eared Bat (*Myotis septentrionalis*), threatened
- Bog Turtle (*Clemmys muhlenbergii*), Similarity of Appearance (threatened)
- Appalachian Elktoe (*Alasmidonta raveneliana*), endangered
- Spruce-fir Moss Spider (*Microhexura montivaga*), endangered
- Blue Ridge Goldenrod (*Solidago spithamaea*), threatened
- Bunched Arrowhead (*Sagittaria fasciculata*), endangered
- Mountain Sweet Pitcher-plant (Sarracenia rubra ssp. Jonesii), endangered
- Small Whorled Pogonia (*Isotria medeoloides*), threatened
- Spreading Avens (*Geum radiatum*), endangered
- Swamp Pink (*Helonias bullata)*, threatened
- Virginia Spiraea (*Spiraea virginiana*), threatened
- White Irisette (*Sisyrinchium dichotomum*), endangered
- Rock Gnome Lichen (*Gymnoderma lineare*), endangered

No critical habitats were identified within the project areas.

The NHP response dated May 14, 2020, indicates that there are no records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the project area (Appendix C). The NHP did provide a list of potential occurrences of rare species and natural comminutes within a one-mile radius of the project area.

Edwards-Pitman Environmental, Inc. completed a Protected Species Survey and Habitat Assessment dated June 2020 (Appendix C). The report covers the ATCT sites, CEP sites, utility corridor and staging areas and includes a determination regarding the presence, absence or potential for each of the listed species to occur within the project areas.

Since the terminal expansion area is primarily contained within the location of the existing terminal building and paved areas no listed species or their habitats are present.

The FAA submitted the project to the USFWS for review. The USFWS responded in a letter dated July 28, 2020 (Appendix C), indicating that suitable summer roosting habitat for the northern long-eared bat may be present in the project area, however, the adjacent land uses

and ongoing airport activities significantly reduce the likelihood that high quality habitat is present.

The letter indicates that the final 4(d) rule, exempts incidental take of northern long-eared bat associated with activities that occur greater than 0.25 miles from a known hibernation site, and greater than 150 feet from a known, occupied maternity roost during the pup season (June 1 – July 31). The project would occur at a location where any incidental take that may result from associated activities is exempt under the 4(d) rule. Although not required, the USFWS encourages avoiding any associated tree clearing activities during the maternity roosting season from May 15 – August 15. For the ATCT alternatives that require tree cutting (Site 6 and Site 2A), it has been proposed to avoid tree cutting if possible/practical during the suggested time frame.

The USFWS concurred that suitable habitat for the Appalachian elktoe does not occur within the project areas. However, this species does occur in French Broad River (project receiving waters). Therefore, the USFWS has requested that proper erosion and stormwater controls be designed to mitigate runoff and treat water quality to address concerns for potential indirect impacts to this species.

Lastly, the USFWS offered recommendations for protecting the Appalachian elktoe as well as other natural resources. These included:

- Installing sediment and erosion controls before ground disturbance begins.
- Minimizing grading and backfilling and retain native vegetation wherever feasible.
- Stabilize or revegetate with native species as soon as the project is completed.
- Limit ground disturbance to what will be stabilized quickly.
- Use natural fiber matting for erosion control.
- Consider use of pervious materials.

These recommendations will all be taken into consideration during the design process. Erosion and sedimentation controls could include temporary silt fences, check dams and geotextile fabric on steeper slopes, as necessary. These measures are to be employed until the impacted areas are stabilized and vegetative coverage is adequate to minimize erosion.

With regard to federally protected species, the USFWS does not require further action at this time.

For migratory birds, the IPaC identified the following list of Birds of Conservation Concern:

- Bobolink (*Dolichonyx oryzivorus*)
- Canada Warbler (*Cardellina canadensis*)
- Eastern Whip-poor-will (*Antrostomus vociferous*)
- Northern Saw-whet Owl (*Aegolius acadicus acadicus*)
- Prairie Warbler (*Dendroica discolor*)
- Red-headed Woodpecker (*Melanerpes erythrocephalus*)
- Rusty Blackbird (*Euphagus carolinus*)
- Wood Thrush (*Hylocichla mustelina*)
- Yellow-bellied Sapsucker (*Sphyrapicus varius*)

The project areas consist of existing building, asphalt, maintained lawn, bare soil and hardwood forest. The mowed areas provide little value as habitat and the frequent mowing discourages use. The mowed areas are not ideal for nesting birds. The birds may feed or rest in the areas, however, they do not provide value as cover, roosting habitat or breeding habitat. Overall, the mowed conditions are not suitable for grassland bird nesting; therefore, no impacts are anticipated. There would be forest impact associated with tree cutting for ATCT Site 6 and Site 2A. The tree cutting at Site 6 would be minimal and adjacent forest would remain. Tree cutting at Site 2A would entail cutting a small area of trees along the forested edge of a much larger continuous forest. The loss of forested cover is not expected to have a significant adverse impact to forest dependent bird species since adjacent forested areas will remain. Additionally, GARAA will avoid, if possible, cutting trees in this area between May 15-August 15. Therefore, there would be no significant impact to migratory birds.

Due to the developed nature of most of the project areas, the adjacent land uses and ongoing airport activities, and the proposed erosion and sedimentation controls, no significant impact to biological resources from any of the alternatives is proposed.

No Action Alternative
The No Action Alternative will have no impact on biological resources.

(C) Climate

Factors to consider: (1) Impacts from Greenhouse Gases (GHGs) from aircraft, ground vehicles, or other sources (2) Qualitative analysis should be used unless air quality modeling was used in part of Section III (A) Air Quality
Resources: (none)

Preferred Alternatives/Reasonable Alternatives
The GARAA Environmental Policy (August 2014) includes an action item to improve energy efficiency, to reduce energy consumption by 80% by 2050, and to implement alternative energy options to further reduce carbon footprint. Additionally, the *Moving to 100 Percent: Renewable Energy Transition Pathways Analysis for Buncombe. County and the City of Asheville,* report dated November 11, 2019, indicates that "the City of Asheville shall transition municipal operations from fossil-fueled energy to 100% renewable energy by December 31, 2030, while also supporting Buncombe County's renewable energy community goal."

The project will be designed in accordance with the policy and report noted above. The terminal, ATCT and CEP will have modern energy efficient lighting, heating/cooling and other systems. As previously mentioned, the terminal facility is operating on old utility infrastructure in dire need of replacement. Therefore, the energy use for the new terminal and ATCT will be more efficient than the existing. Emissions of GHG's from the proposed project are not anticipated to be significant.

Refer to the air analysis in Section III (A) for additional information.

No Action Alternative
The No Action Alternative will have no impact on climate.

(D) Coastal Resources

Factors to consider: (1) Impacts to Coastal Barrier Resources and Coastal Zone Management (CAMA) (2) Need for Federal Consistency Review

Note: This section is only applicable to the 20 coastal counties in NC

Resources:

(1) USFWS coastal barrier mapper http://www.fws.gov/cbra/Maps/Mapper.html

Preferred Alternatives/Reasonable Alternatives

Based on review of the USFWS Coastal Barrier Mapper, the project areas are not mapped. Additionally, as per the North Carolina Environmental Quality website (https://deq.nc.gov/about/divisions/coastal-management/about-coastal-management/cama-counties), the project areas are not within one of the 20 coastal counties. Therefore, there will be no impact to coastal resources.

No Action Alternative

The No Action Alternative will have no impact on coastal resources.

(E) DOT Section 4(f)

Factors to consider: (1) Impacts to parks, national forest, wildlife refuge, or other recreational areas (2) Impacts to Section 106 resources (3) Constructive use impacts from noise (4) Impacts to Section 6(f) Lands

Resources: (none)

Preferred Alternatives/Reasonable Alternatives

Based on review of the Wilderness Areas of the United States (https://wilderness.net/), nationalatlas.gov and Bing.com, there are no parks, national forests, wildlife refuges or other recreational areas within the project areas.

A Visual Impact Assessment was conducted by CHA to determine the visual impact of the project on the surrounding environment. Nearby visual resources were identified in this assessment. This study determined that the proposed project would not result in any visual impact on the surrounding environment. Refer to Section III (M) and Appendix E for further details.

The noise analysis detailed in Section III (K) and Appendix F indicates that the proposed project will not result in any significant noise impacts.

Additionally, the North Carolina (NC) State Historic Preservation Office (SHPO) has reviewed the project and indicated that xxx (Appendix G).

Therefore, there will be no impact to 4(f) resources.

No Action Alternative

The No Action Alternative will have no impact DOT Section 4(f) resources.

(F) Farmland

Factors to consider: (1) Impacts to farmlands considered to be prime, unique, or statewide and locally important (2) Farmlands include pasturelands, croplands, and forest (even if zoned for development)

Note: In certain cases, airport owned land may be considered farmland.

Resources:

(1) NRCS/USDA AD 1006 Form: http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045394.pdf

Preferred Alternatives/Reasonable Alternatives

The project areas are on airport property. Based on review of the Natural Resources Conservation Service (NRCS) Soil Survey Map (Appendix H) the terminal expansion project area, the potential CEP's and ATCT Site 10 contain soils that are not prime farmland. These soils are Urban land (Ux) and Udorthents-Urban Land Complex (UhE).

ATCT Site 6 contains Hayesville loam (HyE), which is rated as farmland of local importance, Udorthents, loamy (Ud), which is not prime farmland and Clifton -Urban Land (CuB & CuC), which are not prime farmland. ATCT Site 2A contains Hayesville loam (HyC) and Clifton sandy loam (CsC & CsD) which are rated as farmland of statewide importance. ATCT Site 2A also contains Udorthents, loamy (Ud) soils, which are not prime farmland.

Based on review of the 2010 Census Bureau Map of Urbanized Area, the airport is mapped as urbanized. Therefore, an NRCS Form AD 1006 does not need to be prepared in accordance with the Farmland Protection Policy Act (FPPA). The NRCS provided proof of this exemption in a letter dated April 24, 2020 (Appendix H).

Therefore, there would be no impact to farmland and no further evaluation is necessary.

No Action Alternative

The No Action Alternative will have no impact on farmland.

(G) Hazardous Materials, Solid Waste, and Pollution Prevention

Factors to consider: (1) Impacts or removal of hazardous materials/waste from existing sites or facilities (2) Use of hazardous materials for new construction (3) Impacts to solid waste facilities from construction and post-construction activities (4) Use of pollution prevention activities, plans, programs, or policies

Resources:

(1) EPA Superfund site search: http://cumulis.epa.gov/supercpad/cursites/srchsites.cfm
(2) EPA hazardous waste cleanup sites: http://www.epa.gov/cleanups/cleanups-my-community
(3) EPA solid waste generation: http://www3.epa.gov/epawaste/conserve/imr/cdm/pubs/cd-meas.pdf

Preferred Alternatives/Reasonable Alternatives
Based on review of the EPA superfund site search, there are no superfund sites at the airport. Additionally, according to the EPA, there are no hazardous waste cleanup sites identified at the airport.

The FAA had an Environmental Due Diligence Audit (EDDA) Phase 1 Environmental Site Assessment (ESA) prepared for the xxxx. This report indicates that xxxx (Appendix I).

GARAA has indicated that if there was any asbestos in the existing terminal and ATCT, that it has already been abated. However, if hazardous materials are identified, GARAA will remove and dispose of those materials in a manner that is consistent with applicable local, state, and federal regulations and requirements.

Solid waste would be generated during construction. The contractor would be responsible for properly disposing the construction debris. None of the solid waste generated from construction is anticipated to create capacity problems at the local landfill or require scheduled solid waste removal.

Trash receptacles for municipal solid waste would be available throughout the terminal, ATCT and CEP. Levels of additional daily waste generated are not expected to be significant.

Lastly, the project would adhere to a sedimentation and erosion control plan. Therefore, there would be no impacts associated with hazardous materials, solid waste, or pollution prevention.

No Action Alternative
The No Action Alternative will have no impact on hazardous materials, solid waste, or pollution prevention.

(H) Historical, Architectural, Archeological, and Cultural Resources

Factors to consider: (1) Impacts to above and below ground resources (2) Indirect impacts from light emissions, vibration, and noise (3) Impacts to viewshed from construction or removal of buildings, trees, and other objects

Note: Obtain FAA/SBG concurrence before completing any of the following: (1) Initiating formal Section 106 proceedings (2) Coordinating the APE or determination of effects (3) Consulting with THPOs

Note: "Previously disturbed" terrain does not necessarily exclude the action from Section 106

Resources:

(1) NPS NRHP database: http://www.nps.gov/nr/research/
(2) NC GIS historic sites: http://gis.ncdcr.gov/hpoweb/

Note: These databases do not feature all known or potential sites.

Preferred Alternatives/Reasonable Alternatives
No historic properties are located within or immediately adjacent to the project areas. National Register District Rugby Grange (ID HN0042) is located to the southeast of the airport. A Visual Impact Assessment was completed by CHA (Section III (M) and Appendix E). The assessment determined that the proposed project would not result in any visual impact on the surrounding environment.

The project was submitted by AVL to the North Carolina SHPO (Appendix G). SHPO responded in a letter dated xxx indicating xxxx (Appendix G). Additionally, the FAA has reached out to the tribal representative of the following tribes:

- Eastern Band of Cherokee Nations
- Muscogee (Creek) Nation
- Catawba

The Muscogee (Creek) Nation has requested to be notified if cultural material (i.e. artifacts) or human remains and/or funerary objects are uncovered or discovered during the project construction and has indicated that the Nation "believes that there should be no effects to any known historic properties and that work can proceed for the project". The Catawba requested a hard copy of the submission, which was provided on July 31, 2010. To date no further response has been received. Lastly, to date the Eastern Band of Cherokee Nations has not responded.

Therefore, there would be no impact to historical, architectural, archeological or cultural resources.

No Action Alternative
The No Action Alternative will have no impact on historical, architectural, archeological or cultural resources.

(I) Land Use

Factors to consider: (1) Impacts to existing and/or planned land uses or zoning (2) Compatibility with airport design standards such as RPZs (3) Consistency with local public agencies (4) Creation of wildlife attractants
Resources: (none)

Preferred Alternatives/Reasonable Alternatives
The project would be constructed on airport property. The use of the land for airport activities would not change, nor would the zoning. The project is not expected to add or create wildlife attractants or impact surrounding activities. The project would be compatible with airport design standards and is consistent with local public agencies. The project would not have an impact on land use.

No Action Alternative
The No Action Alternative will have no impact on land use.

(J) Natural Resources and Energy Supply

Factors to consider: (1) Impacts on fuel, electricity, gas, water, wood, asphalt, aggregate, and other construction material supplies (2) Impacts from construction as well as post-construction and maintenance activities

Resources: (none)

Preferred Alternatives/Reasonable Alternatives

During construction, natural resources such as sand, gravel, water, wood, concrete, asphalt, and steel are typically used during airport construction projects. The project would also include the consumption of fossil fuel to run construction equipment as needed for the project.

Local utilities will provide the resources and energy for lighting, cooling, heat and hot water to serve the buildings. Existing utility infrastructure that currently serves the airport terminal will be extended for the expansion. A CEP is proposed for the terminal expansion. Utilities for the CEP would also extend from the utilities that currently serve the airport.

For ATCT Site 10, the utilities would extend from the existing airport utilities. For ATCT Sites 2A and 6 the utilities would extend from existing utilities to the southwest.

The project alternatives would not have an adverse impact to utilities servicing the project area, fuel consumption, or consumable materials. The project alternatives would not result in a significant impact to energy supply.

No Action Alternative

The No Action Alternative would not affect natural resources or energy supply.

(K) Noise and Compatible Land Use

Factors to consider: (1) Impacts to non-compatible land uses and local land use standards (2) Changes in operational activity, fleet mix, flight tracks, or engine runups (3) Modeling requirements

Note: Effective 5/29/15 all modeling must be completed with AEDT. See FRN: https://www.federalregister.gov/articles/2015/05/15/2015-11803/noise-fuel-burn-and-emissions-modeling-using-the-aviation-environmental-design-tool-version-2b

Resources:

(1) FAA 5050.4B Desk Reference noise section: http://www.faa.gov/airports/environmental/environmental_desk_ref/media/desk-ref-chap17.pdf

(2) FAA noise/land use compatibility chart: http://www.ecfr.gov/cgi-bin/text-idx?SID=1ae7ac2b63580049ff71cc00a57ce7fa&mc=true&node=ap14.3.150_135.a&rgn=div9

Preferred Alternatives/Reasonable Alternatives
A detailed airport noise and compatibility review was prepared by CHA and is included in Appendix F. The purpose of the analysis was to identify impacts the terminal expansion project will have in terms of noise and compatible land uses on areas surrounding the airport.

Activity Data & Forecast: Data gathered from numerous sources and programs [i.e., FAA Terminal Area Forecast (TAF), Bureau of Transportation Statistics (BTS) T-100 Data, and FAA Air Traffic Activity Data System (ATADS)] was used to develop a five-year forecast (through 2025) of aircraft operations and a five-year outlook of AVL's aircraft fleet mix. The operations and fleet mix forecasts, in conjunction with the time of day operations occur (i.e., daytime versus nighttime), aircraft stage lengths, runway utilization, and commonly used flight tracks, served as inputs to the FAA's Aviation Environmental Design Tool (AEDT).

Noise Model: The Noise Contours were developed using the AEDT.2d to prepare the existing (2019) and projected (2025) noise contours, which are displayed over mapping depicting AVL's layout, local land uses, and noise-sensitive areas (e.g., residential dwellings, schools, places of warship, etc.). At AVL, the ultimate permanent runway is currently under construction, and a temporary runway was in use during 2019. As such, the 2019 noise contours are based on all operations on the temporary runway. For 2025, it was assumed that all operations will have moved to the permanent runway.

Findings: Based on Title 14 Code of Federal Regulations (CFR) Part 150, *Airport Noise Compatibility Planning*, airport noise impacts are determined using a noise metric called the Day-Night Average Sound Level (DNL). This metric adds 10 dB to operations that occur between 10 PM and 7 AM as a penalty for the additional disturbance of night activity. All land uses are considered compatible with airport noise when the noise levels are less than 65 DNL. The 2019 Existing Conditions contour map (Appendix F-Figure F-2) indicates that the land located within the 65 DNL does not currently contain any incompatible/noise sensitive land uses.

The land within the 65 DNL range consists primarily of airport-owned property but also includes small areas of non-airport-owned land that is being used for commercial, recreational, and agricultural activities. It should also be noted that prior to 2025, the Airport has acquired the golf course property to the south that is located within the 65 DNL range.

The 2025 Future Conditions contour map (Appendix F-Figure F-3) is based on the Airport's future permanent runway alignment. Although the contours primarily cover airport-owned property, like the existing contours, the future 65 DNL dB contour extends off-airport property; however, the 65 DNL contours do not encroach on noise sensitive land use parcels. Thus, it is concluded that the proposed project will not result in any significant noise impacts per federal standards.

No Action Alternative
The No Action Alternative will have no impact on noise.

(L) Socioeconomics, Environmental Justice, Children's Environmental Health and Safety Risks

Factors to consider: (1) Impacts from property acquisition and/or relocation of displaced persons/businesses (2) Impacts to population, economic activity, employment, income, public services, transportation networks, and planned development (3) Impacts to minority and low-income populations (4) Impacts to children

Resources:

(1) Census Bureau fact finder: http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
(2) Bureau of Economic Analysis: http://www.bea.gov/
(3) EPA EJ Screen: http://ejscreen.epa.gov/mapper/

Preferred Alternatives/Reasonable Alternatives

The project is on airport property. There will be no acquisition of land, displacement of any populations or neighborhood disruption as a result of this project.

The Council on Environmental Quality (CEQ) regulations have defined an area as predominately minority if the minority population is 50 percent (50%) or greater. According to the EPA Environmental Screening and Mapping Tool, EJSCREEN, the project areas for the terminal, the CEP's, ATCT Site 10 and portions of ATCT Site 2A and ATCT Site 6 are within in census blockgroup 370210022032. The latest American Community Survey (ACS) summary report (2013-2017) for this blockgroup estimates that the population is 1,993 and includes a population of 20% minority and 19% low income. The project areas for a portion of ATCT Site 2A and ATCT Site 6 are within census blockgroup 370899307011. The latest ACS summary report for this blockgroup estimates that the population is 1,611 and includes a population of 9% minority and 34% low income. The project areas fall below the threshold of minority population cohorts required to trigger an environmental justice analysis.

The U.S. Census Bureau follows the Office of Management and Budget's Statistical Policy Directive 14 which determines poverty threshold using a set of income thresholds that vary by family size and composition. If a family's total income is less than the threshold, then that family, and every individual in it, is considered low-income. The poverty threshold established by the U.S. Census Bureau in 2019 for a 4- person household, with two people being children under the age of 18 was used to determine the low-income populations. The average poverty threshold is $25,926. The project areas for the terminal, the CEP's, ATCT Site 10 and portions of ATCT Site 2A and ATCT Site 6 are within census tract 22.03. The project areas for a portion of ATCT Site 2A and ATCT Site 6 are within census tract 9307.01.

As per the ACS, the estimated median household income for the City of Asheville was $46,464 and the mean income was $66,748. At a census tract level tract (22.03), the median household income was $41,737 and the mean household income was $62,601. The median household income for Mills River was $63,387 and the mean income was $76,235. At a census tract level (9307.01) the median household income was $65,625 and the mean income was $76,803. Therefore, the census tracts in which the proposed project is located are not considered low-income.

Additionally, as noted in other sections of this EA, the project is on airport property and will have no significant impact on air quality, noise or visual resources. Therefore, the project will have no impact on socioeconomics, environmental justice, children's environmental health and safety risks.

No Action Alternative

The No Action Alternative will have no impact on socioeconomics, environmental justice, children's environmental health and safety risks.

(M)Visual Effects (including light emissions)

Factors to consider: (1) Impacts to residential areas, Section 106 resources, Section 4(f) properties, protected coastal areas and rivers, scenic roads/byways, scenic trails, and sensitive wildlife species (2) Impacts from new construction or modification (3) Impacts from object removal (e.g. trees, buildings, etc)
Resources: (none)

Preferred Alternatives/Reasonable Alternatives
The terminal work includes general terminal, apron and curbside lighting, similar to the existing facility. The ATCT would also have lighting similar to the existing. No new or expanded airfield lighting is included, and the potential for adverse light emissions are not anticipated as a result of the project. Construction operations will take place during the daylight hours, therefore, no impacts related to light emissions are anticipated.

A visual impact assessment was conducted to determine the visual impact of the project on the surrounding environment (Appendix E). This study determined that the proposed project would not result in any visual impact on the surrounding environment, including any of the resources listed previously in this document.

No Action Alternative
The No Action Alternative will have no visual effects.

(N) Water Resources

Factors to consider: (1) Impacts to floodplains, wetlands, surface waters, groundwater, and wild and scenic rivers (2) Impacts to jurisdictional and non-jurisdictional wetlands (3) Impacts from increased stormwater runoff (4) Changes in hydrologic patterns (5) Impacts to ground water recharge capability and drinking water supplies (6) Impacts from sedimentation, petroleum/chemical/hazmat spills, or other factors causing water quality degradation (6) Impacts to NRI listed rivers, river segments, or study rivers

Resources:

(1) FEMA Flood Map Service Center: https://msc.fema.gov/portal
(2) USGS National Map: http://viewer.nationalmap.gov/viewer/
(3) USFWS National Wetland Inventory: http://www.fws.gov/wetlands/Data/Mapper.html
Note: The NWI is not considered an official wetland delineation.
(4) NPS National River Inventory: http://www.nps.gov/ncrc/programs/rtca/nri/index.html
(5) National Wild and Scenic River's website http://www.rivers.gov/map.php

Preferred Alternatives/Reasonable Alternatives

The above listed water resources (1-5) were reviewed. Based on this review, the project areas are not within the floodplain (Appendix D) and do not contain a river listed on the National River Inventory or the National Wild and Scenic River list. A copy of the USGS topographic map can also be found in Appendix D. Additionally, based on review of the EPA's Sole Source Aquifer mapper (https://www.epa.gov/dwssa), the project is not located over a sole source aquifer. Review of the NWI map indicates the presence of a stream crossing the proposed utility corridor to the south of ATCT Site 6. No other mapped NWI wetlands are within the project areas (Appendix D).

A portion of the terminal expansion area overlaps with an apron expansion project that is currently under construction. As part of the Environmental Assessment (EA) for the South Terminal Apron Expansion (July 2018), a field review for the presence of wetlands was conducted by Three Oaks Engineering in December 2017. A Preliminary Jurisdictional Determination was issued by the United States Army Corps of Engineers on April 2, 2018. Two jurisdictional streams and jurisdictional wetland were confirmed. It was estimated that all of the identified resources would be impacted in the South Terminal Apron Expansion EA. Compensatory mitigation was proposed for the apron expansion project.

Edwards-Pitman Environmental, Inc. completed a Waters of the US Survey in June 2020 (Appendix C). Two intermittent jurisdictional streams and one jurisdictional wetland were identified. Stream 1 is located west of ATCT Site 6 and is crossed by the proposed utility corridor. Wetland 1 is located adjacent to Stream 1. Stream 2 is located to the south of CEP 6b. Refer to Appendix A-Figure 5 for the location of these features in relation to the proposed alternatives.

Wetland 1 is not within an impact area. However, Stream 1 crosses the proposed utility corridor associated with ATCT Sites 2A and 6. The access road is already in place in this location and there are existing utility poles along the access for power and communications. It is anticipated that water, sewer and gas can be directional bored under the stream to avoid impacts.

Therefore, the intent will be to avoid all wetland and stream impacts. If it is determined that impacts are unavoidable during the design phase, a Section 404 General Permit may be required by United States Army Corps of Engineers (USACE). It is assumed that no mitigation will be required.

There would be an increase in impervious surfaces associated with the terminal expansion (approximately 28,000 SF). The ATCT and CEP alternatives propose the following approximate increase in impervious area:

- ATCT Site 6 -63,000 SF- Preferred Alterative
- ATCT Site 2A- 63,000 SF
- ATCT Site 10- 44,000 SF
- CEP 3a – 7,700 SF- Preferred Alterative

The increase in impervious surface can result in an increase in stormwater runoff and the discharge of pollutants into surface water. Prior to construction a stormwater permit would be obtained from the North Carolina Department of Environmental Quality. Additionally, erosion and sedimentation of all exposed soils would be minimized by the use of water quality measures including temporary silt fences, check dams and geotextile fabric on steeper slopes, as necessary. These measures are to be employed until the impacted areas are stabilized and vegetative coverage is adequate to minimize erosion. Therefore, no significant impacts to water resources are anticipated.

No Action Alternative
The No Action Alternative will have no impact on water resources.

(O) Cumulative Impacts

Factors to consider: (1) Impacts from "other past, present, and reasonably foreseeable future actions regardless of agency or person" (40 CFR § 1508.7) (2) Impacts on and off airport property (3) Study area varies for each environmental resource

Resources:

(1) CEQ cumulative effects: http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-ConsidCumulEffects.pdf

Previous and Current Projects

Runway Reconstruction and New Parallel Taxiway (EA 2011). Phases 1-3 are complete. Phase 4 of the airfield redevelopment project is underway. This work involves paving and airfield lighting installation for the new runway.

The South Terminal Apron Expansion project (Short EA July 2018), is currently under construction. The apron will be expanded to accommodate existing and anticipated demand for aircraft parking at the terminal.

North Terminal Apron Expansion (Categorical Exclusion April 2017). The existing apron was expanded to create additional space for aircraft parking.

A multi-level parking garage that accommodates ~1,200-1500 automobile parking spaces was constructed in 2017 (Short EA March 2016).

A search of the City of Asheville's Technical Review Committee (TRC) database for major projects in close proximity to the airport identified a final conditional zoning review for a retail store/gas station at 352 Airport Road. The Buncombe County Development Mapper did not identify any major projects in close proximity to the airport.

Matt Champion from Henderson County, indicated on January 29, 2020, that there are no large projects planned or currently going through the approval process. Janna Peterson, from Henderson County, followed up on January 30, 2020, indicating that currently under construction on land immediately adjacent to Broadmoor golf course is the new Hunter Automotive in the Town of Fletcher.

Proposed Projects

An extension of Wright Brothers Way; Terminal Apron Repairs in FY 2020; and Roadway Improvements and Rehabilitation in FY 2022. The extension involves extending the road to the proposed north general aviation site.

Relocation of the Public Safety Building (2025-2026).

Brian Burgess, Town Planner from Mills River indicated on February 3, 2020, that a new distribution center is planned across from the existing industrial park on NC 280, in close proximity to the airport.

Analysis

A majority of the project is proposed on previously disturbed and developed land within airport property. The use of Best Management Practices (BMPs) would minimize impacts. No secondary or induced impacts are anticipated and the project, when evaluated with foreseeable and past projects, it is not anticipated to incrementally cause an adverse environmental impact.

Cumulative impacts take into consideration the effects of several large projects that in and of themselves result in little or no impact on environmental resources, but when considered together could have a significant impact. The existing and proposed projects on airport property are part of an overall plan for the airport, the effects of which have been considered in a generic sense and are unlikely to result in any significant impacts.

Based on the proximity of the airport there are several resources that will not be impacted by either the on-airport projects or others in close proximity. The airport is an important part of the surrounding communities and a component of local comprehensive land use and community planning. Other projects unassociated with the airport are approved locally and assumed to be consistent with local zoning and community plans. Additionally, the areas within and adjacent to the airport do not meet the criteria as low income or minority neighborhoods and therefore there will be no disproportionate impacts to these communities resulting from current and future projects within and adjacent to the airport based on available Census information. Likewise, there are no historic resources or DOT Section 4(f) resources to be impacted by the project. Based on this information, it can be reasonably stated that there will be no significant cumulative impacts on social-cultural resources and land use.

The projects are not significant noise and air emission producers and the effects of expanded services at the airport have been evaluated as part of this assessment and found not to be significant. The proposed uses are not significant producers of hazardous materials. As an urbanized area, there will be no impacts on farmland as a result of development.

Biological and other natural resources such as streams, groundwater, coastal resources, and floodplains will not be impacted by on-airport projects. There are threatened and endangered species of plants and animals potentially occurring in the project vicinity and these must be investigated on a project specific basis. However, most of the on-airport projects are occurring in previously disturbed areas where no suitable habitat is present. No significant cumulative impacts to these natural resources are anticipated.

Increases in impervious area is an important cumulative impact that could become significant without appropriate mitigation. Current stormwater regulations to account for the control of runoff and the implementation of sound erosion and sedimentation control practices will minimize the potential for significant cumulative impacts on flooding and the health of the streams and rivers.

The continued development of energy saving equipment, water saving fixtures, low emission engines and boilers, and good community planning will help to address the cumulative impacts of growth on climate and community sustainability.

Overall, the potential cumulative impacts of on-airport and off-airport (adjacent) growth is not anticipated to be significant.

(P) Permits and Certifications

List all permits and certifications required to be obtained.

State Permits (from NC DEQ)

- Stormwater Permit
- Erosion and Sediment Control
- Sewer Extension Permit/ Water Permit (if needed)

Local Permits

- Zoning Permit
- Building Permit
- Electrical Permit
- Demolition Permit
- Stormwater Permit (as courtesy review)
- Water Permit (if needed)
- Sewer Permit (if needed)

Federal Permits

- If it is determined during the design phase, that stream impacts cannot be avoided, a Section 404 General Permit may be required from the USACE.

(Q) Mitigation

Describe mitigation required as part of the project. Include mitigation cost and when/where mitigation will occur. Do not include best management practices (BMPs).

No significant environmental impacts are anticipated; therefore, no mitigation is necessary.

(R) Public Involvement

List agencies and organizations that reviewed the proposed action.

The draft Focused EA was released for public review on xx xx, 2020 and was advertised in the Citizen Times for one (1) day. Additionally, hard copies were made available at the GARAA office as well as the public library and can be viewed and downloaded from the Airport's website, at xxxx. The review period was 30 days. The public was given the opportunity to provide comments and request a public meeting.

The draft Focused EA was also provided to the NC State Environmental Review Clearinghouse for agency distribution. The state clearinghouse distributed the document to the following agencies:

- X

Responses were received from the following agencies:

- X

Refer to Appendix J for further details.

Once the FAA issues an environmental finding, the finding and final Focused EA will be made available to the public for 30 days.

Discuss additional public involvement actions taken. Please include the name and date(s) of newspaper publications. Attach affidavit or tear sheet.

An advertisement regarding the release of the draft Focused EA for public review was placed in the Citizen Times on xxx (Appendix J).

Appendix A

Asheville REGIONAL AIRPORT

GRAPHIC SCALE (FEET)

0 200 400

LEGEND

- Property Line
- Limits of Disturbance
- Proposed Tower Cab Locations
- Proposed Tree Clearing Area
- ATCT Safety Area (R = 300')
- Proposed Access Road
- Proposed Utility Corridor
- Building Demolition
- New Building
- Construction Staging Area
- Proposed Fence

Figure **1**
Proposed ATCT Sites

ASHEVILLE REGIONAL AIRPORT

ENVIRONMENTAL ASSESSMENT

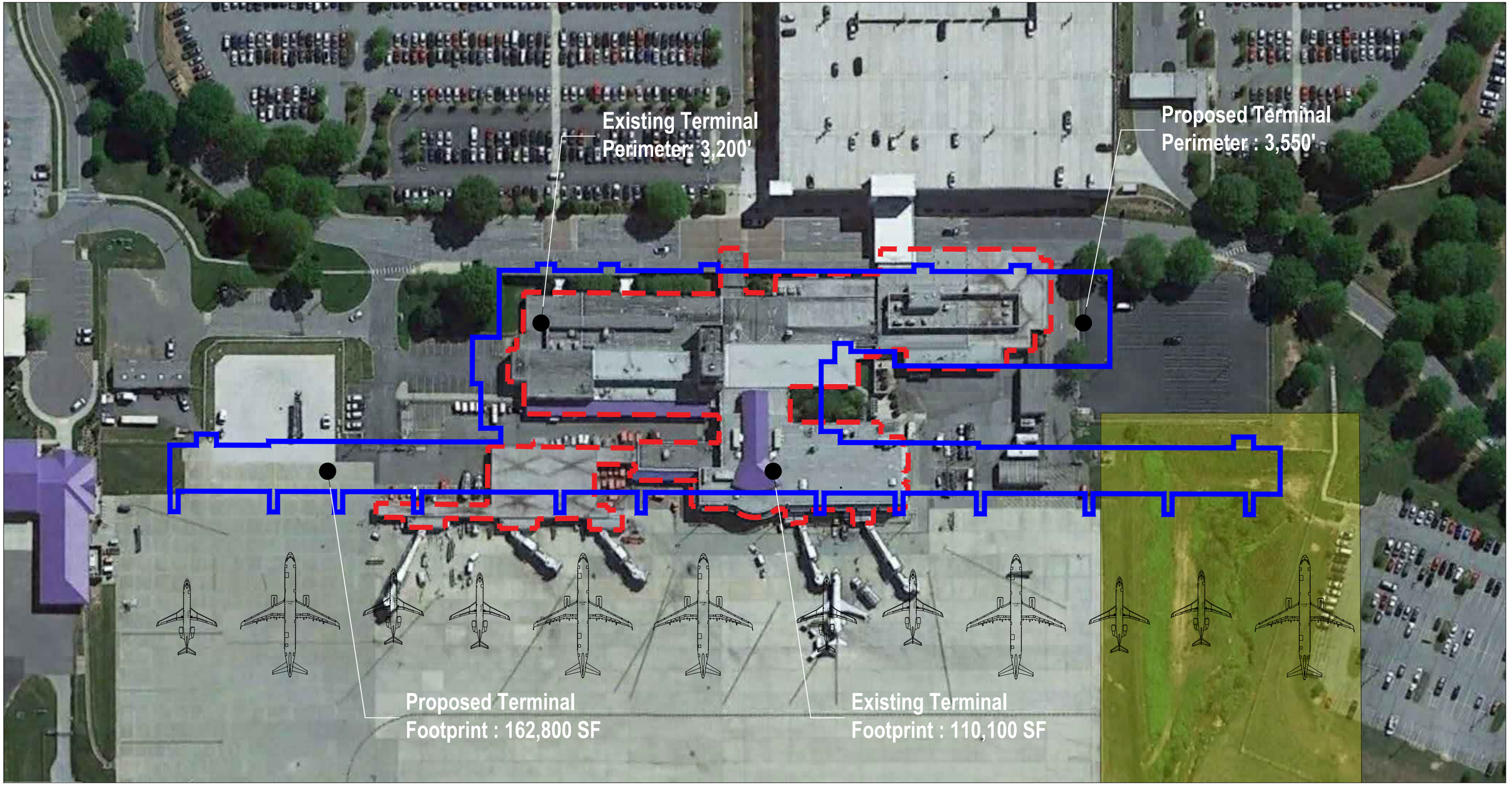
GRAPHIC SCALE (FEET)

0 75 150

LEGEND

- Airport Property Line
- Terminal Building Footprint
- Disturbance Limit
- Previously Completed Short Form Environmental Assessment for Terminal Apron Expansion; July 2018 (~3 acres)

FIGURE 2
PROPOSED TERMINAL BUILDING LIMITS



Asheville REGIONAL AIRPORT

ASHEVILLE REGIONAL AIRPORT

ENVIRONMENTAL ASSESSMENT

GRAPHIC SCALE (FEET)
0 50 100

LEGEND

- Existing Terminal Footprint
- Future Terminal Footprint
- Previously Completed Short Form Environmental Assessment for Terminal Apron Expansion; July 2018 (~3 acres)

FIGURE 3

TERMINAL FOOTPRINT COMPARISON

Asheville REGIONAL AIRPORT

ASHEVILLE REGIONAL AIRPORT

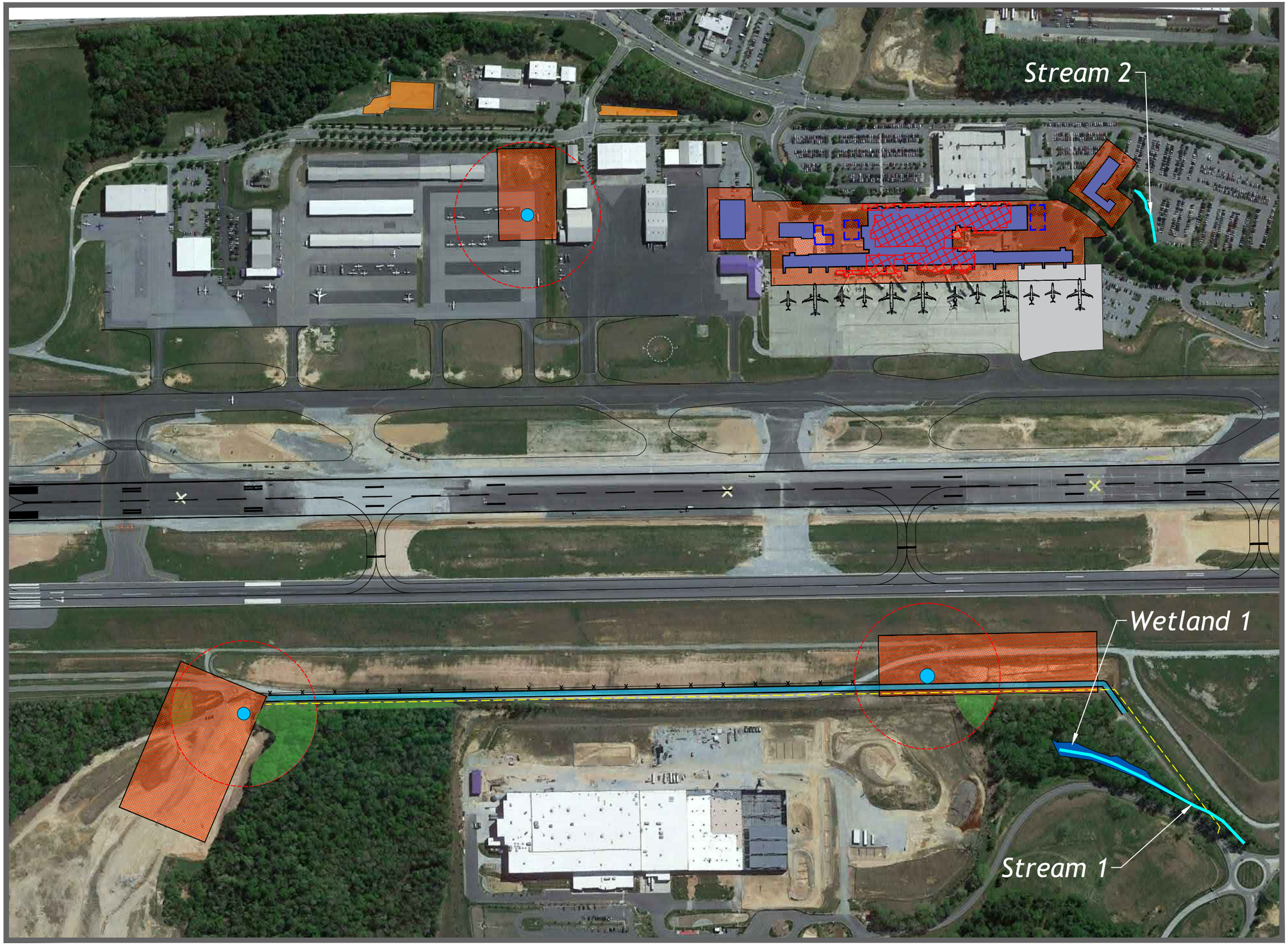
ENVIRONMENTAL ASSESSMENT

GRAPHIC SCALE (FEET)
0 150 300

LEGEND

- Airport Property Line
- Potential Staging Areas
- Construction Vehicle Access Route
- Terminal Building Footprint
- Limits of Disturbance

FIGURE 4
CONSTRUCTION STAGING AREA AND VEHICLE ACCESS ROUTE



Asheville REGIONAL AIRPORT

GRAPHIC SCALE (FEET)
0 200 400

LEGEND

- Limits of Disturbance
- Proposed Tower Cab Locations
- Proposed Tree Clearing Area
- ATCT Safety Area (R = 300')
- Proposed Access Road
- Proposed Utility Corridor
- Building Demolition
- New Building
- Construction Staging Area
- Proposed Fence
- Existing Stream
- Existing Wetlands

Figure 5
Waters of the United States

Appendix B

Asheville Regional Airport
Terminal Expansion and Air Traffic Control Tower
Emission Inventory

The Greater Asheville Regional Airport Authority (GARAA) plans to redevelop and expand the airport passenger terminal at the Asheville Regional Airport (AVL). The air traffic control tower (ATCT) will be relocated and a new central energy plant (CEP) building will be constructed as part of the project.

This emissions inventory has been prepared in support of the Environmental Assessment for the project.

Aircraft Operations

Emissions from aircraft operations were estimated using the FAA Aviation Environmental Design Tool (AEDT). The terminal replacement project will not result in an increase in total aircraft operations. Air carrier operations are expected to increase as the airport will be able to serve additional passengers. Air taxi and commuter operations are expected to decrease as a result. Military operations will not be affected by the project.

To estimate the increase in emissions from aircraft operations as a result of the project, emissions from air carrier and general aviation operations were estimated for the baseline year of 2019 and analysis year of 2025. While some of the shift in the aircraft fleet mix would occur without the project, all of the difference in emissions from 2019 to 2025 is assumed to be attributable to the project for the purposes of this analysis.

The aircraft fleet mix for 2019 and projected fleet mix for 2025 were provided by GARAA (March 23, 2020).

Asheville Regional Airport
Terminal Expansion and Air Traffic Control Tower
Emission Inventory

Type	Aircraft	2019	2025
Air Carrier	A319	1,072	1,269
Air Carrier	A320-100/200	4,986	5,902
Air Carrier	A320-200N	60	71
Air Carrier	BOEING 717-200	942	1,115
Air Carrier	CANADAIR CRJ 900	4,320	5,114
Air Carrier	CANADAIR RJ-100/ER	24	28
Air Carrier	CANADAIR RJ-700	2,606	3,085
Air Carrier	CRJ-200ER/CRJ-440	5,388	6,378
Air Carrier	EMBRAER-145	1,598	1,892
Air Carrier	EMBRAER-175	160	189
Air Carrier	BOEING 737-800	4	5
GA	Cessna 172 Skyhawk	23,708	23,680
GA	Pilatus PC-12	2,609	2,454
GA	Beech Baron 58	6,132	6,125
GA	BeechJet	1,139	1,071
GA	Cessna Citation CJ1	4,410	4,147
GA	Cessna Citation XLS	3,252	3,058
GA	Challenger 300	1,202	1,130
GA	Dassault Falcon/Mystere 20	195	184
GA	King Air	3,926	3,692
GA	Phenom 300	1,365	1,284
GA	Gulfstream 150	576	542
GA	Hawker 800	894	840
GA	Learjet 31	1,122	1,055
GA	Gulfstream 400	436	410

Taxiing times were based on the FAA Aviation System Performance Metrics data for 2019. The average taxi-out time was 17 minutes and the average taxi-in time was 6 minutes.

AVL currently operates 7 gates, 5 of which are equipped with preconditioned air (PCA) and ground power units (GPU). After the terminal expansion, AVL will operate 12 gates, all of which will be equipped with PCA/GPU. To account for gates that are not equipped with PCA/GPU for 2019 operations, the APU was assumed to run for 30 minutes for 28% of air carrier operations. For the remaining 72% of air carrier operations, the APU was assumed to run for the 6 minute taxi-in time for arrivals and 10 minutes for departures.

Asheville Regional Airport
Terminal Expansion and Air Traffic Control Tower
Emission Inventory

AVL consists of a single runway 17/35. Runway 35 is used for approximately 75% of operations. The landing approaches for Runways 17 and 35 are identical below the mixing height of 3,000 ft, consisting of a straight-in approach at a glideslope of 3 degrees. The departure procedure for both runways is to maintain a heading in the general direction of the runway until 8,000 feet. To simplify the input to AEDT, only Runway 35 was used.

Operations were split equally between departures and arrivals.

Estimated emissions from aircraft operations are shown below.

Contaminant	2019	2025	Difference	(tons)
Carbon monoxide	391.0	395.5	4.6	
Volatile organic compounds	49.1	48.4	-0.7	
Nitrogen oxides	78.3	87.1	8.8	
Sulfur dioxide	9.5	10.3	0.9	
Particulate matter	1.8	1.6	-0.1	
Carbon dioxide	23,579.9	26,565.2	2,985.3	

Ground Support Equipment

Emissions from ground support equipment (GSE) were estimated using the FAA Aviation Environmental Design Tool (AEDT). GSE activity was associated with the aircraft operations above based on the default assignments in AEDT. The default equipment sizes, load factors, and runtimes were used.

Estimated emissions from ground support equipment are shown below. AEDT does not estimate emissions of sulfur dioxide and carbon dioxide from GSE.

Contaminant	2019	2025	Difference	(tons)
Carbon monoxide	17.3	20.5	3.2	
Volatile organic compounds	0.5	0.6	0.1	
Nitrogen oxides	1.1	1.3	0.2	
Particulate matter	0.04	0.04	0.01	

Asheville Regional Airport
Terminal Expansion and Air Traffic Control Tower
Emission Inventory

Ground Access Vehicles

Emissions from ground access vehicles (GAV) were estimated using the EPA Motor Vehicle Emission Simulator (MOVES). The airport is adjacent to Interstate 26/US Route 74 and primarily accessed by car. AVL is also served by two public bus routes. The number of buses serving the airport is not expected to increase as a result of the project. All projected increases in commercial passengers from 2019-2025 were conservatively assumed to be a result of the project. Commercial passenger estimates were obtained from the Terminal Building Assessment Study (TBAS). The TBAS also noted that large majority of passengers are located within 30 miles of AVL. GAV emissions were estimated using the default fleet mix in MOVES for the analysis year for passenger cars and light trucks. Passengers were assumed to travel 5 miles at 30 mph to reach a highway, and 25 miles at 60 mph to reach the airport. An average of 2 passengers per vehicle was assumed, and it was assumed that each passenger makes one trip to the airport and one trip from the airport. As a result the number of vehicle trips is equal to the number of commercial passengers.

	2019	2025
Commercial passengers	505,300	599,600

Contaminant	2019	2025	Difference	(tons)
Carbon monoxide	68.2	83.9	15.7	
Volatile organic compounds	1.5	1.3	-0.2	
Nitrogen oxides	5.6	3.6	-2.0	
Sulfur dioxide	0.1	0.1	0.0	
Particulate matter	0.1	0.1	0.0	
Carbon dioxide	6,356.7	9,725.5	3,368.8	

Stationary Sources

Emissions from stationary sources were estimated using EPA AP-42: Compilation of Air Emission Factors. As part of the central plant relocation, (3) new natural gas-fired boilers will be installed. The boilers are conservatively estimated to have a maximum heat input of 5 million BTU per hour (MMBTU/hr) each. For the purposes of this estimate the units are assumed to operate at maximum capacity. Only (1) unit is expected to be used on a regular basis.

Asheville Regional Airport
Terminal Expansion and Air Traffic Control Tower
Emission Inventory

Contaminant	Natural gas lb/MMBTU
Carbon monoxide	0.08
Volatile organic compounds	0.0054
Nitrogen oxides	0.10
Sulfur dioxide	0.0006
Particulate matter	0.007
Carbon dioxide	118

	tons/year
Carbon monoxide	5.41
Volatile organic compounds	0.35
Nitrogen oxides	6.44
Sulfur dioxide	0.04
Particulate matter	0.49
Carbon dioxide	7,729

Net Emission Change

The net emission change from operational sources is shown below.

	tons/year
Carbon monoxide	28.9
Volatile organic compounds	-0.5
Nitrogen oxides	13.5
Sulfur dioxide	0.9
Particulate matter	0.4
Carbon dioxide	14,083.6

Asheville Regional Airport
Terminal Expansion and Air Traffic Control Tower
Emission Inventory

Construction Emissions

Emissions from construction were estimated using the Airport Construction Emissions Inventory Tool (ACEIT) published by the Airport Cooperative Research Program in Report 102. ACEIT estimates the construction equipment activity that will be required based on the type and amount of construction being performed. This activity is used with emission factors for construction and other mobile vehicles to estimate the emissions that will result during construction of the project.

ACEIT has been configured with default construction equipment assignments based on the type of construction activity being performed. For example, for demolition of an asphalt area, ACEIT assumes the use of a bulldozer, excavator, and truck. The use of each piece of equipment is based on the amount of the activity being performed. In the asphalt demolition example, the square footage of the demolition area is input by the user. ACEIT assumes that 8 hours of bulldozer use is required for every 8,000 square feet and estimates the equipment runtime based on the project size. The estimated runtime is used with the equipment engine size and EPA emission factors to estimate the emissions.

The estimated equipment types and activities may be edited by the user. For the purposes of this analysis the default options were used. This approach will produce conservative results according to the ACEIT guidance. Construction emissions were conservatively assumed to occur in one year. The total project duration is expected to be 5 years.

The major construction activities in ACEIT that were identified as part of the project include:

Demolition - building	Terminal building is conservatively assumed to be wholly removed and rebuilt
Demolition - concrete	Demolition of terminal apron area to accommodate terminal expansion
Site work - 10000 sq ft	Site work for new ATCT and CEP locations
Building - 10000 sq ft - 1 story	New ATCT and CEP
Building - 30000 sq ft - 3 stories	Expanded terminal area (terminal building is 2 stories)
Service road	Proposed access road for ATCT

Overall Size was input as follows:

Demolition - building	110,110 sq ft of building demolished
Demolition - building	30 ft building height
Demolition - concrete	720 ft length, 720 ft width (518,400 sq ft)
Service road	3,800 ft length, 30 ft width

Asheville Regional Airport
Terminal Expansion and Air Traffic Control Tower
Emission Inventory

Activity factors for the building categories were adjusted to account for the proposed building sizes. Activity factors for the Building - 10000 sq ft - 1 story category were multiplied by 3 to account for the 15,000 sq ft ATCT and 15,000 sq ft CEP. Activity factors for the Building - 30000 sq ft - 3 story category were multiplied by 9.2 to account for the 275,000 sq ft terminal building. The estimated construction emissions are shown below.

	tons/year
Carbon monoxide	33.63
Volatile organic compounds	19.16
Nitrogen oxides	62.66
Sulfur dioxide	0.26
Particulate matter	4.45
Carbon dioxide	51,635

Appendix C

IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Buncombe and Henderson counties, North Carolina

Local office

Asheville Ecological Services Field Office

(828) 258-3939
(828) 258-5330

160 Zillicoa Street
Asheville, NC 28801-1082

http://www.fws.gov/nc-es/es/countyfr.html

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

NOT FOR CONSULTATION

Mammals

NAME	STATUS
Carolina Northern Flying Squirrel Glaucomys sabrinus coloratus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2657	Endangered
Gray Bat Myotis grisescens No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6329	Endangered
Northern Long-eared Bat Myotis septentrionalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Reptiles

NAME	STATUS
Bog Turtle Clemmys muhlenbergii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6962	SAT

Clams

NAME	STATUS
Appalachian Elktoe Alasmidonta raveneliana There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5039	Endangered

Arachnids

NAME	STATUS
Spruce-fir Moss Spider Microhexura montivaga There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4801	Endangered

Flowering Plants

NAME	STATUS
Blue Ridge Goldenrod Solidago spithamaea No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5821	Threatened

NOT FOR CONSULTATION

Bunched Arrowhead Sagittaria fasciculata — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1720

Mountain Sweet Pitcher-plant Sarracenia rubra ssp. jonesii — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4283

Small Whorled Pogonia Isotria medeoloides — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1890

Spreading Avens Geum radiatum — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6854

Swamp Pink Helonias bullata — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4333

Virginia Spiraea Spiraea virginiana — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1728

White Irisette Sisyrinchium dichotomum — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8097

Lichens

NAME	STATUS
Rock Gnome Lichen Gymnoderma lineare No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3933	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

NOT FOR CONSULTATION

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE"

NOT FOR CONSULTATION

	INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler Cardellina canadensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Northern Saw-whet Owl Aegolius acadicus acadicus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 31
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31
Yellow-bellied Sapsucker sphyrapicus varius This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8792	Breeds May 10 to Jul 15

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

NOT FOR CONSULTATION

■ probability of presence ■ breeding season | survey effort – no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Bobolink
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Canada Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Eastern Whip-poor-will
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

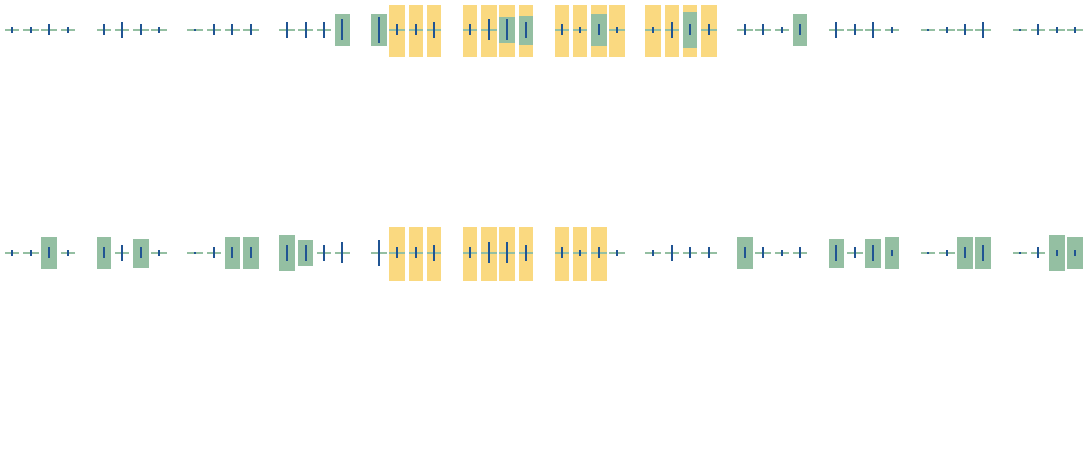
Northern Saw-whet Owl
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Prairie Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Red-headed Woodpecker
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Rusty Blackbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

NOT FOR CONSULTATION



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

NOT FOR CONSULTATION

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in

NOT FOR CONSULTATION

knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

NOT FOR CONSULTATION

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

NC DEPARTMENT OF
NATURAL AND CULTURAL RESOURCES

Roy Cooper, **Governor**
Susi Hamilton, **Secretary**
Walter Clark, **Director, Land and Water Stewardship**

NCNHDE-12007

May 14, 2020

Nicole Frazer
CHA
III Winners Circle
Albany, NY 12205
RE: Proj 36: ATCT 060382; 060382

Dear Nicole Frazer:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources for the project referenced above.

Based on the project area mapped with your request, a query of the NCNHP database indicates that there are no records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. Please note that although there may be no documentation of natural heritage elements within the project boundary, it does not imply or confirm their absence; the area may not have been surveyed. The results of this query should not be substituted for field surveys where suitable habitat exists. In the event that rare species are found within the project area, please contact the NCNHP so that we may update our records.

The attached 'Potential Occurrences' table summarizes rare species and natural communities that have been documented within a one-mile radius of the property boundary. The proximity of these records suggests that these natural heritage elements may potentially be present in the project area if suitable habitat exists. Tables of natural areas and conservation/managed areas within a one-mile radius of the project area, if any, are also included in this report.

If a Federally-listed species is found within the project area or is indicated within a one-mile radius of the project area, the NCNHP recommends contacting the US Fish and Wildlife Service (USFWS) for guidance. Contact information for USFWS offices in North Carolina is found here: https://www.fws.gov/offices/Directory/ListOffices.cfm?statecode=37.

Please note that natural heritage element data are maintained for the purposes of conservation planning, project review, and scientific research, and are not intended for use as the primary criteria for regulatory decisions. Information provided by the NCNHP database may not be published without prior written notification to the NCNHP, and the NCNHP must be credited as an information source in these publications. Maps of NCNHP data may not be redistributed without permission.

The NC Natural Heritage Program may follow this letter with additional correspondence if a Dedicated Nature Preserve, Registered Heritage Area, Clean Water Management Trust Fund easement, or Federally-listed species are documented near the project area.

If you have questions regarding the information provided in this letter or need additional assistance, please contact Rodney A. Butler at rodney.butler@ncdcr.gov or 919-707-8603.

Sincerely,
NC Natural Heritage Program

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
Proj 36: ATCT 060382
Project No. 060382
May 14, 2020
NCNHDE-12007

Element Occurrences Documented Within a One-mile Radius of the Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Amphibian	2672	Cryptobranchus alleganiensis alleganiensis	Eastern Hellbender	2019-02-06	E	3-Medium	---	Special Concern	G3T2	S3
Amphibian	10556	Necturus maculosus	Mudpuppy	1947-07-08	H	3-Medium	---	Special Concern	G5	S2
Crustacean	32839	Cambarus reburrus	French Broad River Crayfish	2012-04-17	E	3-Medium	---	Significantly Rare	G3	S2
Dragonfly or Damselfly	33442	Calopteryx amata	Superb Jewelwing	2004-Pre	H?	5-Very Low	---	Significantly Rare	G5	S1S2
Dragonfly or Damselfly	33444	Calopteryx amata	Superb Jewelwing	2004-Pre	H?	5-Very Low	---	Significantly Rare	G5	S1S2
Freshwater Bivalve	7990	Alasmidonta raveneliana	Appalachian Elktoe	2019-03-14	C	3-Medium	Endangered	Endangered	G1	S1
Freshwater Bivalve	21861	Alasmidonta viridis	Slippershell Mussel	2019-04-17	E	3-Medium	---	Endangered	G4G5	S1
Freshwater Fish	5893	Erimystax insignis	Blotched Chub	2014-04-10	E	3-Medium	---	Significantly Rare	G4	S2
Freshwater Fish	11061	Polyodon spathula	Paddlefish	1983	H	4-Low	---	Endangered	G4	SH
Natural Community	3354	Montane Alluvial Forest (Large River Subtype)	---	2006	BC	1-Very High	---	---	G2?	S1
Vascular Plant	25168	Dendrolycopodium dendroideum	Prickly Ground-pine	1949-Pre	H	5-Very Low	---	Significantly Rare Peripheral	G5	S2

Natural Areas Documented Within a One-mile Radius of the Project Area

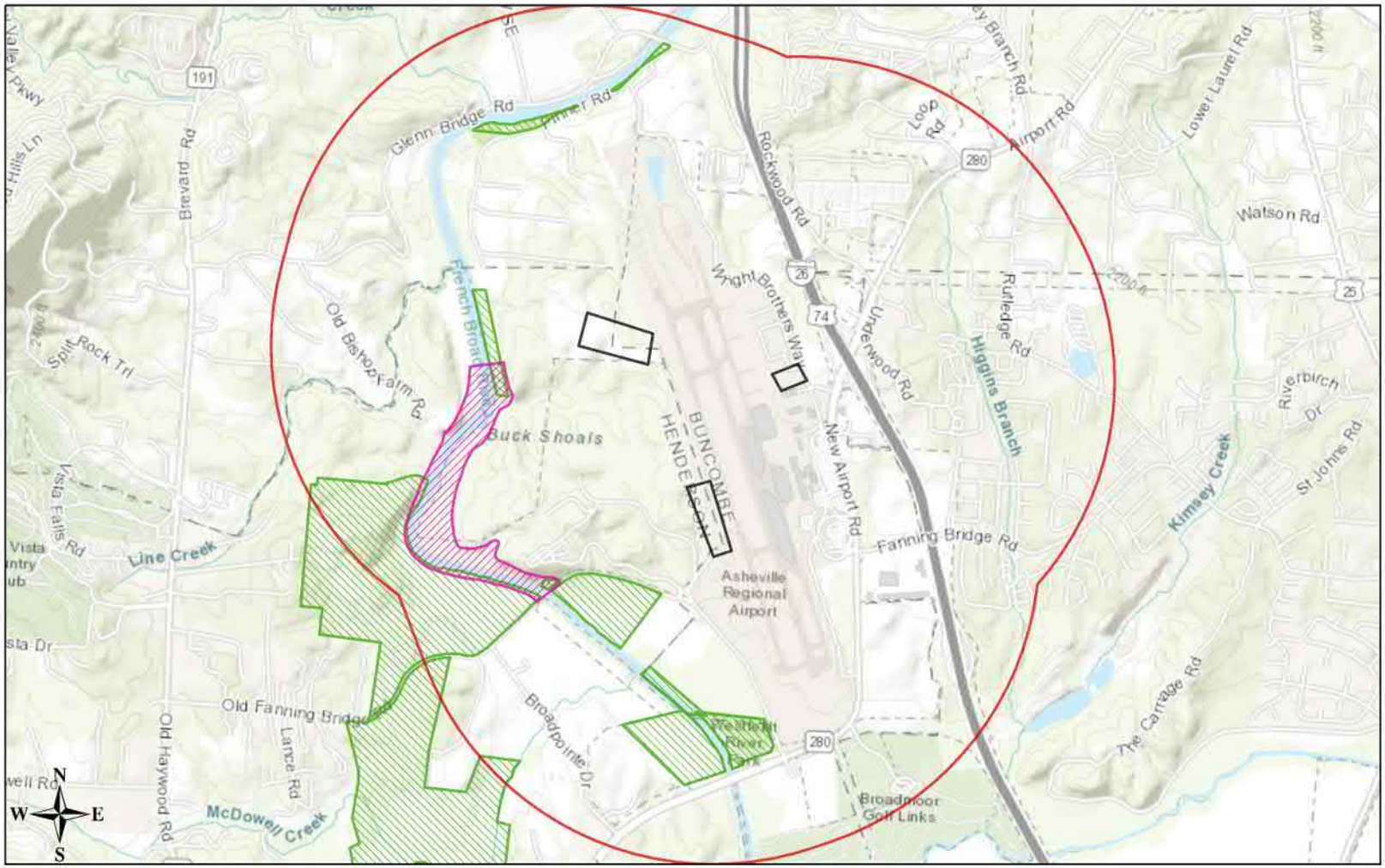
Site Name	Representational Rating	Collective Rating
Fanning Bridge Swamp	R3 (High)	C5 (General)

Managed Areas Documented Within a One-mile Radius of the Project Area

Managed Area Name	Owner	Owner Type
Buncombe County Open Space	Buncombe County: multiple local government	Local Government
Mountain Horticultural Crops Research Station	North Carolina State University	State
Henderson County Open Space	Henderson County: multiple local government	Local Government
Conserving Carolina Easement	Conserving Carolina	Private

Definitions and an explanation of status designations and codes can be found at https://ncnhde.natureserve.org/help. Data query generated on May 14, 2020; source: NCNHP, Q2 Apr 2020. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

NCNHDE-12007: Proj 36: ATCT 060382



May 14, 2020

- Project Boundary
- Buffered Project Boundary
- NHP Natural Area (NHNA)
- Managed Area (MAREA)

1:28,321

0 0.225 0.45 0.9 mi

0 0.375 0.75 1.5 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Protected Species Survey and Habitat Assessment
And
Waters of the US Survey

Asheville Regional Airport Improvements

Asheville, NC

Under Contract With:

CHA Companies

Prepared by

Edwards-Pitman Environmental, Inc.
Atlanta, GA

July 2020

Introduction

An Edwards-Pitman Environmental, Inc. (EPEI) biologist conducted a site evaluation for protected species and waters of the US at the Asheville Regional Airport (AVL). The specific locations evaluated were in support of the proposed project elements: relocation of the Air Traffic Control Tower (ATCT) (three sites), location for the Central Energy Plant (CEP) (three sites), an access / utility corridor west of the runways and taxiways, and project staging areas. This report describes the existing vegetation communities at the project elements, state and federally protected species and their potential existence, and waters of the US as currently defined. The surveys were limited to the location of project elements. The location of the evaluated areas is shown on Figure 1.

Project Element Site Descriptions

A description of the general vegetation communities or land use observed within the project elements is provided in the following paragraphs.

ATCT # 10

ATCT # 10 was located on asphalt pavement that serves as a tie-down area for small aircraft. The only vegetation associated with the location was confined to maintained grass banks along the eastern and southern boundaries of the location. The grass seed mix used at the airport primarily consisted of tall fescue (*Festuca arundinacea)* – 70%, hard fescue (*F. ovina*) – 14%, Kentucky bluegrass (*Poa pratensis*) – 7%, and annual ryegrass (*Lolium multiflorum*) – 7%. There was no habitat for any federal or state protected species at the location and there were no waters of the US present. See Asheville Regional Airport: Photographic Log for Project Elements, photographs 5-8.

ATCT # 2a

ATCT # 2a is primarily located on a previously cleared and graded area with bare soil. The northeast and northwest corners of the site have hardwood trees ranging from 25-40 years old. The primary overstory trees included white oak (*Quercus nigra*), scarlet oak (*Q. coccinea*), northern red oak (Q. rubra) and sourwood (*Oxydendron arboreum*). The open understory included saplings of the above species along with eastern white pine (*Pinus strobus*) and black cherry (*Prunus serotina*), and shrubs such as American holly (*Ilex americana*) and mountain laurel (*Kalmia latifolia*). The hardwood forest provided habitat for the Carolina flying squirrel (*Glaucomys sabrinus coloratus*); however, no flying squirrels were observed during the survey. There was no habitat for any other federal or state protected species at the location and there were no waters of the US present. See Asheville Regional Airport: Photographic Log for Project Elements, photographs 9-12.

ATCT # 6

ATCT # 6 is primarily located on a previously cleared and graded area that was seeded with the Airport's recommended grass seed mix. The western edge of the site has a stand of hardwood trees ranging from 25-40 years old with a species composition similar to ATCT #2a. The hardwood forest may provide habitat for the Carolina flying squirrel; however, no flying squirrels were observed during the survey and this isolated 5-acre stand of trees is unlikely to support a population of squirrels. There was no habitat for any other federal or state protected species at the location and there were no waters of the US present within the proposed footprint of ATCT # 6. See Asheville Regional Airport: Photographic Log for Project Elements, photographs 13-14.

CEP # 2a

CEP # 2a encompassed an existing building and the adjacent asphalt pavement. The only vegetation associated with the location was confined to a maintained grass lawn. There was no habitat for any federal or state protected species at the location and there were no waters of the US present. See Asheville Regional Airport: Photographic Log for Project Elements, photographs 1.

CEP # 3a

CEP # 3a encompassed an existing building and the adjacent asphalt pavement. The only vegetation associated with the location was confined to a maintained grass lawn. There was no habitat for any federal or state protected species at the location and there were no waters of the US present. See Asheville Regional Airport: Photographic Log for Project Elements, photographs 2.

CEP # 6b

CEP # 6b encompassed a grassed area between asphalt parking facilities. The only other vegetation associated with the location were planted willow oaks (*Q. phellos*) and fir trees (*Abies* sp.). There was no habitat for any federal or state protected species at the location and there were no waters of the US within the proposed footprint of CEP # 6b. See Asheville Regional Airport: Photographic Log for Project Elements, photographs 3-4.

Access / Utility Corridor

The access/utility corridor is located within and adjacent to the existing gravel road between potential ATCT sites # 2a and # 6 and then extends 650 feet south to an unnamed asphalt road. The asphalt road is an extension from Old Fanning Bridge Road to the chain-link fence surrounding AVL. The proposed utility line would extend along the road extension to Old Fanning Bridge Road. There was no habitat for any federal or state protected species at the location within the proposed footprint of access/utility corridor. At the time of the site visit, one intermittent stream that connected to the French Broad River was flowing under the road extension near the Old Fanning Bridge Road roundabout. See Asheville Regional Airport: Photographic Log for Project Elements, photographs 13 and 19-20.

North Staging Area

The North Staging Area was a gravel parking lot, a portion of which was portioned off with a chain-link fence. Grassed areas were immediately adjacent to the east and west of the proposed staging area. There was no habitat for any federal or state protected species at the location and there were no waters of the US within the proposed footprint of the North Staging Area. See Asheville Regional Airport: Photographic Log for Project Elements, photograph 17.

South Staging Area

The South Staging Area encompassed a gravel parking lot, a strip of adjacent trees and a grassed area between the trees and gravel parking area. The trees were primarily planted Virginia pine (*Pinus viginiana*) and saplings of white oak and sourwood. There was no habitat for any federal or state protected species at the location and there were no waters of the US within the proposed footprint of the South Staging Area. See Asheville Regional Airport: Photographic Log for Project Elements, photograph 18.

Protected Species Evaluation

The habitat evaluation for protected species was conducted on June 2-3, 2020 at AVL for federal and North Carolina species protected under the Endangered Species Act of 1973 and North Carolina Environmental Policy Act, including amendments. The habitat evaluation was conducted by David Pearce, Chief Ecologist and Wildlife Biologist with EPEI, at specified ATCT and CEP locations along with their staging areas, and the access corridor within the AVL property. The protected species evaluation included a review of background materials, pedestrian survey of the locations, and an evaluation of habitat (i.e., vegetation communities) for the protected species; no collection of flora or fauna was conducted during the survey/evaluation of the project locations.

Federal and State Protected Species Potentially Occurring at the Asheville Regional Airport

The protected species evaluation focused on federal and state species listed as potentially occurring on or near AVL as identified by the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) website and correspondence with the North Carolina Natural Heritage Program. The species and habitat information are presented in the following paragraphs along with a determination regarding the presence, absence, or potential for the species to occur at the project elements.

Federal Protected Species

Carolina Northern Flying Squirrel

The northern flying squirrel is a small nocturnal gliding mammal 1O-12 inches in total length. It possesses a long, broad, flattened tail (8O% of head and body length), prominent eyes, and dense, silky fur. The broad tail and folds of skin between the wrist and ankle form the aerodynamic surface used for gliding. Adults are gray with a brownish, tan, or reddish wash on the back, and grayish white or buffy white ventrally. Juveniles have uniform dark, slate-gray backs, and off-white undersides. Habitat for this species, mature mixed hardwood forest, was identified in the forest vegetation community adjacent to ATCT sites #2a and #6. The hardwood forest adjacent to ATCT #2a is part of a larger forest; therefore, could be used by this species. The potential impacts to the hardwood forest at ATCT #2a was an estimated 1.3 acres at the edge of an estimated 225 acres of continuous forest cover; therefore, any clearing activity would not likely impact the flying squirrel population. The 5-acre stand of hardwood trees at ATCT #6 was isolated and is unlikely to provide habitat for a viable population of Carolina northern flying squirrels.

Gray Bat

The gray bat varies in color from dark gray immediately following molt in July or August, to russet, which is especially evident in females during the spring. The dorsal fur is gray and woolly, the belly fur is grayish-white, and the rear edge of the wing membrane attaches at the ankle. This bat reaches between 3-4 inches in length, with a wingspan of 12 inches. Less than 5% of available caves in the Southeastern U.S. have the right properties of temperature, humidity, and structure to make them suitable for gray bat occupation. Wintering caves are deep and vertical and serve as cold air reservoirs. Summer caves must be much warmer, especially at maternity colonies where females are raising young. Summer caves have domed ceilings and are usually within 0.6 mile of a river or reservoir that serves as a foraging site. Most foraging occurs within 16 feet of the surface over open water near a forested shoreline. No suitable habitat was present at the proposed AVL element locations due to the lack of caves. No gray bats were observed; however, no mist netting or acoustic surveys were performed.

Table 1. Federally Protected Species Potentially Occurring at AVL*

COMMON NAME	SCIENTIFIC NAME	PROTECTION STATUS
	Vertebrate	
Carolina Northern Flying Squirrel	*Glaucomys sabrinus coloratus*	Endangered
Gray Bat	*Myotis griscens*	Endangered
Northern Long-Eared Bat	*Myotis septentrionalis*	Threatened
Bog Turtle	*Clemmys muhlenbergii*	Threatened
	Arachnids	
Spruce-fir Moss Spider	*Microhexura montivaga*	Endangered
	Invertebrate	
Applachian Elktoe	*Alasmidonta raveneliana*	Endangered
	Vascular Plants	
Spreading Avens	*Geum radiatum*	Endangered
Bunched Arrowhead	*Sagitttaria fasciculata*	Endangered
Mountain Sweet Pitcher-plant	*Sarracenia rubra ssp. jonesii*	Endangered
White Irisette	*Sisyrinchium dichotomum*	Endangered
Swamp Pink	*Helonias bullata*	Threatened
Small Whorled Pogonia	*Isotria medeoloides*	Threatened
Blue Ridge Goldernrod	*Solidago spithamaea*	Threatened
Virginia Spiraea	*Spiraea virginiana*	Threatened
	Lichens	
Rock Gnome Lichen	*Gymnoderma lineare*	Endangered

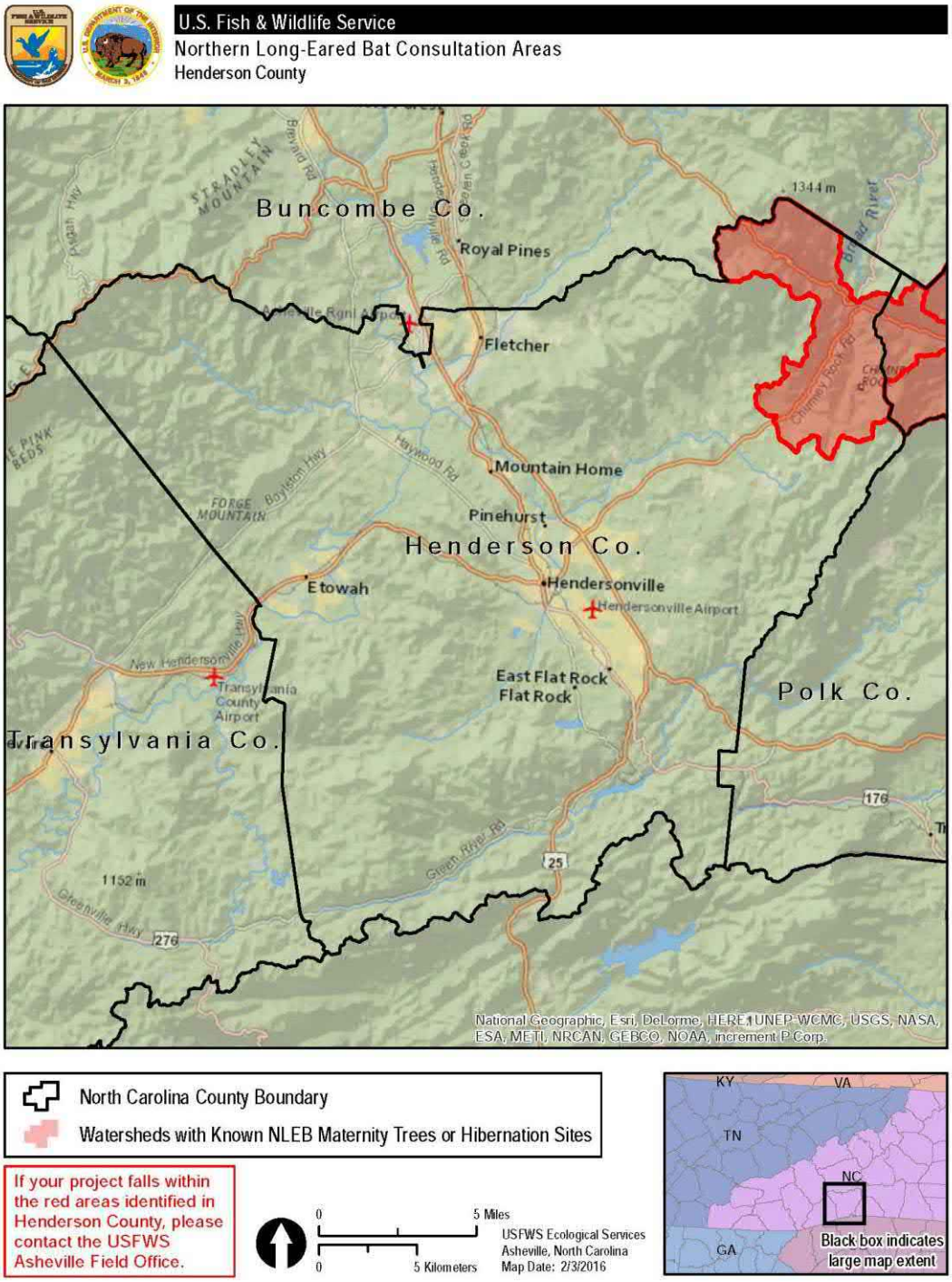
*Source: March 2020 USFWS IPAC website

Northern Long-Eared Bat

The northern long-eared bat, federally threatened, is dull brown in color with hairs dark at the root. This species can easily be distinguished from other *Myotis* species by its characteristically long ears which extend beyond its muzzle when laid down. The species uses summer roosts that occur in tree cavities and under exfoliating bark but have also been found in buildings and behind shutters. During winter, northern long-eared bats hibernate in tight crevices in caves and mines. Foraging is done primarily on forested hillsides and ridges. Habitat for the species was identified in the mixed hardwood forest vegetation community adjacent to the proposed ATCT sites #2a and #6. There was no wintering habitat present due to the lack of caves or mines. No northern long-eared bats were observed; however, no mist netting or acoustic surveys were performed.

The northern long-eared bat is protected under a special rule under section 4(d) of the Endangered Species Act. The4(d) rule applies to western North Carolina including Buncombe County. Within western North Carolina, incidental take without a permit is prohibited within hibernation sites, within 0.25 mile of a known hibernatin site, or within 150-foot radius of a known, occupied maternity roost during the pup season (June 1-July31). The following figure provided by the USFWS Asheville field office shows that the closest known maternity tree or hibernation site for the northern long-eared bat is in north eastern

Henderson County, 10 miles to the northeast. No sites are known in Buncombe County. The guidance provided for protecting this species is to remove trees within areas under the 4(d) rule is to remove trees outside the pup season and/or the active season (April 1 to October 31) to reduce the chance of impacting the unidentified maternity roosts.



Bog Turtle

The bog turtle is a small turtle reaching 4.5 inches in length with a low-keeled, brown, black, or mahogany colored carapace that is usually rough in appearance due to the distinctive growth annuli of the scutes. The unhinged plastron is typically black with yellow or cream-colored blotches along the midline. A conspicuous orange, yellow, or red blotch is present on each side of the head behind the eye. Skin color is brown to pink and may have some reddish mottling. This turtle inhabits bogs found along slow-flowing spring creeks and seepages within low mountain valleys. They require soft, deep, mucky organic soil and open wet areas with shallow water. It is often found in association with sedges, rushes, bulrushes, and sphagnum moss; associated woody vegetation includes red maple (*Acer rubrum*), tag alder (*Alnus rugosa*), willow (*Salix sp*.), and swamp rose (*Rosa palustris*). There were no bogs or other wet seepages observed within the location of the elements surveyed for this project.

Spruce-fir Moss Spider

The spruce-fir moss spider is the smallest of the mygalomorph spiders, with adults measuring only 0.10 - 0.15 inch in length. The species' coloration ranges from light brown to a darker reddish brown, and there are no markings on the abdomen. The carapace is generally yellowish brown. The most reliable field identification characteristics for the species are fangs that project forward well beyond the front edge of the carapace, a pair of very long posterior spinnerets and the presence of a second pair of book lungs that appear as light patches posterior to the genital furrow. The species is only known from only the highest mountain peaks (at and above 5,400 feet in elevation) in the Southern Appalachian Mountains of North Carolina and Tennessee. AVL is at a lower elevation than the known populations of the species and no spruce – fir forests were present at the proposed work sites.

Appalachian Elktoe

The Appalachian elktoe is a freshwater mussel that has a thin, kidney-shaped shell, reaching up to about 4 inches. Juveniles generally have a yellowish-brown periostracum, while the periostracum of the adults is usually dark brown to greenish-black in color. Although rays are prominent on some shells, particularly in the posterior portion of the shell, many individuals have only obscure greenish rays. The shell nacre is shiny, often white to bluish-white, changing to a salmon, pinkish, or brownish color in the central and beak cavity portions of the shell. The Appalachian elktoe inhabits relatively shallow, medium-sized creeks and rivers with cool, clean, well-oxygenated, moderate to fast-flowing water. The species is most often found in riffles, runs, and shallow flowing pools with stable, relatively silt-free, coarse sand and gravel substrate associated with cobble, boulders, and/or bedrock. There were no rivers or medium sized creeks within the evaluated element locations; therefore, no habitat was present for this species.

Spreading Avens

Spreading avens is a rare perennial herb endemic to a few scattered mountaintops in western North Carolina and eastern Tennessee. It is a perennial herb with basal rosettes of leaves arising from horizontal rhizomes. Bright yellow actinomorphic flowers are borne in an indefinite cyme atop a stem 1-3 inches tall. Flowering occurs from June through September; fruiting occurs from August through October. The plant grows on the shallow acidic soils of high-elevation cliffs, outcrops, and steep slopes and on gravelly talus associated with cliffs, often in full sun. AVL is not located on a high elevation ridgetop and there were no cliffs, rock outcrops, or steep slopes within the evaluated element locations; therefore, no habitat was present for this species.

Bunched Arrowhead

Bunched arrowhead is an emersed perennial plant that occupies seepages in gently sloping bogs with a slow continuous flow of cool clean water. The bogs are underlain by a clay layer. The plants may grow in open sunlight but seem to prefer shaded areas. The emersed basal leaves are spatulate. The flowering period is May-July. No bunched arrowheads were observed during the evaluation of the element locations and no seepage driven bogs were observed at the element sites evaluated.

Mountain Sweet Pitcher-plant

This insectivorous plant grows in bogs and stream sides of the Blue Ridge Mountains of North Carolina and adjacent states. The plants vary in height from 8-28 inches tall. The numerous leaves grow in clusters and are hollow and trumpet-shaped that form a slender tubular pitcher with a hood. The maroon flowers are born on a single stem and have recurved sepals. The species blooms from April-June and fruits in August. No mountain sweet pitcher-plants were observed during the evaluation of the element locations and no habitat (i.e., bogs) for the species was observed at the element sites evaluated.

White Irisette

White irisette is a perennial herb, 10-16 inches tall. Stems are winged, 1-1.5 inches wide and about one-half the height of the plant. There are three to five nodes, with successively shorter internodes between dichotomous branches. Basal leaves are one-third to one-half the height of the plant. Stem leaves are as broad or broader than the stem and long-attenuate, with an acuminate apex. The flowering period is from late May through July. This rare herb is typically found in open. dry to mesic oak-hickory forests on mid-elevation mountain slopes and on open, disturbed sites, such as woodland edges and roadsides. No white irisette plants were observed during the evaluation of the element locations and no habitat for the species was observed at the element sites evaluated.

Swamp Pink

Swamp pink inhabits mountain bogs and has smooth, oblong, dark green leaves that form an evergreen rosette. In spring, some rosettes produce a flowering stalk that can grow over three feet tall. The stalk is topped by a 1 to 3-inch-long cluster of 30-50 small, fragrant, pink flowers dotted with pale blue anthers. The evergreen leaves of swamp pink can be seen year-round, and flowering occurs between March and May. No swamp pink plants were observed during the evaluation of the element locations and no habitat (i.e., bogs) for the species was observed at the element sites evaluated.

Small Whorled Pogonia

The small whorled pogonia is a perennial herb with a waxy, pale green stem that is topped by a whorl of 4-6 leaves. The leaves are wide, pointed, and waxy, and there are 1-2 flowers with two yellow-green, forward-curving petals that rise from the center of the leaf whorl. There is a 3-lobed, dark green veined lip petal with a yellow-green crest that extends downward. Fruit is capsule-shaped and sits on a long stalk. This species can be found inhabiting acidic soils of mixed hardwood-pine forests on lower slopes and stream terraces, often in association with chestnut oak (*Quercus prinus*), red maple (*Acer rubrum*), hemlock (*Tsuga sp.*), white pine (*Pinus strobus*) or Virginia pine (*Pinus virginiana*), lowbush blueberry (*Vaccinium angustifolium*), Indian cucumber root (*Medeola virginiana*), and New York fern (*Thelypteris noveboracensis*). The plant flowers in May and fruiting occurs from June – August. No small whorled pogonia plants were observed during the evaluation of the element locations and no habitat for the species was observed at the element sites evaluated.

Virginia Spiraea

The Virginia spiraea is a tall shrub with erect or arching stems forming dense thickets. The leaves are long, alternate, lance-shaped, oval, or oblong, and taper into short leaf stalks. Flowers have five wide, round, white petals that surrounding a greenish-yellow disk bearing that shows many stamens. This shrub can be found growing in rocky streams over sandstone such as boulder stream banks, edges of waterfalls, and rock ledges. Virginia spiraea will grow in areas with occasional scouring floods to help reduce the threat of competition from other shrubs. The species flowers from late May-July and fruits August-October. No Virginia spiraea plants were observed during the evaluation of the element locations and no habitat for the species was observed at the element sites evaluated.

Rock Gnome Lichen

Rock gnome lichen grow at high elevations (i.e., above 5,000 feet) and is limited to vertical rock faces where seepage water from forest soils above flows at very wet times. The species needs a moderate amount of light but cannot tolerate direct light. The conditions for this species were not present at AVL.

State Protected Species

According to the North Carolina Natural Heritage Program information provided by the agency in a letter dated May 14, 2020, the following North Carolina protected species of flora and fauna are potentially within a 1-mile radius of AVL (See Table 2).

During the June 2020 field survey, it was determined that there was no suitable habitat for any of the state protected species within the vicinity of the element locations. There were no perennial streams present to provide habitat for these seven aquatic species: Appalachian elktoe, slippershell mussel, French Broad River crayfish, paddlefish, blotched chub, eastern hellbender, and mudpuppy. There were no pine/conifer forests present for the prickly ground-pine. The superb jewelwing is a mobile specie and may fly through the element areas but it would not use the areas due to the lack of woods and streams associated with the element locations.

Table 2. State Protected Species Potentially Occurring Within 1-Mile of the Project Area*

TAXONOMIC GROUP	SCIENTIFIC NAME	COMMON NAME	STATE STATUS**	HABITAT COMMENT
Freshwater Bivalve	*Alasmidonta raveneliana*	Appalachian elktoe	E	shallow, medium-sized creeks and rivers with cool, clean, well-oxygenated, moderate to fast-flowing water
Freshwater Bivalve	*Alasmidonta viridis*	Slippershell mussel	E	inhabits riffle areas with a gravel, cobble, and boulder substrate
Crustacean	*Cambarus reburrus*	French Broad River crayfish	SR	moderately flowing headwater streams
Freshwater Fish	*Polyodon spathula*	Paddlefish	E	large river systems
Freshwater Fish	*Etheostoma collis*	Blotched chub	SR	muddy and rocky pools and backwaters of sluggish headwaters and creeks.
Amphibian	*Cryptobranchus alleganiensis*	Eastern hellbender	SC	large, irregularly shaped, and intermittent rocks in swiftly moving water
Amphibian	*Necturus maculosus*	Mudpuppy	SC	streams and rivers, ditches and reservoirs in waters with high oxygen content
Vascular Plant	*Dendrolycopodium dendroideum*	Prickly Ground-pine	SR	Acidic forests, usually in moist areas, and often under pines and other conifers
Dragonfly	*Calopteryx amata*	Superb jewelwing	SR	Rocky streams and rivers in woods

*Source: North Carolina Natural Heritage Program. (May 14,2020]. Department of Natural and Cultural Resources, Division of Land and Water Stewardship, Raleigh, NC.

**E=Endangered, SC=Special Concern, SR=Significantly Rare

Water of the US Evaluation

The project elements and adjacent areas were evaluated by reviewing background material and then conducting an on-site investigation. The 1987 US Army Corps of Engineers (USACE) *Wetland Delineation Manual* and the *2012 Eastern Mountains and Piedmont Regional Supplement* were utilized as guidance to evaluate potential wetlands. The following three wetland characteristics must be present for an area to qualify as a jurisdictional wetland: prevalence of hydrophytic vegetation, presence of hydric soils, and evidence of hydrology such as permanent or periodic inundation or saturation.

Two streams and one wetland were observed during field activity at AVL. The evaluation did not include a full delineation or filling out wetland and upland data forms. The waters of the US described in this section were not confirmed by the US Army Corps of Engineers. These waters of the US, if confirmed to be jurisdictional, are subject to Section 404 – Clean Water Act regulations. Based on the location of the project elements and the location of the aquatic resources, no impacts to these resources is anticipated. Figures 5 and 6 show the location of the streams within the study area overlaid on aerial and topographic backgrounds, respectively.

Stream 1 is located approximately 150 feet west of the proposed ATCT #6 site. The stream is an intermittent stream and a water of the US that is subject to Section 404 regulations. The stream begins west the proposed ACTC #6 site at a spring and flows southwest and is a direct tributary to the French Broad River. The intermittent stream is illustrated on the US Geologic Survey (USGS) Skyland, NC Quadrangle, 7.5' Series. The stream was approximately 2 feet wide, the water depth was 2-4 inches, and the stream banks were less than 12 inches. The stream substrate was silty clay with leaves and other organic material. The proposed utility line leading to ATCT site #2a and #6 may cross the stream. Depending on the construction methods for the instillation of the utility line, a Section 404 General Permit with Pre-Construction Notification may be required for stream impacts.

Stream 2 is located approximately 60-75 feet south of the proposed CEP #6b site. Stream 2 was an intermittent stream and a water of the US subject to Section 404 regulations. The stream begins at a stormwater outfall and collects rainfall from the adjacent parking facilities and grassed hillside. The stream flows in a man-made ditch that leads to a stream shown on the USGS Skyland, NC Quadrangle, 7.5' Series. The channel was incised 4-5 feet and water was present (4-5 inches deep) in the channel. There was also wetland vegetation within the bottom of the ditch. It is not anticipated that Stream 2 would be impacted by the project but if the stream is impacted, a Section 404 permit would be required.

Wetland 1 (WL1) is located adjacent to Stream 1 along the seepage slope adjacent to the stream. The soils were moist and common hydric vegetation observed included Carex species (*Carex lurida and C. spp.*), cinnamon fern (*Osmunda cinnamomea*), white oak, tulip popular (*Liriodendron tulipifera*), and black gum (*Nyssa sylvatica*). The soils exhibited color reduction. No impacts are anticipated to this aquatic resource but if WL 1 is impacted, a Section 404 permit would be required for the impact activity.

If it is determined that wetlands/streams would be impacted by the project, then prior to any construction activity, a formal delineation and a jurisdictional determination would be required, and a Section 404 permit obtained from the USACE.

ASHEVILLE REGIONAL AIRPORT: PHOTOGRAPHIC LOG for PROJECT ELEMENTS

Photograph 1. View to CEP 2a site (6/25/2020).

Photograph 2. View northwest across CEP 3a site from CEP 2a (6/25/2020).

Photograph 3. View of CEP 6b site to the west from the site mid-point (6/25/2020).

Photograph 4. View of CEP 6b site to the east from the site mid-point (6/25/2020).

ASHEVILLE REGIONAL AIRPORT: PHOTOGRAPHIC LOG for PROJECT ELEMENTS

Photograph 5. View from ATCT 10 site to the north (6/2/2020).

Photograph 6. View across ATCT 10 site to the east (6/2/2020).

Photograph 7. View from the ATCT 10 site to the south (6/2/2020).

Photograph 8. View from the ATCT 10 site to the west (6/2/2020).

ASHEVILLE REGIONAL AIRPORT: PHOTOGRAPHIC LOG for PROJECT ELEMENTS

Photograph 9. View east to west of the ATCT 2a site (6/2/2020).

Photograph 10. View west to east of the ATCT 2a site (6/2/2020).

Photograph 11. View to the east along the north side of ATCT 2a site (6/2/2020).

Photograph 12. View from the center of ATCT 2a to the southeast site corner (6/2/2020).

ASHEVILLE REGIONAL AIRPORT: PHOTOGRAPHIC LOG for PROJECT ELEMENTS

Photograph 13. View to the south of the access / utility road and ATCT 6 site (6/2/2020).

Photograph 14. View to the northeast of the woods adjacent to ATCT 6 site (6/2/2020).

Photograph 15. View east towards the terminal from the access / utility road near ATCT 6 site (6/2/2020).

Photograph 16. View to the south along the east side of the access / utility road near ATCT 2a site (6/2/2020).

ASHEVILLE REGIONAL AIRPORT: PHOTOGRAPHIC LOG for PROJECT ELEMENTS

Photograph 17. View to the south of the north staging area (6/25/2020).

Photograph 18. View to the south of the south staging area (6/25/2020).

Photograph 19. View southwest towards Old Fanning Bridge Road along the asphalt road extension (6/2/2020).

Photograph 20. View to the south at the Old Fanning Bridge Road round-about and the intermittent stream crossing (6/2/2020).

ASHEVILLE REGIONAL AIRPORT: PHOTOGRAPHIC LOG for PROJECT ELEMENTS

Photograph 21. View of Stream 1 and Wetland 1 from the beginning of Stream 1 (6/4/2020).

Photograph 22. View to the east of Stream 2, proposed CEP 6b would be uphill of the grassed slope (6/4/2020).

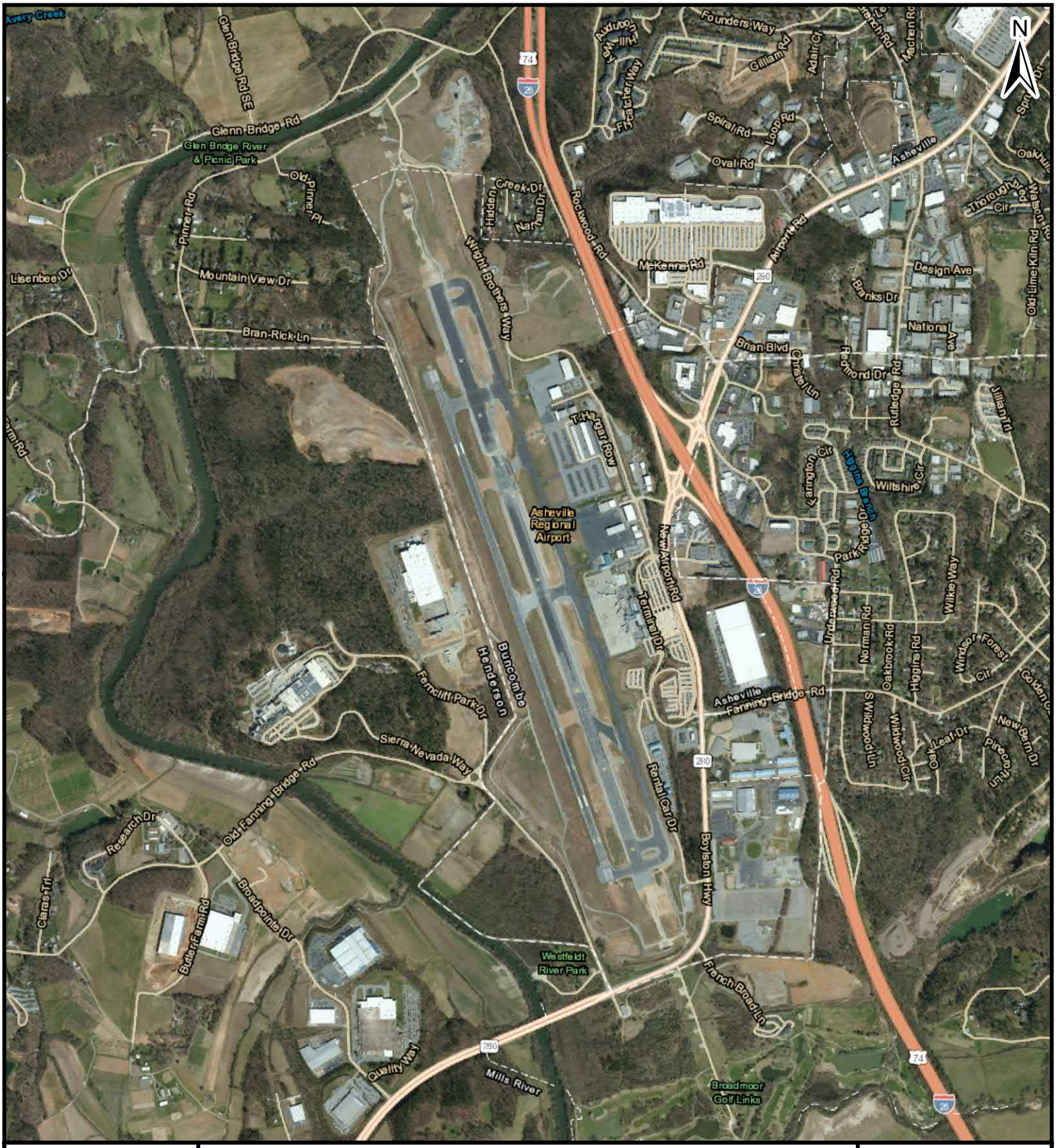
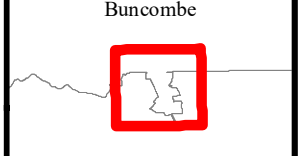


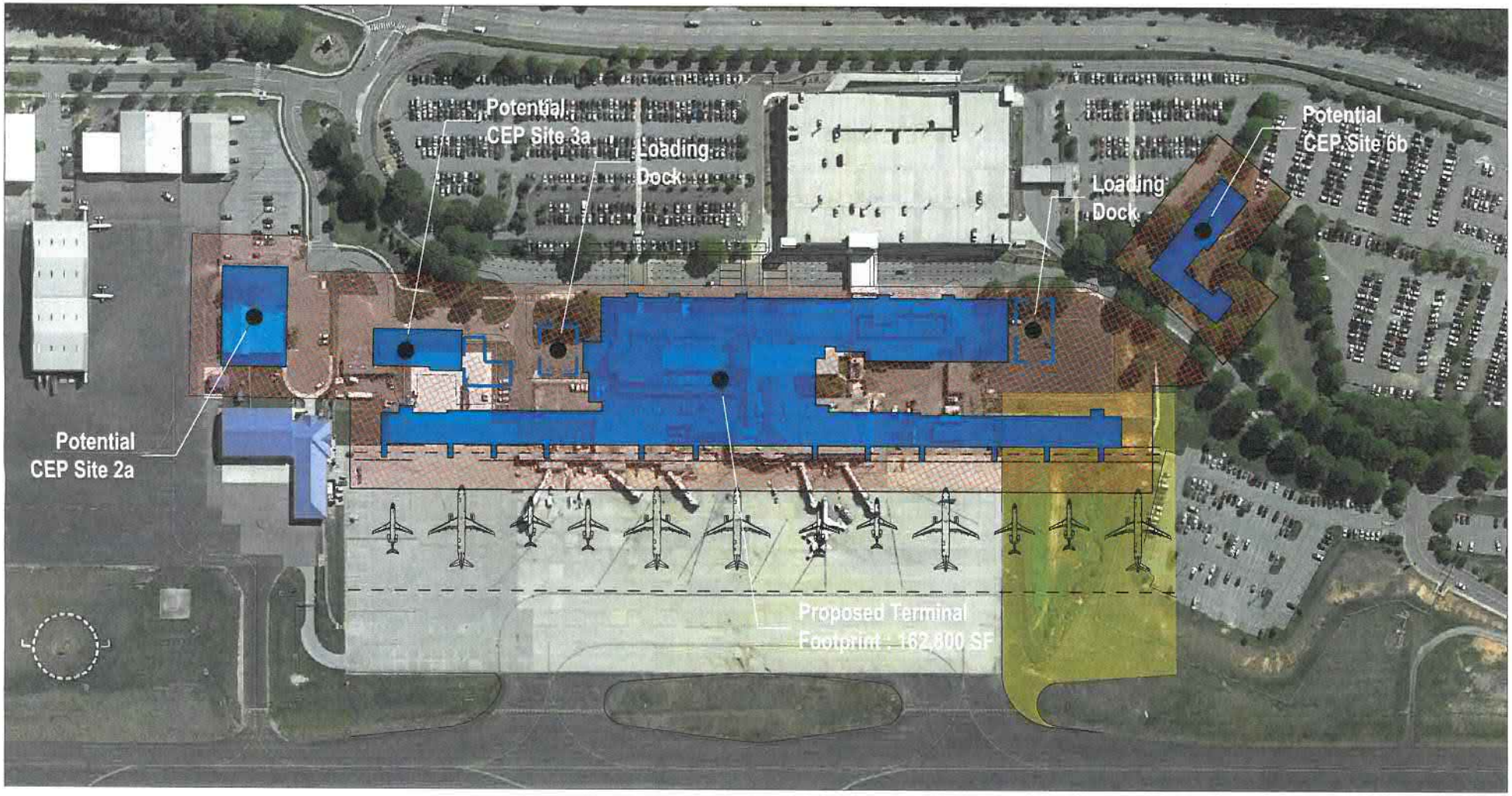
Figure 1 - Project Location Map

Asheville Regional Airport Improvements
Buncombe and Henderson Counties, North Carolina
Project No. 060382



0 0.5 1 Miles

Source: Esri Aerial Imagery



Asheville
REGIONAL AIRPORT

ASHEVILLE REGIONAL AIRPORT
ENVIRONMENTAL ASSESSMENT

GRAPHIC SCALE (FEET)
0 75 150

LEGEND

- Terminal Building Footprint
- Disturbance Limit
- Previously Completed Short Form Environmental Assessment for Terminal Apron Expansion; July 2018 (~3 acres)

FIGURE 2
PROPOSED TERMINAL BUILDING LIMITS

Asheville
REGIONAL AIRPORT

GRAPHIC SCALE (FEET)

LEGEND

- Limits of Disturbance
- Proposed Tower Cab Locations
- Proposed Tree Clearing Area
- ATCT Safety Area (R = 300')
- Proposed Access Road
- Proposed Utility Corridor
- Building Demolition
- New Building
- Construction Staging Area
- Proposed Fence

Figure 3
Proposed ATCT Sites

Asheville REGIONAL AIRPORT

ASHEVILLE REGIONAL AIRPORT
ENVIRONMENTAL ASSESSMENT

GRAPHIC SCALE (FEET)
0 150 300

LEGEND

- Potential Staging Areas
- Construction Vehicle Access Route
- Terminal Building Footprint
- Limits of Disturbance

FIGURE 4
CONSTRUCTION STAGING AREA
AND VEHICLE ACCESS ROUTE

Figure 5 - Waters Map

Asheville Regional Airport Improvements
Buncombe and Henderson Counties, North Carolina
Project No. 060382

0 0.5 1
Miles

Source: Esri Aerial Imagery

Legend

- Stream
- Stream
- Wetland

Buncombe

Henderson

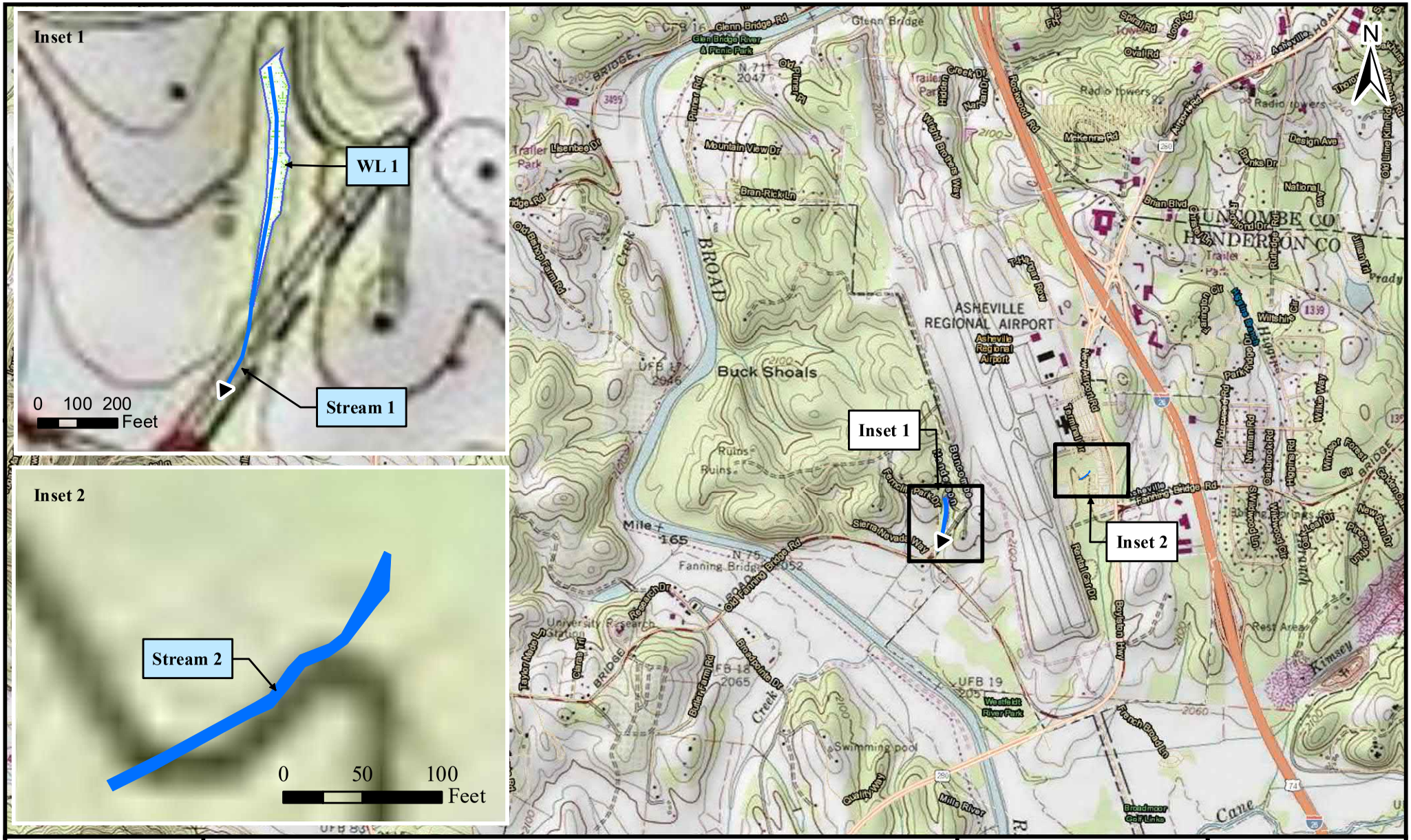


Figure 6 - Waters Map

Asheville Regional Airport Improvements
Buncombe and Henderson Counties, North Carolina
Project No. 060382

0 0.5 1 Miles

Source: USA Topo Maps

Legend

- Stream
- Stream
- Wetland

Buncombe

Henderson

IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Buncombe and Henderson counties, North Carolina

Local office

Asheville Ecological Services Field Office

(828) 258-3939
(828) 258-5330

160 Zillicoa Street
Asheville, NC 28801-1082

http://www.fws.gov/nc-es/es/countyfr.html

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

NOT FOR CONSULTATION

Mammals

NAME	STATUS
Carolina Northern Flying Squirrel Glaucomys sabrinus coloratus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2657	Endangered
Gray Bat Myotis grisescens No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6329	Endangered
Northern Long-eared Bat Myotis septentrionalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Reptiles

NAME	STATUS
Bog Turtle Clemmys muhlenbergii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6962	SAT

Clams

NAME	STATUS
Appalachian Elktoe Alasmidonta raveneliana There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5039	Endangered

Arachnids

NAME	STATUS
Spruce-fir Moss Spider Microhexura montivaga There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4801	Endangered

Flowering Plants

NAME	STATUS
Blue Ridge Goldenrod Solidago spithamaea No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5821	Threatened

NOT FOR CONSULTATION

Bunched Arrowhead Sagittaria fasciculata — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1720

Mountain Sweet Pitcher-plant Sarracenia rubra ssp. jonesii — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4283

Small Whorled Pogonia Isotria medeoloides — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1890

Spreading Avens Geum radiatum — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6854

Swamp Pink Helonias bullata — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4333

Virginia Spiraea Spiraea virginiana — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1728

White Irisette Sisyrinchium dichotomum — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8097

Lichens

NAME	STATUS
Rock Gnome Lichen Gymnoderma lineare No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3933	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

NOT FOR CONSULTATION

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE"

NOT FOR CONSULTATION

	INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler Cardellina canadensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Northern Saw-whet Owl Aegolius acadicus acadicus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 31
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31
Yellow-bellied Sapsucker sphyrapicus varius This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8792	Breeds May 10 to Jul 15

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

NOT FOR CONSULTATION

■ probability of presence ■ breeding season | survey effort – no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Bobolink
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Canada Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Eastern Whip-poor-will
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

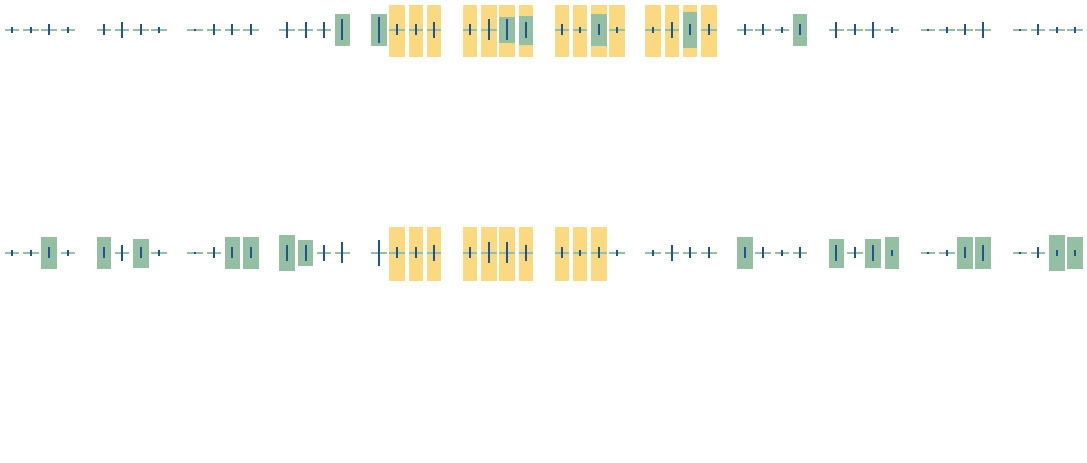
Northern Saw-whet Owl
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Prairie Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Red-headed Woodpecker
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Rusty Blackbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

NOT FOR CONSULTATION



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

NOT FOR CONSULTATION

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in

NOT FOR CONSULTATION

knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

NOT FOR CONSULTATION

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

NC DEPARTMENT OF
NATURAL AND CULTURAL RESOURCES

Roy Cooper, **Governor**
Susi Hamilton, **Secretary**
Walter Clark, **Director, Land and Water Stewardship**

NCNHDE-11298

February 24, 2020

Nicole Frazer
CHA
III Winners Circle
Albany, NY 12205
RE: Project No#518-453-8211

Dear Nicole Frazer:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources for the project referenced above.

Based on the project area mapped with your request, a query of the NCNHP database indicates that there are no records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. Please note that although there may be no documentation of natural heritage elements within the project boundary, it does not imply or confirm their absence; the area may not have been surveyed. The results of this query should not be substituted for field surveys where suitable habitat exists. In the event that rare species are found within the project area, please contact the NCNHP so that we may update our records.

The attached 'Potential Occurrences' table summarizes rare species and natural communities that have been documented within a one-mile radius of the property boundary. The proximity of these records suggests that these natural heritage elements may potentially be present in the project area if suitable habitat exists. Tables of natural areas and conservation/managed areas within a one-mile radius of the project area, if any, are also included in this report.

If a Federally-listed species is found within the project area or is indicated within a one-mile radius of the project area, the NCNHP recommends contacting the US Fish and Wildlife Service (USFWS) for guidance. Contact information for USFWS offices in North Carolina is found here: https://www.fws.gov/offices/Directory/ListOffices.cfm?statecode=37.

Please note that natural heritage element data are maintained for the purposes of conservation planning, project review, and scientific research, and are not intended for use as the primary criteria for regulatory decisions. Information provided by the NCNHP database may not be published without prior written notification to the NCNHP, and the NCNHP must be credited as an information source in these publications. Maps of NCNHP data may not be redistributed without permission.

The NC Natural Heritage Program may follow this letter with additional correspondence if a Dedicated Nature Preserve, Registered Heritage Area, Clean Water Management Trust Fund easement, or Federally-listed species are documented near the project area.

If you have questions regarding the information provided in this letter or need additional assistance, please contact Rodney A. Butler at rodney.butler@ncdcr.gov or 919-707-8603.

Sincerely,
NC Natural Heritage Program

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
Project No#518-453-8211
February 24, 2020
NCNHDE-11298

Element Occurrences Documented Within a One-mile Radius of the Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Amphibian	2672	Cryptobranchus alleganiensis alleganiensis	Eastern Hellbender	2019-02-06	E	3-Medium	---	Special Concern	G3T2	S3
Amphibian	10556	Necturus maculosus	Mudpuppy	1947-07-08	H	3-Medium	---	Special Concern	G5	S2
Amphibian	35818	Plethodon ventralis	Southern Zigzag Salamander	1940-Pre	H	4-Low	---	Special Concern	G4	S1
Dragonfly or Damselfly	33442	Calopteryx amata	Superb Jewelwing	2004-Pre	H?	5-Very Low	---	Significantly Rare	G5	S1S2
Dragonfly or Damselfly	33444	Calopteryx amata	Superb Jewelwing	2004-Pre	H?	5-Very Low	---	Significantly Rare	G5	S1S2
Freshwater Bivalve	7990	Alasmidonta raveneliana	Appalachian Elktoe	2019-03-14	C	3-Medium	Endangered	Endangered	G1	S1
Freshwater Bivalve	21861	Alasmidonta viridis	Slippershell Mussel	2019-04-17	E	3-Medium	---	Endangered	G4G5	S1
Freshwater Fish	5893	Erimystax insignis	Blotched Chub	2014-04-10	E	3-Medium	---	Significantly Rare	G4	S2
Freshwater Fish	11061	Polyodon spathula	Paddlefish	1983	H	4-Low	---	Endangered	G4	SH
Natural Community	3354	Montane Alluvial Forest (Large River Subtype)	---	2006	BC	1-Very High	---	---	G2?	S1
Vascular Plant	25168	Dendrolycopodium dendroideum	Prickly Ground-pine	1949-Pre	H	5-Very Low	---	Significantly Rare Peripheral	G5	S2

Natural Areas Documented Within a One-mile Radius of the Project Area

Site Name	Representational Rating	Collective Rating
Fanning Bridge Swamp	R3 (High)	C5 (General)

Managed Areas Documented Within a One-mile Radius of the Project Area

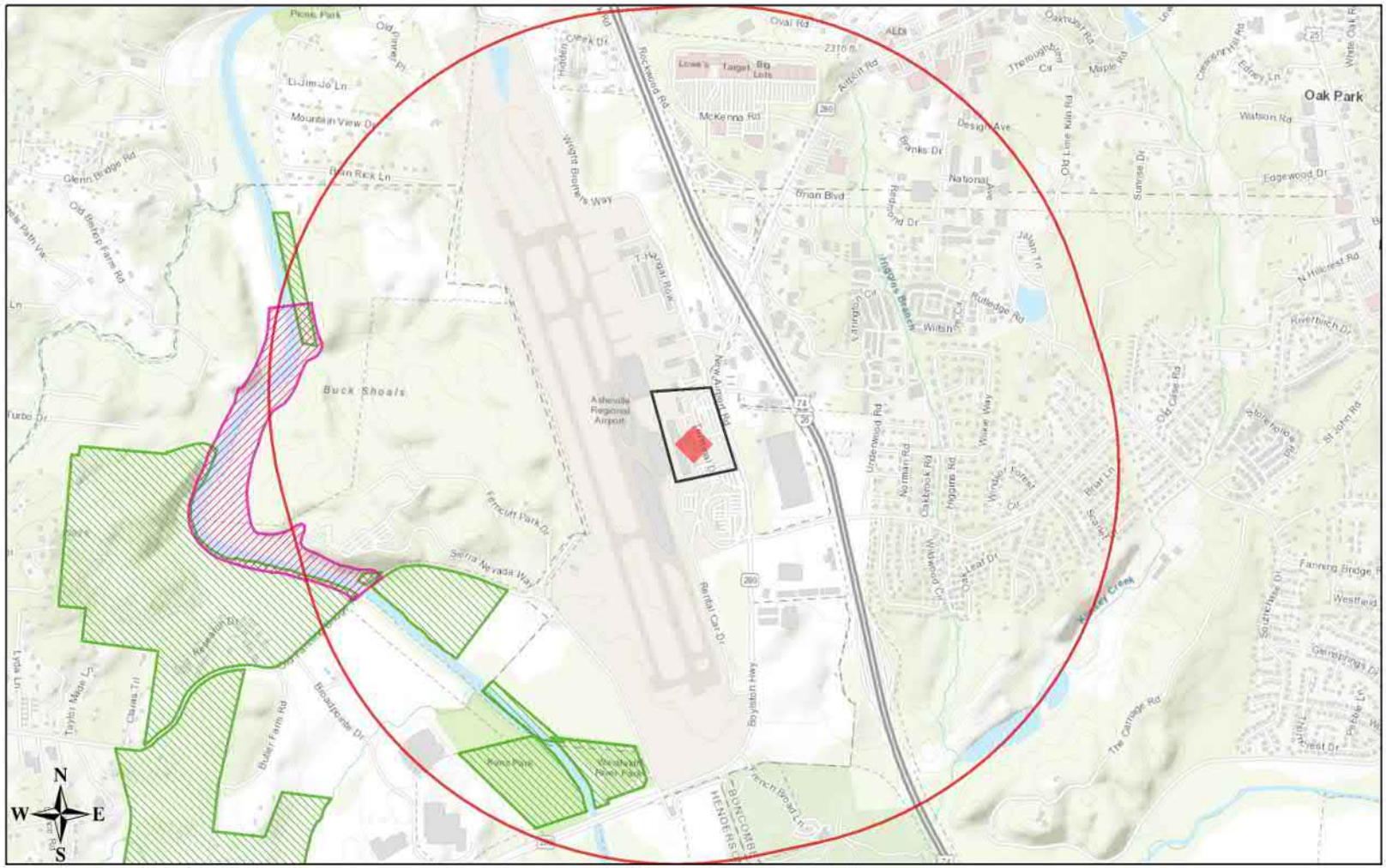
Managed Area Name	Owner	Owner Type
Carolina Mountain Land Conservancy Easement	Carolina Mountain Land Conservancy	Private

Managed Areas Documented Within a One-mile Radius of the Project Area

Managed Area Name	Owner	Owner Type
Mountain Horticultural Crops Research Station	North Carolina State University	State
Henderson County Open Space	Henderson County: multiple local government	Local Government

Definitions and an explanation of status designations and codes can be found at https://ncnhde.natureserve.org/content/help. Data query generated on February 24, 2020; source: NCNHP, Q1 Jan 2020. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

NCNHDE-11298: Project No#518-453-8211



February 24, 2020

- Project Boundary
- Buffered Project Boundary
- NHP Natural Area (NHNA)
- Managed Area (MAREA)

1:22,779

0 0.175 0.35 0.7 mi

0 0.3 0.6 1.2 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

July 28, 2020

Lisa Cooke
Federal Aviation Administration
Memphis Airports District Office
2600 Thousand Oaks Boulevard, Suite 2250
Memphis, Tennessee 38118-2462

Dear Lisa Cooke:

Subject: Asheville Airport Expansion; Buncombe and Henderson Counties, North Carolina
Log No. 4-2-20-387

The U.S. Fish and Wildlife Service (Service) has reviewed the information provided in your correspondence dated July 16, 2020, wherein you solicit our comments regarding project-mediated impacts to federally protected species. We submit the following comments in accordance with the provisions of the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e); the National Environmental Policy Act (42 U.S.C. §4321 *et seq*.); and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

Project Description

According to the information provided, the proposed project would entail the expansion of various facilities at an existing airport in Asheville, North Carolina. Specifically, the proposed work would expand an existing terminal, relocate an Air Traffic Control Tower, construct a central energy plant, and install various facility appurtenances. The project would require minor tree clearing and potential disturbance to small, unnamed streams and wetlands that eventually drain into the French Broad River. Onsite habitats are significantly disturbed from a legacy of activities associated with the existing development and provide limited habitat value for wildlife.

Federally Listed Endangered and Threatened Species

Suitable summer roosting habitat may be present in the project area for the federally threatened northern long-eared bat (*Myotis septentrionalis*). However, ongoing airport activities and adjacent land uses significantly reduce the likelihood that high quality habitat is present onsite for this species. Moreover, the final 4(d) rule (effective as of February 16, 2016), exempts incidental take of northern long-eared bat associated with activities that occur greater than 0.25 miles from a known hibernation site, and greater than 150 feet from a known, occupied maternity roost during the pup season (June 1 – July 31). Based on the information provided, the project (which may or may not require tree clearing) would occur at a location where any incidental take that may result from associated activities is exempt under the 4(d) rule. **Although not required, we encourage the Applicant to avoid any associated tree clearing activities during the maternity roosting season from May 15 – August 15.**

While suitable habitat does not occur within the immediate impact area, the federally endangered Appalachian elktoe (*Alasmidonta raveneliana*) occurs in project receiving waters (French Broad River). This sessile, benthic filter-feeding animal is highly susceptible to perturbations in water quality (contaminants) and physical habitats (silt). Proper erosion control and storm water controls designed to mitigate runoff and treat water quality would address our concerns for potential indirect impacts to this species.

We offer the following recommendations in the interest of protecting this species and other natural resources:

Measures to control sediment and erosion should be installed before any ground-disturbing activities occur. Grading and backfilling should be minimized, and existing native vegetation should be retained (wherever feasible) to maintain riparian cover for fish and wildlife. Disturbed areas should be stabilized or revegetated with native species as soon as the project is completed. Ground disturbance should be limited to what will be stabilized quickly, preferably by the end of the workday. **Natural fiber matting (coir) should be used for erosion control as synthetic netting can trap animals and persist in the environment beyond its intended purpose.**

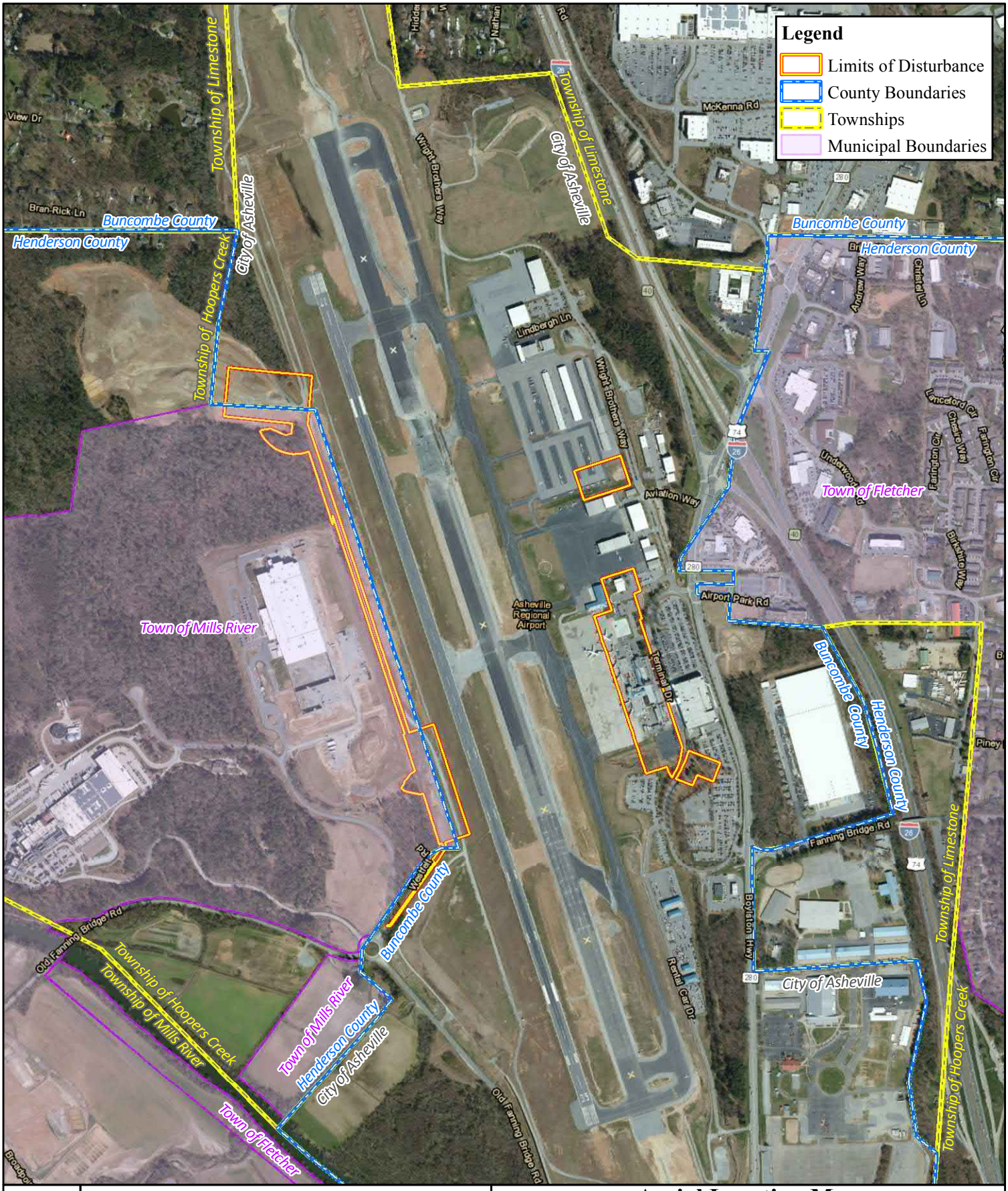
We recommend that consideration be given to the use of pervious materials (i.e., pervious concrete, interlocking/open paving blocks, etc.) for the construction of roads, driveways, walkways, etc. Pervious surfaces minimize changes to the hydrology of the watershed and can be used to facilitate groundwater recharge. Pervious materials are also less likely to absorb and store heat and allow the cooler soil below to cool the pavement. Additionally, pervious concrete requires less maintenance and is less susceptible to freeze/thaw cracking due to large voids within the concrete.

Based on the information provided, it appears that suitable habitat does not occur onsite for any other federally protected species. Therefore, the Service does not have concerns for project-mediated impacts to any other federally protected species and we require no further action at this time. Please be aware that obligations under section 7 of the Endangered Species Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

The Service appreciates the opportunity to provide these comments. Please contact Mr. Byron Hamstead of our staff at byron_hamstead@fws.gov, if you have any questions. In any future correspondence concerning this project, please reference our Log Number 4-2-20-387.

Sincerely,
- - original signed - -
Janet Mizzi
Field Supervisor

Appendix D



N

CHA

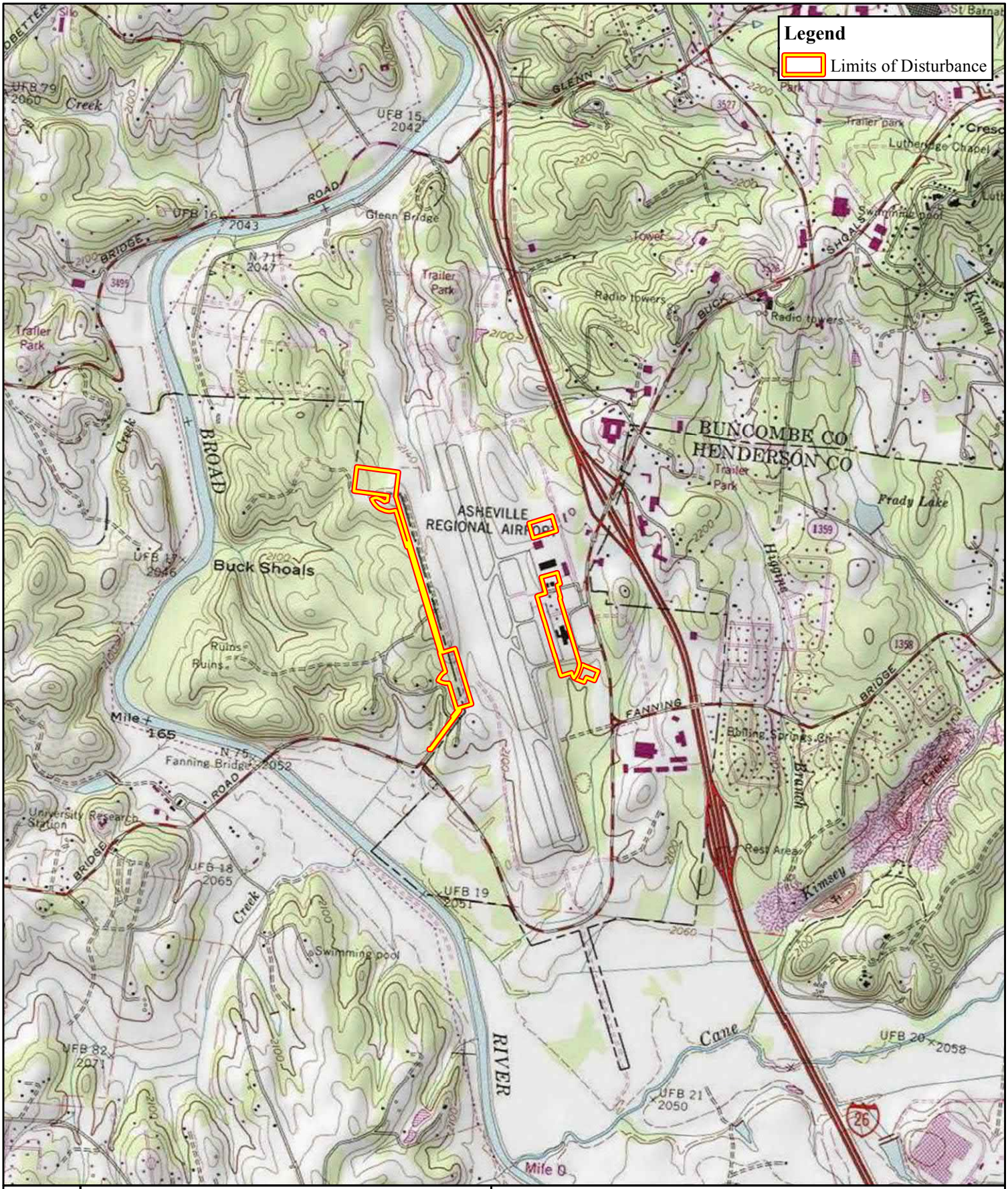
Aerial Location Map

Asheville Regional Airport
Passenger Building Terminal Expansion & Air Traffic Control Tower
City of Asheville and Town of Mills River
Buncombe and Henderson County, North Carolina

Scale 1" = 1,000'

CHA Project No. 060382

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,



N

CHA

USGS Project Location Map

Asheville Regional Airport
Passenger Building Terminal Expansion & Air Traffic Control Tower
City of Asheville and Town of Mills River
Buncombe and Henderson County, North Carolina

Scale 1" = 2,000'

CHA Project No. 060382

Service Layer Credits: Copyright © 2013 National Geographic Society, I-cubed Skyland USGS Quadrangle Date: 1991

N

FEMA Floodzones Map

Asheville Regional Airport
Passenger Building Terminal Expansion & Air Traffic Control Tower
City of Asheville and Town of Mills River
Buncombe and Henderson County, North Carolina

Scale 1" = 600'

CHA Project No. 060382

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

N

CHA

NWI Wetlands Map

Asheville Regional Airport
Passenger Building Terminal Expansion & Air Traffic Control Tower
City of Asheville and Town of Mills River
Buncombe and Henderson County, North Carolina

Scale 1" = 600'

CHA Project No. 060382

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Appendix E

ASHEVILLE AIRPORT TERMINAL EXPANSION & AIR TRAFFIC CONTROL TOWER RELOCATION

ASHEVILLE, NC

Visual Impact Assessment

August 2020

Prepared For:

Asheville REGIONAL AIRPORT

Prepared by:

CHA

III Winners Circle
Albany, NY 12205

CHA Project #: 060382

Table of Contents

List of Figures

List of Tables

List of Images

A. Project Location and Description

The Greater Asheville Regional Airport Authority (GARAA) has completed a plan to redevelop and expand the airport passenger terminal on the site of the current facility. This project also includes the replacement of the Air Traffic Control Tower (ATCT), which is currently located within the existing terminal building. The project is intended to better accommodate the continued growth in passenger and commercial aircraft activity.

The proposed redevelopment of the terminal building is expected to be of a similar height as the existing building. There are three alternatives for the location and height of the proposed ATCT (Figure 1). Though Site 6 is the preferred alternative, Site 2A is the tallest proposed option. As such, this visual impact assessment primarily uses the location and height from Site 2A in order to present the greatest potential impacts to viewers engaged in varying activities within the study area upon completion and operation of the redeveloped airport facilities.

B. Methodology

The visual impact assessment (VIA) process used in this report has been developed with guidance from the following documents:

- Chapter 13 "Visual Effects" from 1050.1F Desk Reference, 2020 by the Federal Aviation Administration Office of Environment and Energy.
- Guidelines for the Visual Impact Assessment of Highway Projects, January 2015 by The Federal Highway Administration.
- Visual resources assessment procedure for US Army Corps of Engineers, 1988 by RC Smardon, JF Palmer, and A Knopf.
- USFS Agriculture Handbook 701 Landscape Aesthetics: A Handbook for Scenery Management (Issued 1996, 264 pp).

The VIA process has been carried out in four phases: Establishment, Inventory, Analysis, and Mitigation. The purpose and goals of each phase are as follows:

Establishment—Define and map the Area of Visual Effect (AVE). The AVE is determined by considering landscape constraints and the physiological limits of human sight.

Inventory—Identify the landscape setting, potential visual resources, and affected population within the AVE in order to establish the baseline existing visual quality of the AVE.

Analysis—Evaluate impacts of the proposed project on visual quality within the AVE.

Mitigation—Prescribe mitigation strategies, as needed, to help ameliorate adverse impacts identified in the analysis phase.

Project specific and detailed methodology and documentation of each phase is provided in the following report section.

Asheville REGIONAL AIRPORT

GRAPHIC SCALE (FEET)

0 200 400

LEGEND

- Limits of Disturbance
- Proposed Tower Cab Locations
- Proposed Tree Clearing Area
- ATCT Safety Area (R = 300')
- Proposed Access Road
- Proposed Utility Corridor
- Building Demolition
- New Building
- Construction Staging Area
- Proposed Fence

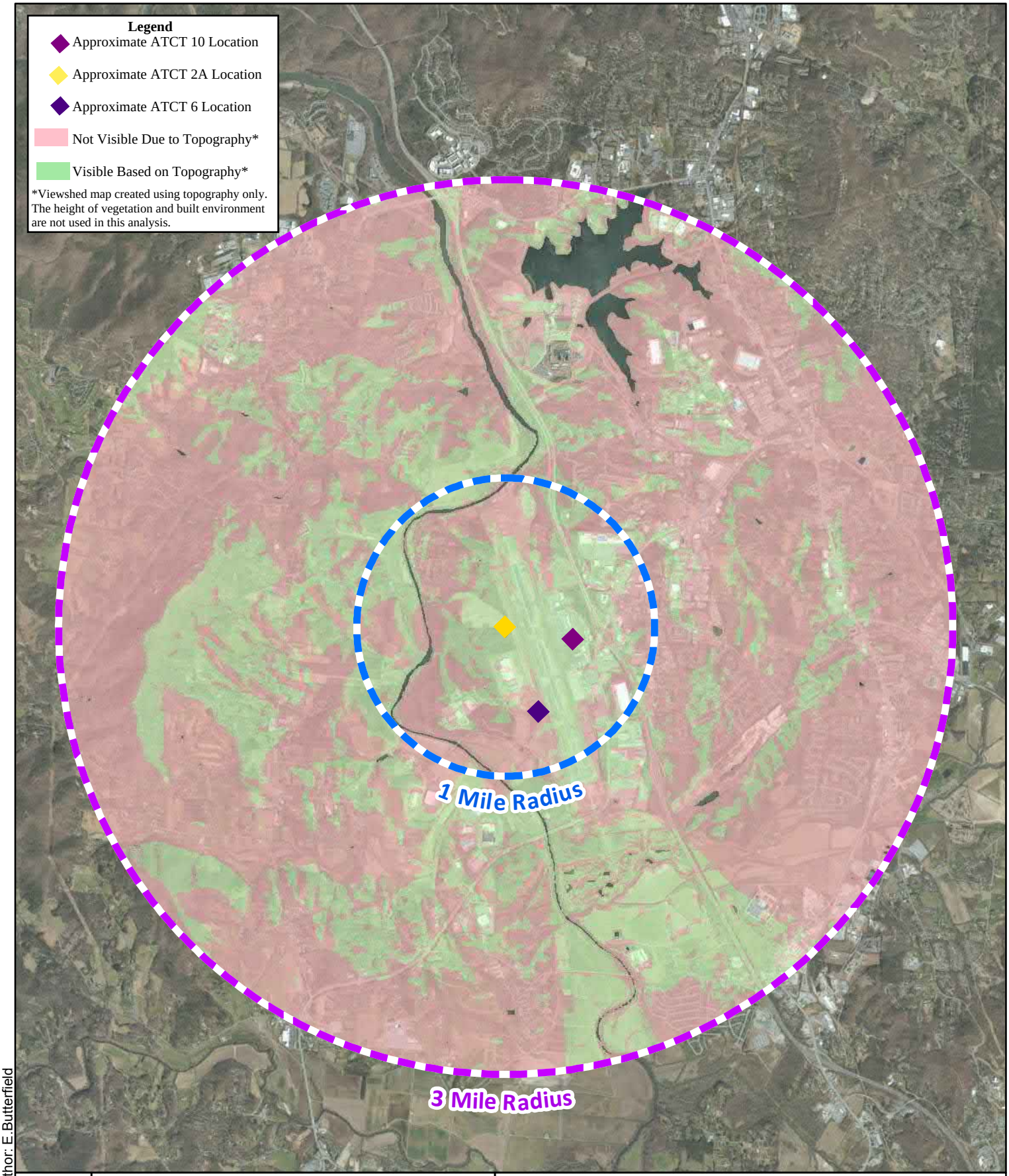
Figure **1**
Proposed ATCT Sites

C. Establishment

The first step in the VIA process is to establish the Area of Visual Effect (AVE). Defining the AVE, focuses the VIA process and helps to identify potential visual resources and affected population. A 3-mile radius around the proposed control tower from Site 2A (the tallest of the three alternatives) was used to establish the extents of the AVE. This 3-mile radius was chosen as it falls within the "middleground distance zone" as described by the National Forest Service. Within this zone, casual observers, have the ability to discern different patterns, textures, form, and colors across a landscape; and in theory, perceive visual impacts of a project[1].

With the 3-mile radius established, the AVE was further narrowed by conducting a viewshed analysis. This analysis evaluates line-of-site sections from the vantage point (viewer) to the proposed object (target) considering only existing topography. Visual obstructions from vegetation and the built environment were not considered during this evaluation since the locations and heights of trees vary within the study area. The target was chosen as a point 130 feet above the ground located at the center of the proposed control tower or 2,292 feet MSL. This analysis was conducted using elevation data from NOAA[2] and ArcGIS software's 3D Analyst Extension and ArcToolbox Viewshed tools. The resulting draft viewshed analysis map can be seen in Figure 2 Draft Viewshed Map .

[1] USFS Agriculture Handbook 701 Landscape Aesthetics: A Handbook for Scenery Management (Issued 1996, 264 pp).
[2] OCM Partners, 2020: 2005 NCFMP Lidar: NC Statewide Phase 3, https://inport.nmfs.noaa.gov/inport/item/49833.



N

CHA

Figure 2. Draft Viewshed Map

Asheville Regional Airport
Visual Impact Assessment
City of Asheville, Buncombe and Henderson County, North Carolina

Scale 1" = 4500'

CHA Project No. 060382

Service Layer Credits: 2020 Microsoft Corporation

Date Saved: 7/31/2020 • Author: E.Butterfield

D. Inventory

The next step in the VIA process is to identify the landscape setting, the potential visual resources, and affected populations within the AVE. This information then guides in establishing the existing visual quality of the AVE.

i. Landscape Setting

Four components are considered in the identification of the landscape setting: topography, land use, vegetation and water resources. The specific nature of these components can vary throughout the study area; however, the repetition of these characteristics within the study area defines the landscape setting from other areas. The landscape setting of the AVE was explored first by an extensive review of aerial imagery and Google Earth topography, and then confirmed with an on-site investigation on June 3, 2020.

Landform, or topography, defines the limits of views to and from the site as well as defining the physical and visual character of the study area. The topography contributes to the regional landscape by enclosing spaces, defining viewing distances and creating different viewer opportunities. The airport is located in a low spot relative to the nearby Blue Ridge Mountains. The area within the 3-mile radius is relatively flat and begins to rise in elevation northwest of the airport. Based on topography alone, much of the airport area would likely be visible from much of the study area as shown in Figure 2.

Land use and use Intensity affect the viewer's visual experience. Land uses are defined as industrial, commercial, residential, agricultural, recreational, forest, grass land and barren land. The land use defines the landscape setting by identifying both natural and man-made influences on an area. Land Use Intensity can be characterized as urban, suburban, rural and undeveloped. Some, or all, of the characteristics may be reflected in the landscape. The land use within the study are is varied. Commercial and industrial uses are found within 1-mile of the airport and continue out to the northeast. The remainder of the 3-mile area is a mix of residential, agricultural, and recreational uses.

Vegetation distribution can range from densely wooded areas, which provide a year-round buffer, to deciduous areas which limit or enhance views on a seasonal basis. Also, vegetation distribution includes open areas where the vegetation does not define or enhance a view. Aside from the most commercial and industrial areas, the study area is heavily vegetated. The residential neighborhoods within the study area have significant tree canopies and agricultural areas have fields lined by trees.

Water resources such as rivers, lakes, streams and wetlands may contribute significantly to the visual environment by expanding views toward the water or conversely, providing views from the water. The French Broad River meanders throughout the study area to the west of the airport. The River is lower in elevation that the airport and is buffered with vegetation throughout the study area, with a more densely forested area directly northwest of the airport.

ii. Visual Resources

Visual resources are landmarks and sites that are unique to the AVE that may have views of the proposed project. It is necessary to identify these resources in order to determine project visibility and any subsequent visual impacts. To determine visual resources within the AVE, desktop research was conducted into the following sources:

- National Register of Historic Places
- America's Scenic Byways and Highways
- National Wild and Scenic Rivers
- North Carolina Department of Natural and Cultural Resources
- North Carolina State Parks
- North Carolina Wildlife Resources Commission
- North Carolina State University
- Buncombe County Parks
- Henderson County Parks
- Town of Fletcher, NC Planning and Zoning
- Town of Fletcher, NC Parks and Recreation
- Town of Mills River, NC Parks and Recreation

During this review, any potential resources that were located within the 3-mile radius and within the visible areas identified in the Draft Viewshed Map (Figure 2 Draft Viewshed Map) were documented in

Table 1. The next step was to verify the visibility of all the resources in the field. However, due to limited access (private property) it was not feasible to visit all the identified resources during an on-site investigation. As such, an extensive review of aerial imagery and Google Earth topography was conducted to identify which resources would likely have views based on vegetation and the built environment. The resources visited and field verified are highlighted in red in Table 1 and included those that are:

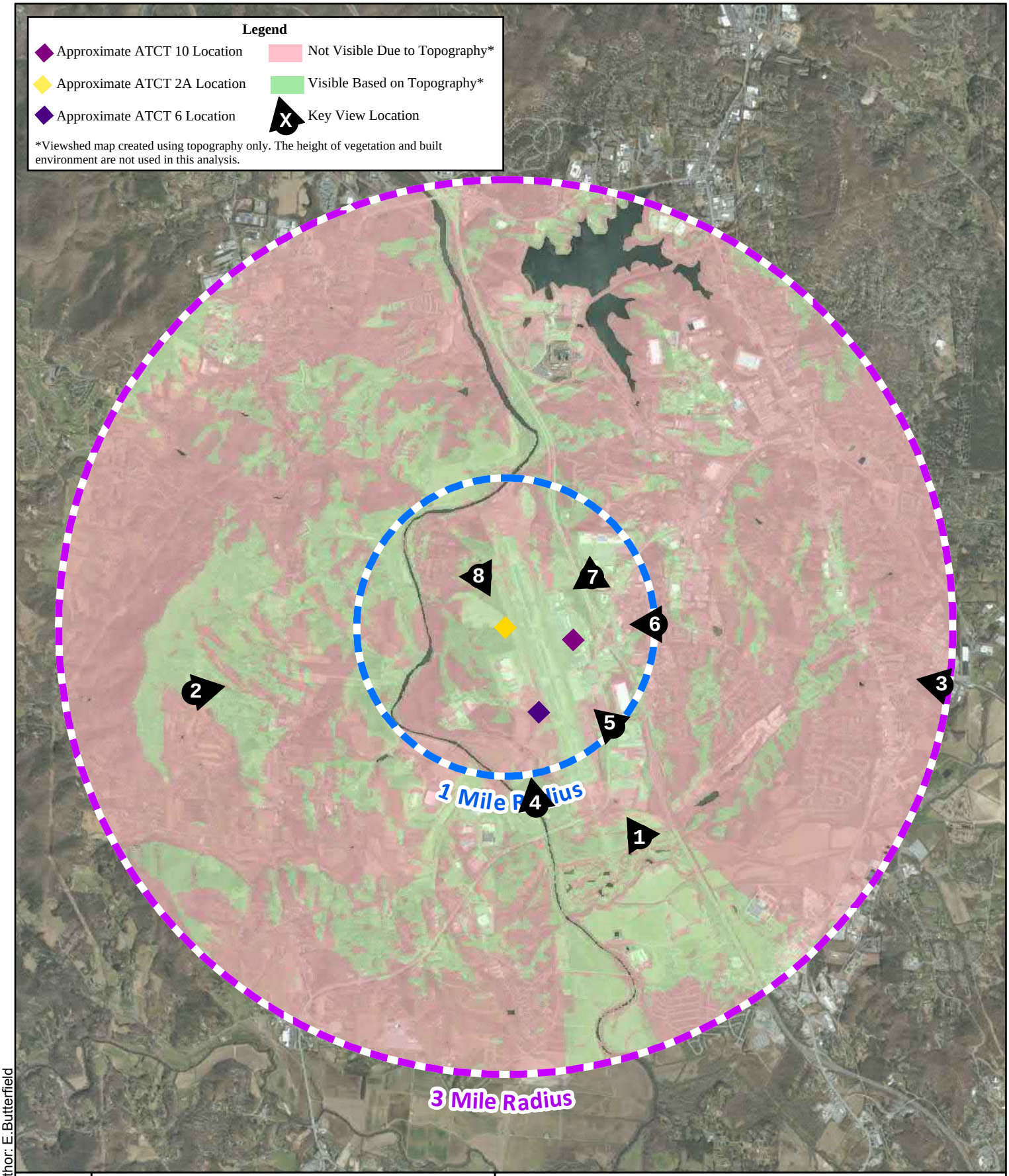
- Listed on the National Register of Historic Places,
- Had potential views of the proposed ATCT, and/or
- Are within a 1-mile radius of the airport.

Table 1 List of Potential Visual Resources

Name of Resource	Type of Resource	Initial Visibility Analysis[1]	Distance from Site (miles)
Avery Creek Community Center	Community Center	Not visible	2.21
Broadmoor Golf Links	Golf Course	Potentially visible from Clubhouse	1.68 (from Clubhouse)
Cane Creek Greenway Trail	Multi-Use Trail	Not visible	Varies (beyond 1 mile)
Carolina Memorial Society	Cemetery	Not Visible	1.7
Corcoran Paige River Park	Public Park	Not visible	0.96
Fletcher Town Parks	Public Park	Not visible	2.93
French Broad River	Recreational Resource	Not visible	Varies (beyond 1 mile)
Glen Bridge River Park	Public Park	Not visible	.84
High Vista Golf Club	Golf Course	Potentially visible from Clubhouse	2.10 (from Clubhouse)
Kate's Park	Public Park	Not Visible	2.53
Lake Julian Park	Public Park	Not Visible	2.34
Rugby Grange	Residential/Historic	Potentially visible	2.01
Rutledge Lake RV Resort	Campsite	Not Visible	1.40
The Meadows	Residential/Historic	Not Visible*	2.95
Westfeldt Park	Public Park	Potentially visible	1.33

[1] Determined through an extensive review of aerial imagery and Google Earth topography.

Although potentially visible and listed on the National Register of Historic Places, Rugby Grange is private property and accessible only by a private road. For these reasons, it was not feasible to verify the visibility of the project from this location. The four visited resources are listed in Table 2 and their locations are noted on the Final Viewshed Map (Figure 3, as Key Views 1-4). Photographs were taken looking towards the airport terminal vicinity from each resource location (Images 1-4). These existing images help to characterize the existing landscape setting and ultimately the baseline visual quality; an important benchmark in determining visual impacts of the project. Images 5-8, discussed below in Table 2, include locations with visibility of the Airport or ATCT from public roadways.



N

CHA

Figure 3. Final Viewshed Map - 3 Mile

Asheville Regional Airport
Visual Impact Assessment
City of Asheville, Buncombe and Henderson County, North Carolina

Scale 1" = 4500'

CHA Project No. 060382

Service Layer Credits: 2020 Microsoft Corporation

Date Saved: 7/31/2020 • Author: E.Butterfield

iii. Affected population

The evaluation of the potential visual impacts is dependent upon factors such as who is viewing the project and their location, the activity the viewers are involved in when viewing the project, the duration of the view, viewer expectations, and the overall scale of the project. Identification of the viewer groups allows the project to be evaluated in sub-categories, applicable to the user group, which defines the length of the view.

For the purposes of this proposed project, four different viewer groups, their potential activities and viewer locations have been identified as follows:

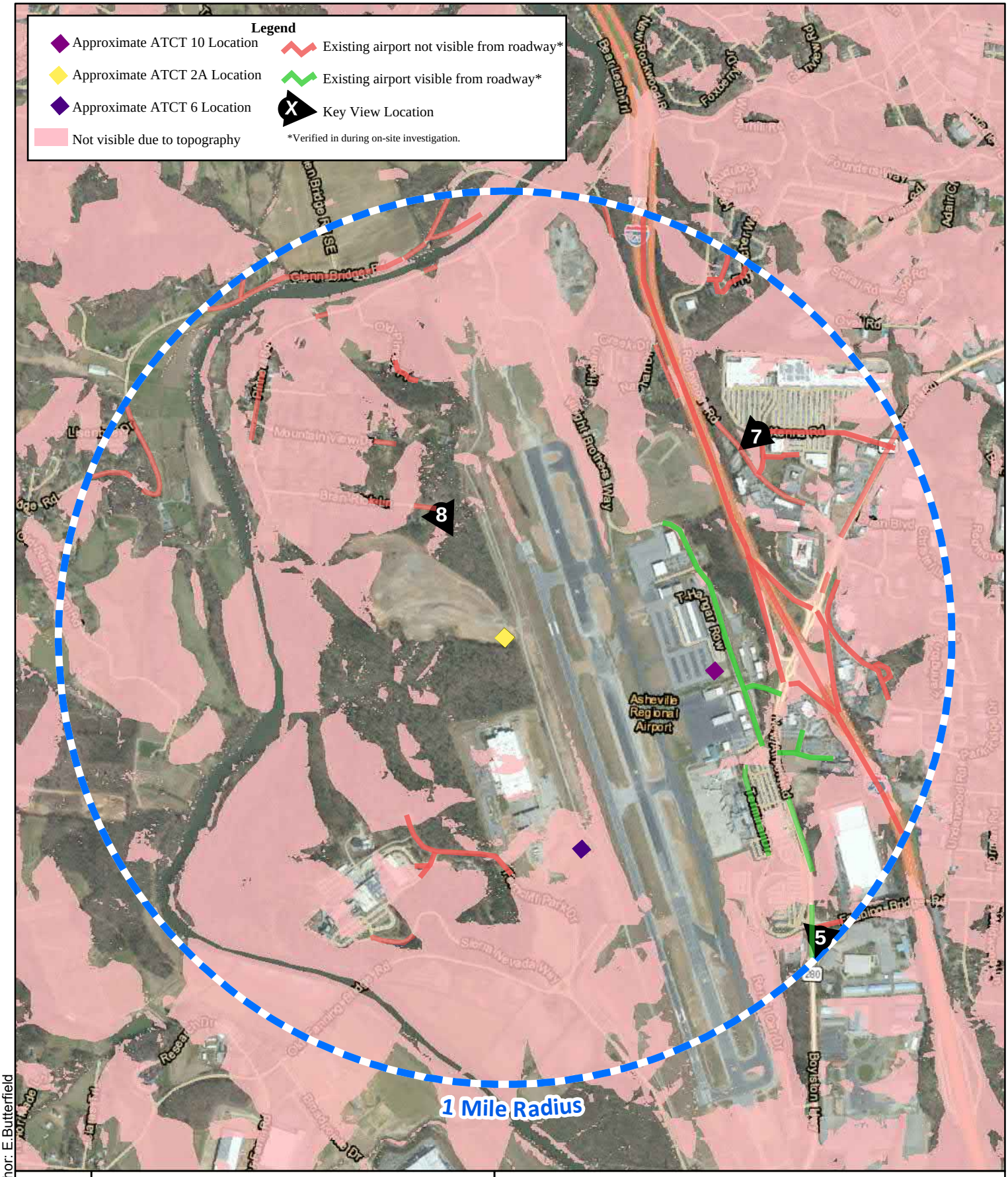
- Motorists: Motorists travel in vehicles propelled by engines (cars, trucks, buses, etc.). Motoring travelers move at higher speeds in comparison to other modes. By necessity, would be engaged in an activity that requires focusing on the road, signage and other vehicles so views would be secondary and observed peripherally. The exception to this would be tourists who are more likely to have passengers who expect to enjoy the views and are drawn to the area for the views.

- Bicyclists: Bicyclists are self-propelled but, the bicycle allows for much greater speeds than pedestrian travel but slower than motorists. This group would include people riding for commuting and recreational purposes. The potential viewing locations would be from State, County and local roads. Bicyclists would have filtered and unfiltered views of the project site due to their speed, topographic changes and vegetation. This viewer group would be engaged in an activity that requires focusing on the route but also permits being able to enjoy the views as conditions allow (vehicular traffic, shoulder conditions, etc.).

- Pedestrians: Pedestrians travel at a slower rate than all other modes. It is the most common mode and is the mode that begins and ends all trips that use other means of transport. Pedestrian travelers frequenting business locations within the 1-mile radius may have extended views of the project site. Recreational pedestrian travelers within residential neighborhoods and park spaces may have filtered views of the project site due to the vegetative nature of the study area.

- Property Owners & Residents: Property owners and residents can be found throughout the AVE. The group would engage in both indoor and outdoor daily activities (lawn mowing, snow blowing, recreation, etc.). In reviewing the draft viewshed analysis map (Figure 4), this group has the potential to have both filtered and unfiltered views of the project site due to vegetation and the built environment.

As part of the on-site field investigation, the field crew drove all public roadways within the 1-mile radius (Figure 4) and determined where the existing terminal facilities were visible. Roadways beyond the 1-mile radius were eliminated from the on-site field investigation due to the relative flatness of the topography, extensive vegetation and built environment of the AVE as determined during the desktop evaluation of Google Earth imagery and topography.



N

CHA

Figure 4. Final Viewshed Map 1 Mile Radius

Asheville Regional Airport Visual Impact Assessment
City of Asheville, Buncombe and Henderson County, North Carolina

Scale 1" = 1500'	CHA Project No. 060382	*Service Layer Credits: 2020 Microsoft Corporation*

Date Saved: 8/3/2020 • Author: E.Butterfield

iv. Visual Quality

Determining a baseline understanding of the visual quality of the AVE enables assessors in the analysis phase of the VIA to compare proposed conditions to existing and determine the degree (adverse or beneficial) of the visual impacts, if any. Visual quality can be defined as the visual significance given to a landscape determined by professional, public or personal values and intrinsic physical properties of the landscape[3]. Visual quality essentially is a summation of the landscape setting, visual resources, and viewer groups. The three terms shown below are commonly used to define visual quality:

Distinct – something that is considered unique and is an asset to the area. It is typically recognized as a visual/aesthetic asset and may have many positive attributes. Diversity and variety are characteristics in such a resource.

Average – something that is common in the area and not known for its uniqueness, but rather is representative of the typical landscape of the area.

Minimal – something that may be looked upon as a liability in the area. It is basically lacking any positive aesthetic attributes and may actually diminish the visual quality of the surrounding areas.

To best identify the baseline visual quality throughout the AVE, a series of key views that represent the landscape setting, visual resources, and affected population were chosen for closer study. Table 2 details each of the key views and their existing visual quality. The existing key views can be seen in Images 1 through 8 and their locations noted in Figure 3 and Figure 4.

The existing visual quality throughout the study area can be defined as average. Although the study area is comprised of a variety of land uses, these land uses are not unique to an area with suburban development. The types of buildings, roadways, and vegetation patterns shown in the key views, are typical and expected.

[3] Henderson, J.E., Smardon, R.C. and Palmer, J.F. (1988) US Army Corps of Engineers Visual Resources Assessment Procedure.

Table 2 Existing Key Views

Key View	Description	Distance from Site (miles)	Landscape Setting	Viewer Groups	Existing Visual Quality
1	View from Broadmoor Golf Links Clubhouse	1.68	recreational land use, suburban, vegetated	daily visitors & employees	Average. View is typical of a parking lot in the area. Except for light pole in the foreground, nothing extends significantly above the tree line.
2	View from High Vista Golf Club Clubhouse	2.10	recreational land use, rural, vegetated	daily visitors & employees	Average. Though the Clubhouse and parking lot is at a higher elevation, the expansive view is shortened by vegetation.
3	View from The Meadows[1]	2.95	Commercial and industrial land use, suburban, vegetated	residents	Average. View is typical of a commercial/industrial area. Any potential long-range view is blocked by warehouse and vegetation.
4	View from Westfeldt Park main parking lot	1.33	recreational land use, suburban, vegetated	daily visitors	Average. Visual character shown is expected of a suburban park space.
5	View from corner of Fanning Bridge Road & New Airport Road	0.95	arterial roadway, suburban, vegetated	motorists, few bicyclists or pedestrians	Average. View is typical of a large intersection in the area. Vegetation on either side of the road shortens long-range views of the airport.
6	View from Stafford Hill Development	1.02	residential land use, suburban, vegetated	residents	Average. View is expected of a residential development. Vegetation in background blocks views to the airport.
7	View McKeena Road in front of Lowe's Home Improvement store	0.69	commercial land use, suburban, vegetated	daily visitors, pedestrians walking to and from vehicles	Average. Visual character shown is expected in a commercial development.
8	View from the east end of Bran Rick Lane	0.28	residential land use, suburban, heavily vegetated	residents	Average. Vegetation is typical of residential area northwest of the airport.

[1]The Meadows property is private. Photos were taken from parking lot adjacent to the site.

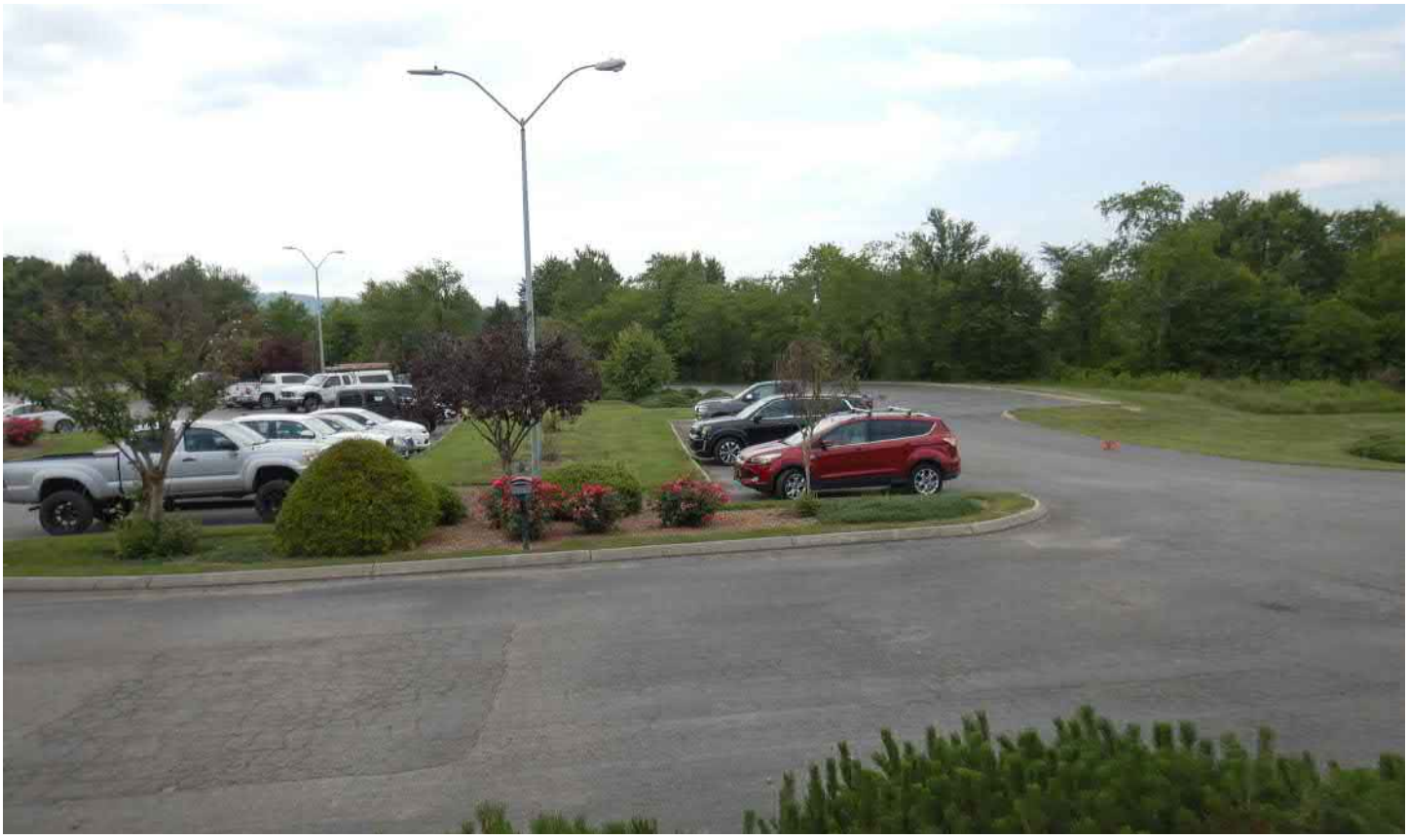


Image 1 **Key View 1: Existing View from Broadmoor Golf Links Clubhouse**

Image 2 **Key View 2: Existing View from High Vista Golf Club Clubhouse**

Image 3 **Key View 3: Existing View from The Meadows**

Image 4 **Key View 4: Existing View from Westfeldt Park Main Parking Lot**

Image 5 **Key View 5: Existing View from Corner of Fanning Bridge Road & New Airport Road**

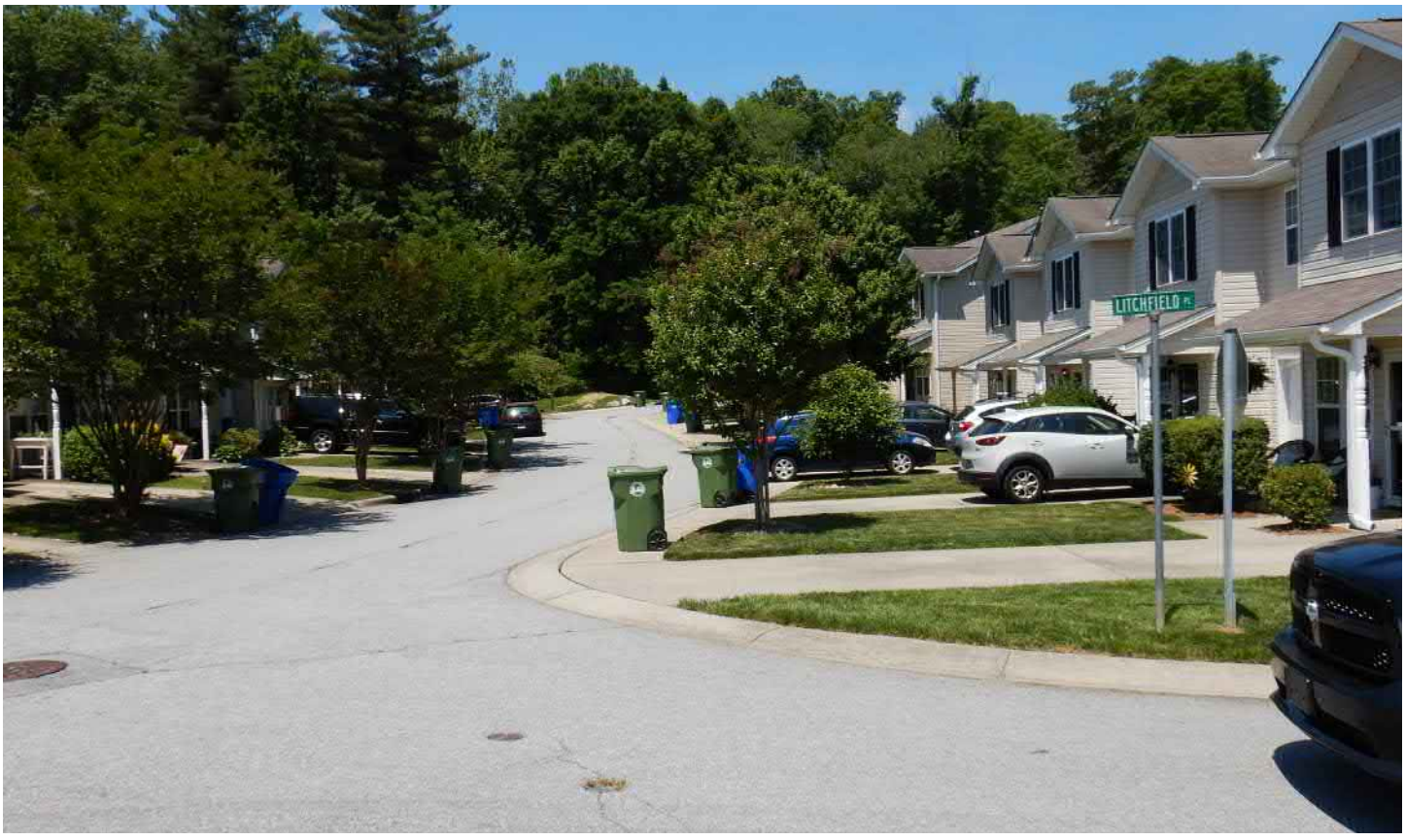


Image 6 **Key View 6: Existing View from Stafford Hill Development**

Image 7 **Key View 7: Existing View from McKeena Road in Front of Lowe's Home Improvement Store**

Image 8 **Key View 8: Existing View from the East End of Bran Rick Lane**

E. Analysis

The degree of the proposed project's visual impact is determined within this analysis phase of the VIA. The steps within this phase are as follows:

- Determine project visibility.
- Establish visual quality of proposed conditions.
- Identify degree of visual impact.

i. Potential Project Visibility

The on-site investigation showed that given the low elevation of the airport itself and the heavy vegetation in the study area, only a handful of roadways within the 1-mile radius had views of the airport and the airport was not visible from any of the key views (Figure 4 and Images 1-8). Photosimulations were therefore not created as they would not aide in determining project visibility.

To confirm the on-site investigation findings, however, Google Earth was used to set locations and heights of the proposed control towers (Figure 1). Still images from each of the key views were exported and compared against the photos taken during the on-site investigation. These comparisons can be found in Figures 5 through 12, and are described below:

Key View 1. The existing and proposed control towers are small against the horizon line as compared to nearby mountains. A dense buffer of trees along the edge of the parking lot obscures the towers. (Figure 5).

Key View 2. The existing and proposed control towers are below the horizon line with mountains rising significantly higher behind them. A dense buffer of trees along the edge of the parking lot obscures the towers. (Figure 6).

Key View 3. The existing and proposed control towers are obscured by both existing terrain and the built environment. (Figure 7).

Key View 4. The existing and proposed control towers are small against the horizon line. A dense buffer of trees within the park blocks views of the towers. (Figure 8).

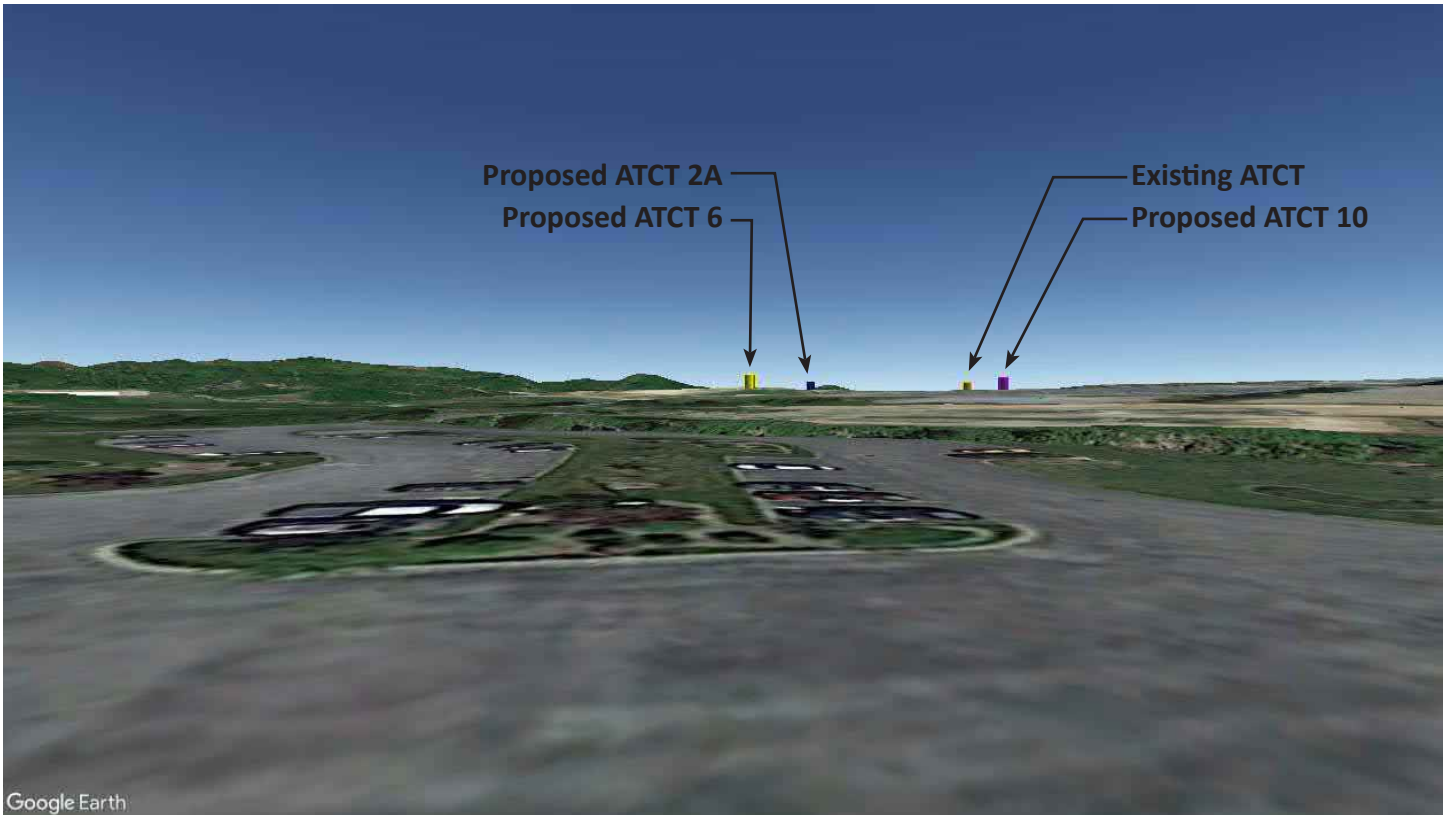


Figure 5 *Key View 1: Google Earth Comparison*

Asheville Regional Airport
Visual Impact Assessment

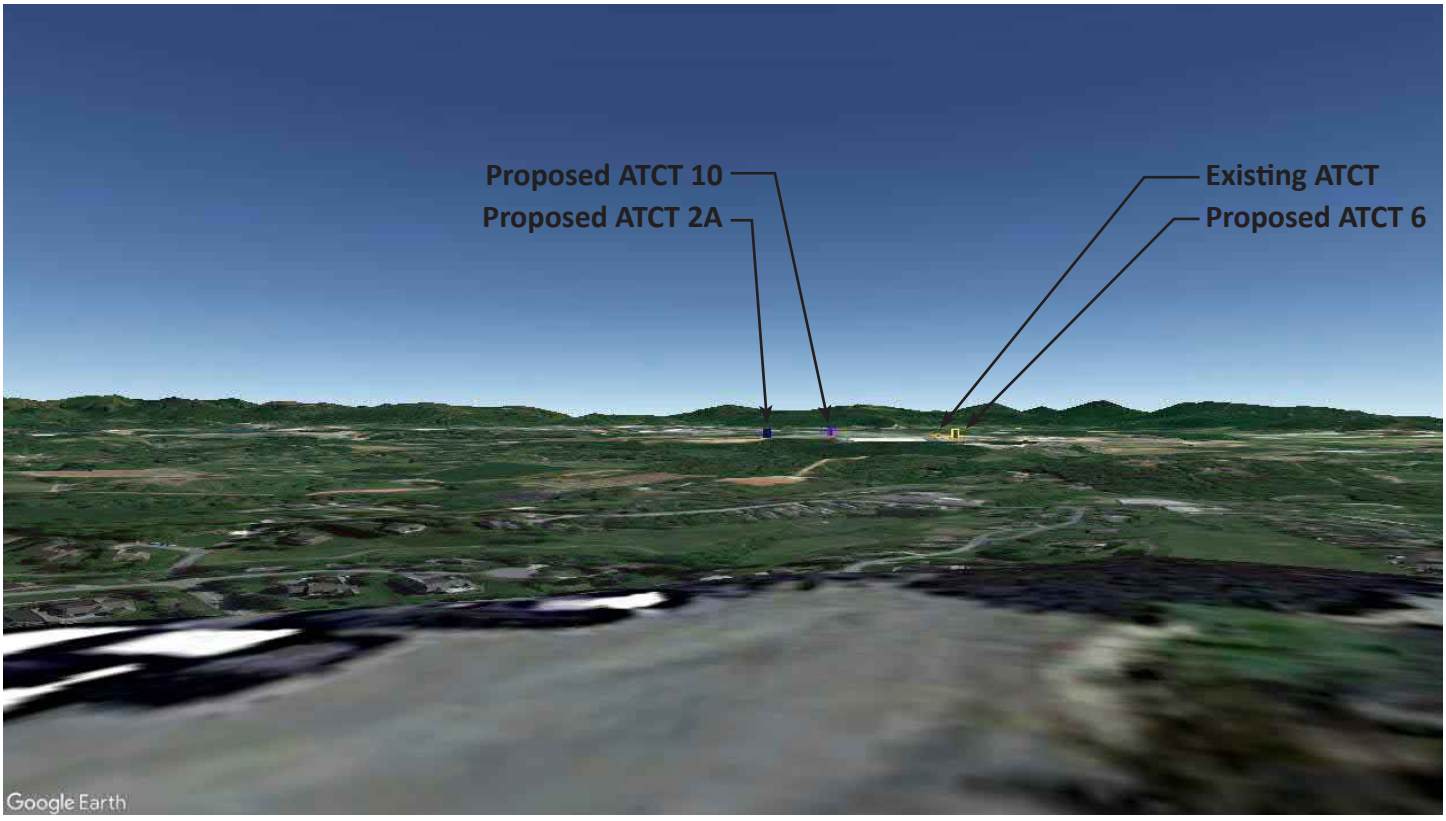


Figure 6 *Key View 2: Google Earth Comparison*

Asheville Regional Airport
Visual Impact Assessment

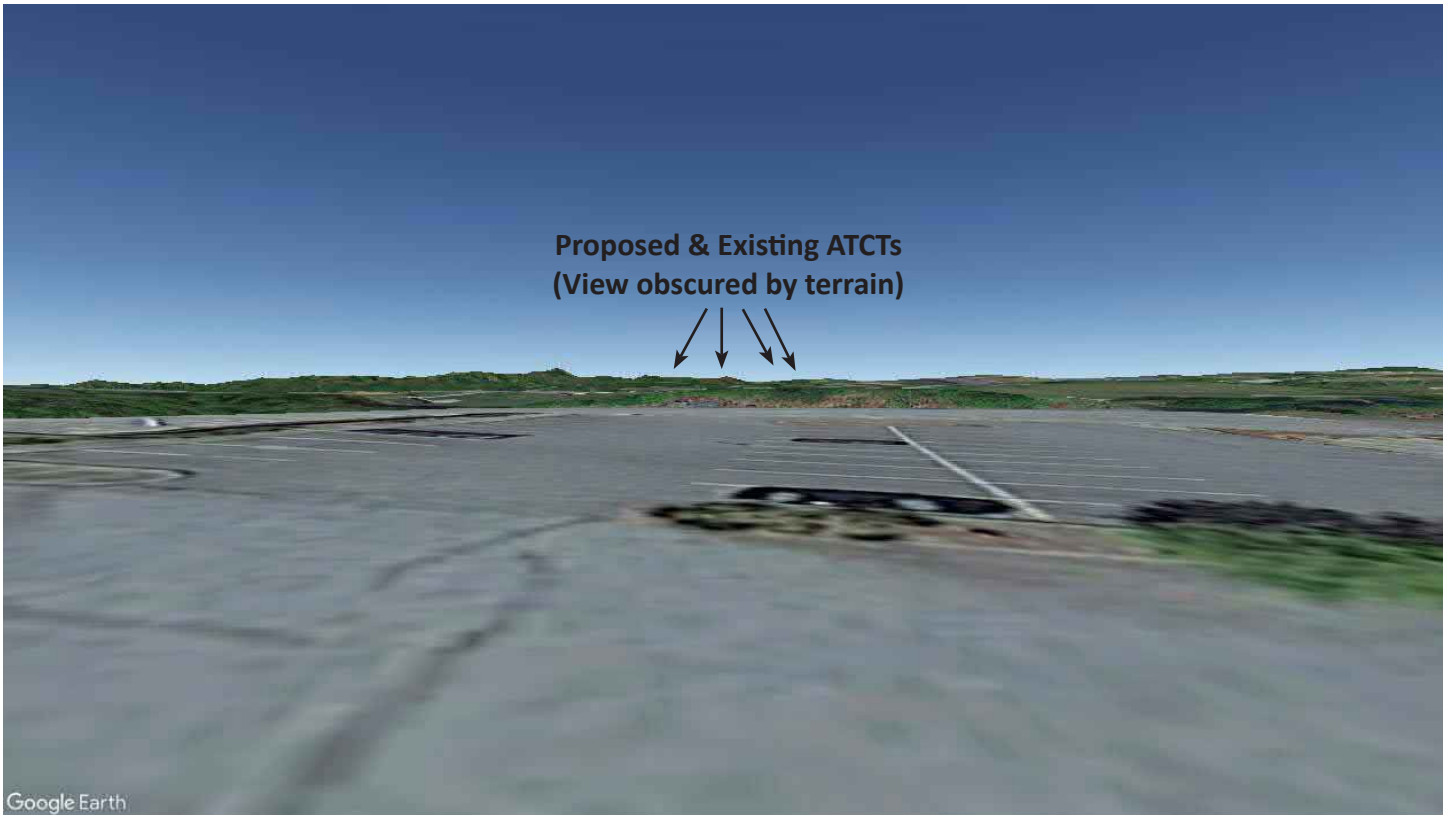


Figure 7 *Key View 3: Google Earth Comparison*

Asheville Regional Airport
Visual Impact Assessment

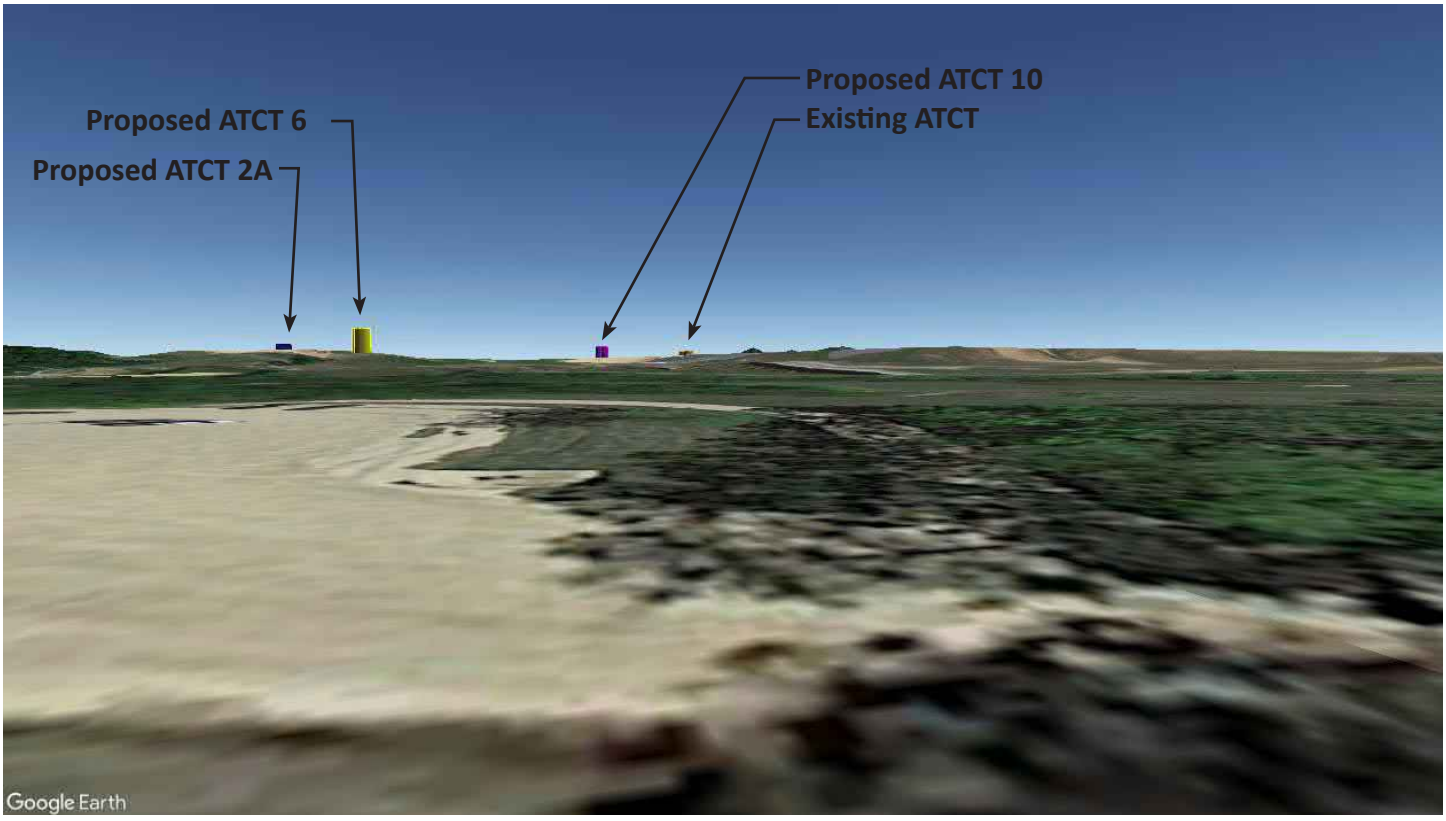


Figure 8 *Key View 4: Google Earth Comparison*

Key View 5. The dense vegetation along Airport Road and within the airport parking lot obscures views. (Figure 9).

Key View 6. The existing and proposed control towers are obscured by both existing terrain and the built environment. (Figure 10).

Key View 7. The vegetation along I-26 and the hotel obscures views. (Figure 11).

Key View 8. Without vegetation, proposed ATCT 2A would be highly visible and ATCT 10 would almost be blocked by terrain. The vegetation between the residential road and the runways blocks the views. (Figure 12). ATCT 6 is not visible with or without vegetation.

In addition to key views, the length of project views of travelers and residents were further evaluated and are summarized in Table 3. The field investigation revealed that within the 1-mile radius, there were a handful of roadways that had views of the existing airport terminal building and could potentially have views of the proposed ATCT (Figure 4). It is important to note that although there are potential views of the proposed airport terminal and ATCT, the roadways are all within close proximity of the existing facility. Views of the airport grounds is anticipated and expected by those traveling by car, bicycle, and foot in these areas.

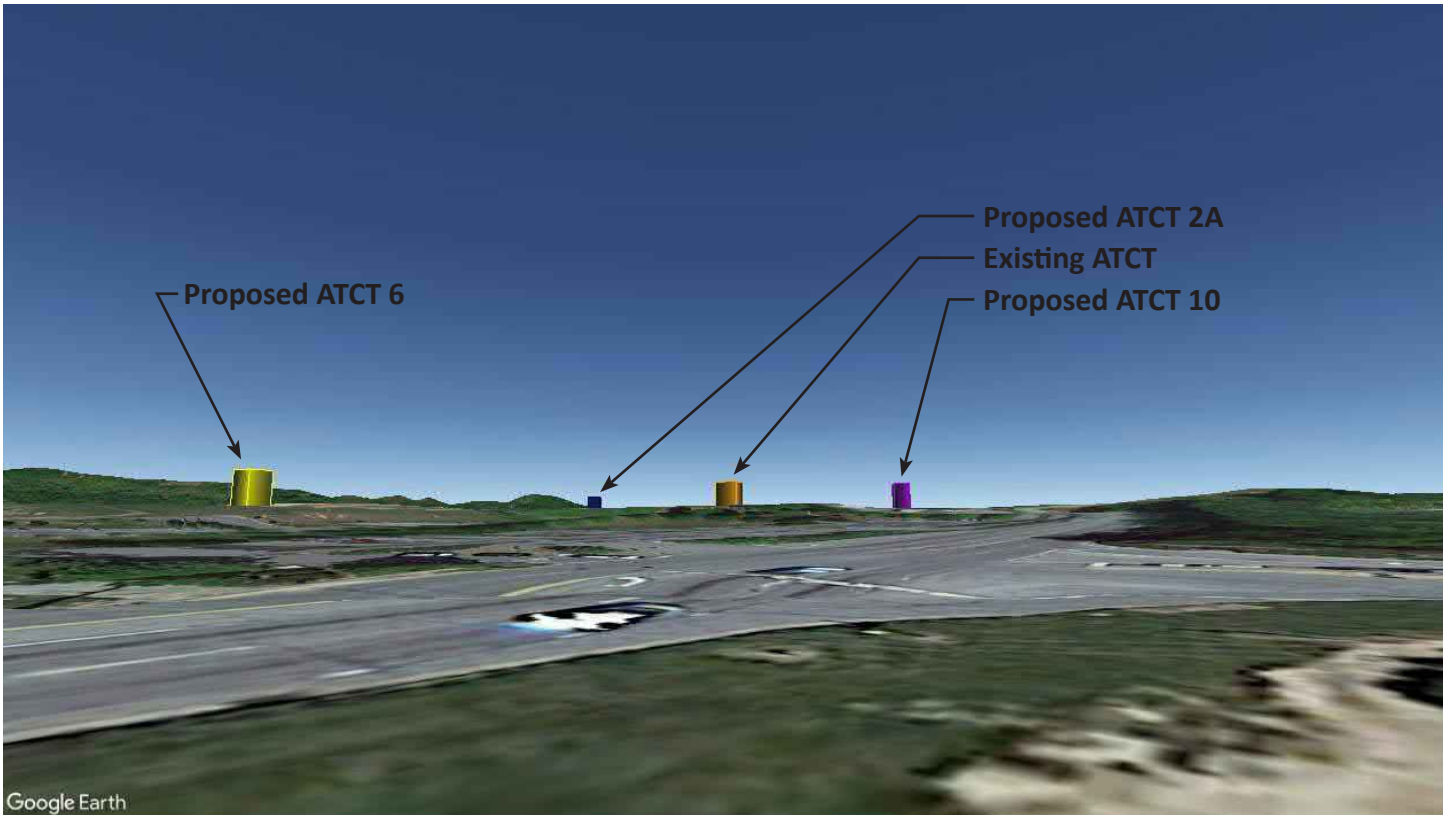


Figure 9 *Key View 5: Google Earth Comparison*

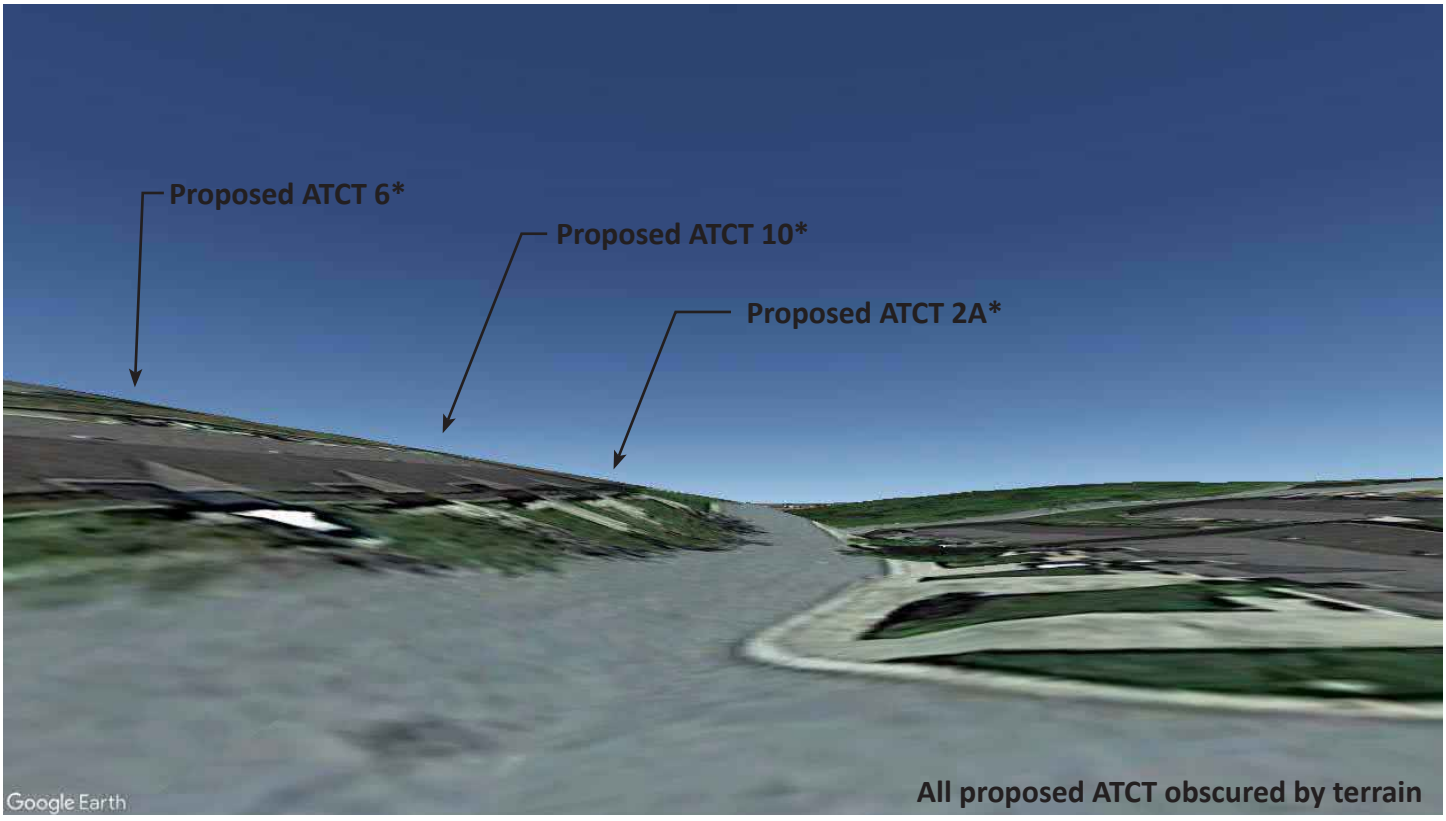
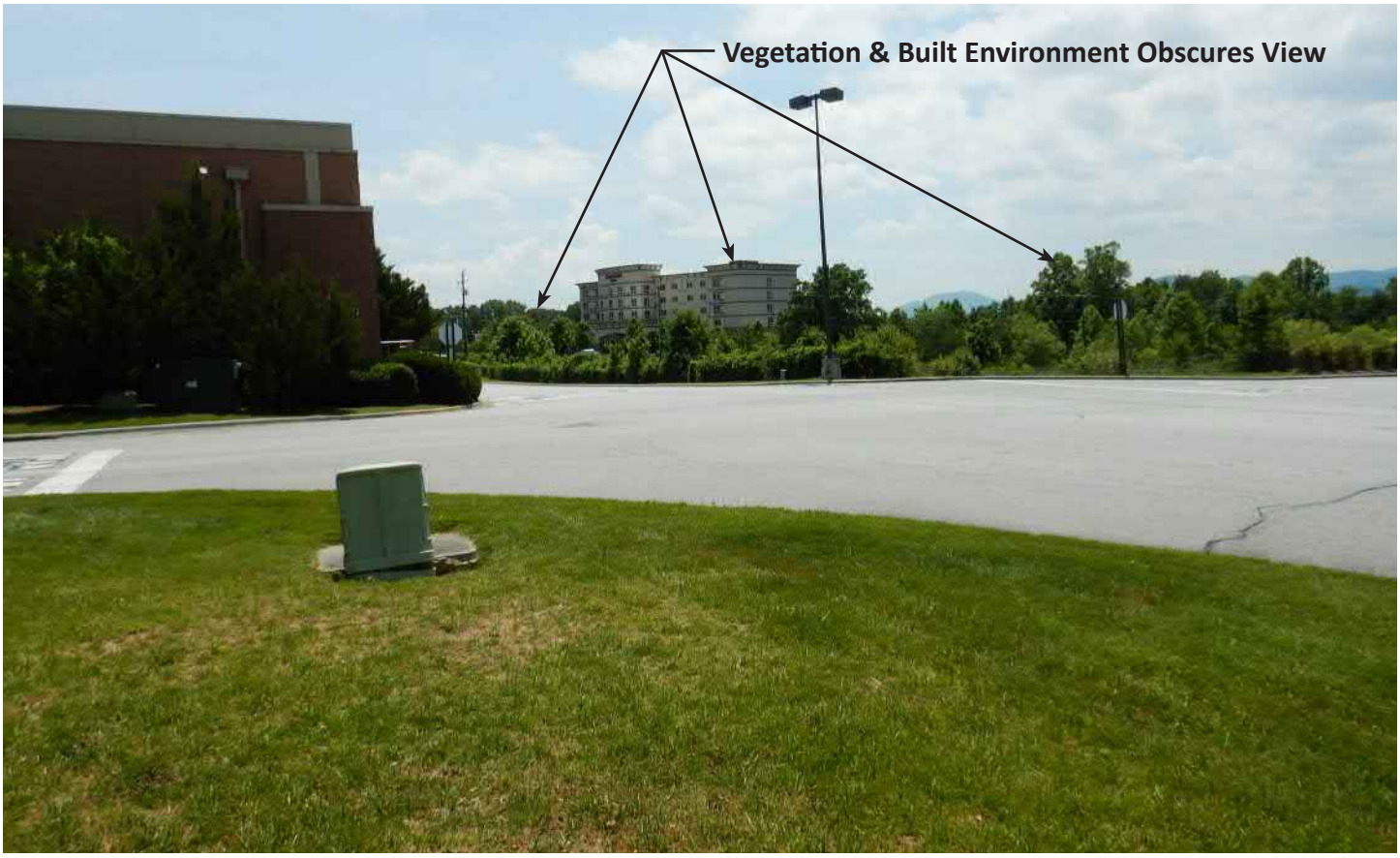


Figure 10 *Key View 6: Google Earth Comparison*

Asheville Regional Airport
Visual Impact Assessment



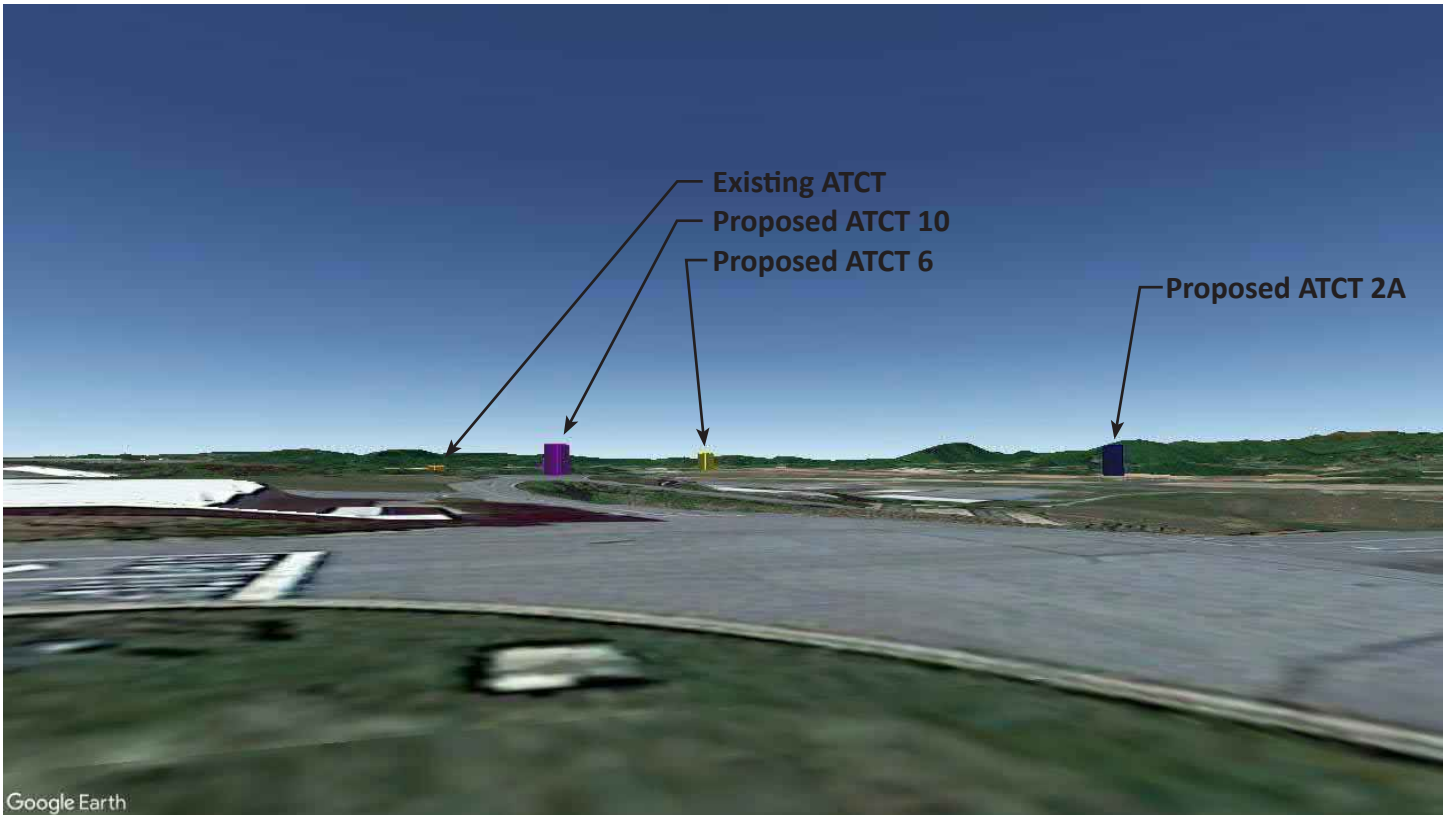


Figure 11 *Key View 7: Google Earth Comparison*

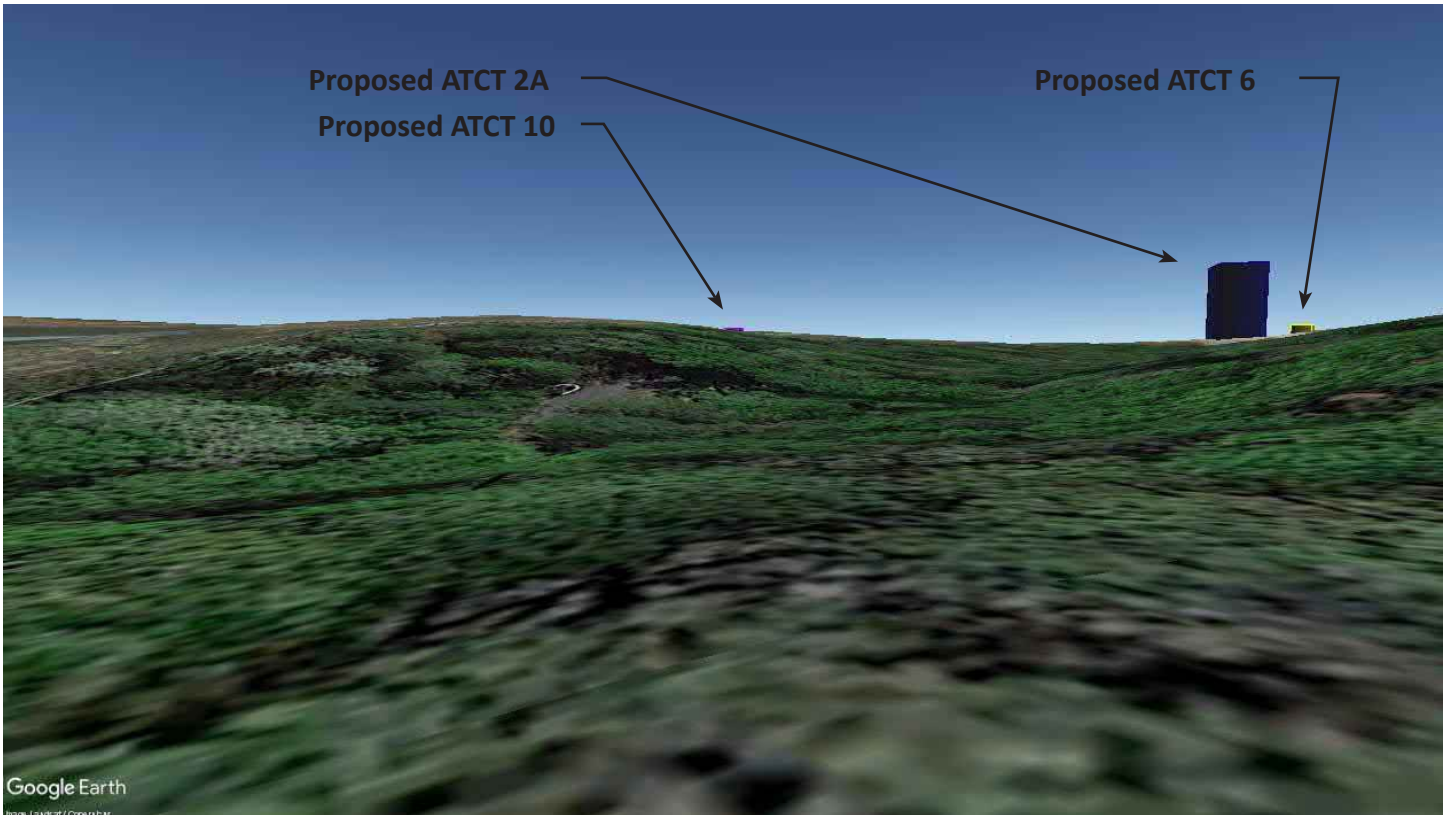


Figure 12 *Key View 8: Google Earth Comparison*

Table 3 Affected Population Project Visibility

Viewer Location	Viewer Group	Speed (mph)	Length of Visibility (miles)	Duration of Visibility* (min:sec)	Number of Viewers
Boylston Highway / New Airport Road	Motorist	45	0.15	0:12	31,000[1]
	Bicyclist	12		0:45	unknown
	Pedestrian	3		3:00	unknown
Boylston Highway / New Airport Road	Motorist	45	0.18	0:14	31,000[1]
	Bicyclist	12		0:54	unknown
	Pedestrian	3		3:36	unknown
Terminal Drive	Motorist	25	0.18	0:26	unknown
Airport Park Road	Motorist	25	0.13	0:19	unknown
Wright Brothers Way	Motorist	25	0.54	1:18	unknown
Aviation Way	Motorist	25	0.08	0:12	unknown

[1]From NCDOT Annual Average Daily Traffic Mapping Application. https://connect.ncdot.gov/resources/State-Mapping/Pages/Traffic-Volume-Maps.aspx

*Duration of Visibility = Distance ÷ Speed, therefore:
Motorist @ 55 mph = 0.01539 mi./sec. (80.7 ft/sec.)
Motorist @ 45 mph = 0.0125 mi./sec. (66 ft/sec.)
Motorist @ 30 mph = 0.0083 mi./sec. (43 ft./sec.)
Motorist @ 25 mph = 0.007 mi./sec. (36.6 ft/sec.)
Motorist @ 20 mph = 0.0055 mi./sec. (29 ft/sec.)
Bicyclists @ 12 mph = 0.003 mi./ sec (17.6 ft/sec.)
Pedestrian @ 3 mph = 0.00083 mi./sec (4.4 ft/sec.)
Residents @ 365 days, 24 hours/day

ii. Proposed Visual Quality

As noted above, none of the key views have views to any of the proposed ATCT sites, nor is the terminal area visible. Roadways within a 1-mile radius with views of the existing airport grounds would continue to have such views. These views are anticipated and expected in this area. As such, the proposed visual quality within the study area remains the same as existing (Table 2). The existing visual quality throughout the study area can be defined as average. Although the study area is comprised of a variety of

land uses, these land uses are not unique to an area with suburban development. The types of buildings, roadways, and vegetation patterns shown in the key views, are typical and expected.

iii. Degree of Visual Impact

Since the visual quality of the proposed condition is the same as the existing in addition to none of the notable resources or key views having views of any of the proposed ATCT sites or terminal area, it can be determined that there is no visual impact.

F. Mitigation

No mitigation is required as the proposed project does not pose any visual impact on the surrounding environment.

G. Conclusion

This visual impact assessment of GARAA's plan to redevelop and expand the passenger terminal and replace the ATCT has determined that the project will not result in any visual impact on the surrounding environment. As such, no mitigation is recommended nor required.

Appendix F

Noise & Emissions Memo

Date: March 23, 2020

To: FAA Memphis ADO – L. Bernard Green

From: GARAA

Subject: AVL Operations Estimate Methodology & Critical Aircraft Determination
AEDT Noise & Emissions Input Data

Overview of Operations and Fleet Mix

As part of the Streamlined Environmental Assessment (EA) noise and emissions evaluation for Asheville Regional Airport (AVL), an estimate of existing and 5-year projected operations was developed. The intended effort for this Study was not to develop a new forecast of airport operations and fleet mix, but rather to identify baseline activity data (i.e., operations) and use the Federal Aviation Administration's (FAA) Terminal Area Forecast (TAF) five-year activity levels at the Airport. As such, existing data was analyzed to generate of the input data for the EA noise and emission evaluation. Below, is a description of the methodologies used to develop inputs for the FAA Aviation Environmental Design Tool (AEDT) model.

It is important to note that the FAA January 2020 TAF represents data through fiscal year (FY) 2018, with the activity levels in FY 2019 being estimated (indicated by * in the TAF). For 2019, the TAF estimated the Airport would experience 71,070 operations; however, based on recent FAA ATADS data, AVL experienced 75,184 total 2019 operations, or 4,114 operations more than the TAF indicated. To prevent underestimating noise and emissions, it was necessary to update the base year inputs (2019) to actual calendar year end data rather than the estimated TAF operations; therefore, CHA updated the 2019 operations and extrapolated the TAF forecast through 2025 using the same year-over-year growth rates indicated by the FAA TAF. Operations were further analyzed via the FAA TFMSC to determine the fleet mix and critical aircraft. See **Section 1** (AVL Operational Forecasts) and **Section 2** (Aircraft Fleet Mix) below for an in-depth overview.

Section 1: AVL Operational Forecasts

Existing and projected operations were determined by operator type (i.e., air carrier, air taxi, general aviation, and military), starting with the actual 2019 operations occurring at AVL. In addition to the data being broken down by type, activity was further categorized as either itinerant or local.

<u>Existing Operations (2019)</u>

The following data sources were used in acquiring AVL's 2019 activity data:

- Bureau of Transportation Statistics (BTS) T-100 data (commercial passenger flights)
- FAA 2020 Terminal Area Forecast (TAF)
- FAA Air Traffic Activity Data System (ATADS) data

Per the BTS Air Carrier Statistics database (T-100 data bank), AVL had 14,150 operations conducted via commercial carriers with more than 50 seats. According to the FAA's Air Traffic Activity Data System (ATADS), AVL experienced a combined total of 24,521 air carrier and air taxi operations; therefore, the Airport actually had 10,371 air taxi operations, with 7,010 being conducted on aircraft with 50 seats or more (as noted in the BTS T-100 data) and 3,361 via aircraft

with less than 50 seats. Furthermore, according to ATADS data, AVL had 29,140 itinerant GA and 2,408 itinerant military operations. The Airport also had 19,115 local operations, 18,464 of which were conducted via civil aircraft users and 651 via the military. Together, all of the previously mentioned operations resulted in a total of 75,184 operations in 2019 at AVL. See **Table 1** below.

Table 1 – AVL Operations (2019)

Itinerant Operations						Local Operations			Total Operations
Air Carrier	Air Taxi (>50 seats)	Air Taxi (<50 seats)	GA	Military	Total	Civil	Military	Total	
14,150	7,010	3,361	29,140	2,408	56,069	18,464	651	19,115	75,184

Source: BTS T-100 Data, ATADs, CHA, 2020.

Future Operations (2020 through 2025)

Since 2019 is the last year of historical data, 2020 was chosen to represent the base year for the activity forecast, which was extended for a five-year period from the base year (through 2025), consistent with Title 14 Code of Federal Regulations (CFR) Part 150, *Airport Noise Compatibility Planning*.[1]

For the purpose of this Study, the FAA TAF (shown in **Table 2**) was modified using an Adjusted TAF methodology because the current TAF is not based on actual 2019 operations. The actual 2019 operations were higher than portrayed by the TAF; therefore, the adjusted forecast prevents underestimating noise and emissions. This methodology applied the TAF's year-over-year growth rate for each user group to the actualized 2019 operations count at AVL.

For example, the FAA TAF shows approximately 23.9 percent growth in air carrier operations from 2019 to 2020, followed by approximately 5.0 percent growth from 2020 to 2021 (see Table 3); therefore, the actual air carrier operations in 2019 at AVL (14,150) are assumed to grow by 23.9 percent from 2019 to 2020 (resulting in 17,530 air carrier operations), with the 17,530 operations projected to grow by approximately 5.0 percent from 2020 to 2021. This methodology was continued through 2025 and was applied to each user group.

Table 2 – FAA TAF for AVL (Released January 2020)

Fiscal Year	Itinerant Operations					Local Operations			Total Operations
	Air Carrier	Air Taxi & Commuter	GA	Military	Total	Civil	Military	Total	
2019*	12,132	11,144	28,325	2,502	54,103	16,410	557	16,967	71,070
2020*	15,030	13,566	28,377	2,502	59,475	16,971	557	17,528	77,003
2021*	15,774	12,002	28,363	2,502	58,641	16,973	557	17,530	76,171
2022*	16,817	9,288	28,349	2,502	56,956	16,975	557	17,532	74,488
2023*	18,086	5,686	28,335	2,502	54,609	16,977	557	17,534	72,143
2024*	18,618	4,737	28,321	2,502	54,178	16,979	557	17,536	71,714
2025*	18,895	4,787	28,307	2,502	54,491	16,981	557	17,538	72,029
AAGR (2020-2025)	**4.68%**	**-18.81%**	**-0.05%**	**0.00%**	**-1.74%**	**0.01%**	**0.00%**	**0.01%**	**-1.33%**
Growth (2020-2025)	**25.72%**	**-64.71%**	**-0.25%**	**0.00%**	**-8.38%**	**0.06%**	**0.00%**	**0.06%**	**-6.46%**

*Projected

Note: FAA TAF enplanements, TRACON operations, and based aircraft are not shown.

Source: FAA TAF (released January 2020), CHA, 2020.

[1] Per Title 14 CFR Part 150.21(d), forecasts are developed "for a period of at least five years after the date of submission."

Table 3 – FAA TAF Year-Over-Year Growth Rate (By User)

Fiscal Year	Itinerant Operations				Local Operations	
	Air Carrier	Air Tax i& Commuter	GA	Military	Civil	Military
2020*	23.9%	21.7%	0.2%	0.0%	3.4%	0.0%
2021*	5.0%	-11.5%	0.0%	0.0%	0.0%	0.0%
2022*	6.6%	-22.6%	0.0%	0.0%	0.0%	0.0%
2023*	7.5%	-38.8%	0.0%	0.0%	0.0%	0.0%
2024*	2.9%	-16.7%	0.0%	0.0%	0.0%	0.0%
2025*	1.5%	1.1%	0.0%	0.0%	0.0%	0.0%

Source: FAA TAF, CHA, 2020.

For the purpose of inputting the forecast into the AEDT model, the air taxi operations occurring on aircraft with 50 seats or more were recategorized as air carrier, while those flown via aircraft with less than 50 seats were recategorized as general aviation air taxi and incorporated into GA operations (**Table 4**). (Fleet mix at AVL is evaluated in ***Section 2***.)

Table 4 – AVL Operations Forecast (Revised TAF)

Year	Itinerant Operations						Local Operations			Total Operations
	Air Carrier	Air Taxi (>50 seats)	Air Taxi (<50 seats)	GA	Military	Total	Civil	Military	Total	
2019	14,150	7,010	3,361	29,140	2,408	56,069	18,464	651	19,115	75,184
2020	17,530	8,534	4,091	29,193	2,408	61,757	19,095	651	19,746	81,503
2021	18,398	7,550	3,620	29,179	2,408	61,154	19,097	651	19,748	80,903
2022	19,614	5,843	2,801	29,165	2,408	59,831	19,100	651	19,751	79,581
2023	21,094	3,577	1,715	29,150	2,408	57,944	19,102	651	19,753	77,697
2024	21,715	2,980	1,429	29,136	2,408	57,667	19,104	651	19,755	77,422
2025	22,038	3,011	1,444	29,121	2,408	58,022	19,106	651	19,757	77,780
AAGR (2020-2025)	**4.68%**	**-18.81%**	**-18.81%**	**-0.05%**	**0.00%**	**-1.24%**	**0.01%**	**0.00%**	**0.01%**	**-0.93%**
Growth (2020-2025)	**25.72%**	**-64.71%**	**-64.71%**	**-0.25%**	**0.00%**	**-6.05%**	**0.06%**	**0.00%**	**0.06%**	**-4.57%**
AVL Operations Forecast Recategorized for Noise Modeling Purposes										
Year	**Itinerant Operations**						**Local Operations**			**Total Operations**
	Air Carrier		**GA**		**Military**	**Total**	**Civil**	**Military**	**Total**	
2019	21,160		32,501		2,408	56,069	18,464	651	19,115	75,184
2020	26,064		33,285		2,408	61,757	19,095	651	19,746	81,503
2021	25,948		32,799		2,408	61,154	19,097	651	19,748	80,903
2022	25,457		31,966		2,408	59,831	19,100	651	19,751	79,581
2023	24,671		30,865		2,408	57,944	19,102	651	19,753	77,697
2024	24,695		30,565		2,408	57,667	19,104	651	19,755	77,422
2025	25,049		30,565		2,408	58,022	19,106	651	19,757	77,780
AAGR (2020-2025)	**-0.79%**		**-1.69%**		**0.00%**	**-1.24%**	**0.01%**	**0.00%**	**0.01%**	**-0.93%**
Growth (2020-2025)	**-3.89%**		**-8.17%**		**0.00%**	**-6.05%**	**0.06%**	**0.00%**	**0.06%**	**-4.57%**

Note: Actual activity is represented in 2019, while 2020 through 2025 represent projected activity levels.
Source: FAA TAF (released January 2020), BTS T-100, FAA ATADS, CHA, 2020.

Per FAA Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, forecasts for small hub airports (i.e., AVL) should be within 10 percent of the TAF in the five-year forecast. As shown below in **Table 5**, the AVL Revised TAF operations does not exceed the January 2020 FAA TAF operations by more than 8 percent during the five-year planning horizon.

Table 5 – AVL Operations Forecast VS. FAA TAF

Year	Operations Forecast	FAA TAF	Forecast Vs. FAA TAF
2019	75,184	71,070	5.79%
2020	81,503	77,003	5.84%
2021	80,903	76,171	6.21%
2022	79,581	74,488	6.84%
2023	77,697	72,143	7.70%
2024	77,422	71,714	7.96%
2025	77,780	72,029	7.98%
AAGR (2020-2025)	**-0.93%**	**-1.33%**	-
Growth (2020-2025)	**-4.57%**	**-6.46%**	-

Source: FAA TAF (released January 2020), BTS T-100, FAA ATADS, CHA, 2020.

It is important to note that the AVL operations forecast does not take into account activity lost in 2020 related to the COVID-19, as it is assumed activity will recover well before the end of the five-year planning horizon (2025).

Section 2: Aircraft Fleet Mix

After evaluating existing and future operations at AVL, it was necessary to determine the Airport's current and future fleet mix and critical aircraft. The "critical aircraft" or "design aircraft family" represent the most demanding aircraft or grouping of aircraft with similar characteristics (relative to AAC, ADG, TDG)[2], that are currently using or are anticipated to use an airport on a regular basis[3].

The FAA's Traffic Flow Management System Counts (TFMSC) database, as well as BTS T-100 data was used to identify the 2019 fleet mix. Unlike the ATADS data, which is based on Air Traffic Control Tower (ATCT) operation counts, the TFMSC data is based on filed flight plans, which includes the specific aircraft model. The TFMSC database was used to categories operations into the aircraft models operating at AVL. The operations listed in **Table 6** include all the air carrier (and schedule air taxi) aircraft types, as well as the most common GA and military aircraft users at AVL. As there are over 100 different GA and military aircraft types operating at AVL, it is reasonable to combine the similar aircraft types for purposes of the analysis.

For the GA activity, the 10 most common corporate jets were included in the operations data; less commonly used corporate jets were incorporated into these 10 based on size (i.e., large, midsize, and light). The two most common turboprop aircraft were included, as were the most common single- and twin-engine piston aircraft.

For the future year 2025, it was assumed that the percent makeup of each aircraft will remain static during the forecast period (**Table 6**). The 2019 percent was applied to 2025 to determine the operations by aircraft type.

The fleet mix was further analyzed to determine the critical aircraft for AVL, as identified in **Table 6**. This aircraft generally has the highest AAC, ADG, and TDG classifications of the regularly

[2] AAC (Aircraft Approach Category), ADG (Airplane Design Group), TDG (Taxiway Design Group).

[3] According to FAA AC 150/5000-17, *Critical Aircraft and Regular Use Determination*, the terminology of "regular use" is defined as 500 annual operations, including itinerant and local operations but excluding touch-and-go operations. An operation is either a takeoff or landing.

scheduled commercial aircraft. It was determined that the existing and future critical aircraft for AVL is the Airbus A320-200 (C-III).

Table 6 – AVL Fleet Mix (2019 & 2025)

User	Aircraft	2019	2025	AAC	ADG
Air Carrier	A319	1,072	1,269	C	III
Air Carrier	A320-100/200	4,986	5,902	C	III
Air Carrier	A320-200N	60	71	C	III
Air Carrier	BOEING 717-200	942	1,115	C	III
Air Carrier	CANADAIR CRJ 900	4,320	5,114	C	III
Air Carrier	CANADAIR RJ-100/ER	24	28	C	II
Air Carrier	CANADAIR RJ-700	2,606	3,085	C	II
Air Carrier	CRJ-200ER/CRJ-440	5,388	6,378	C	II
Air Carrier	EMBRAER-145	1,598	1,892	C	II
Air Carrier	EMBRAER-175	160	189	C	III
Air Carrier	BOEING 737-800	4	5	D	III
GA	Cessna 172 Skyhawk	23,708	23,680	A	I
GA	Pilatus PC-12	2,609	2,454	A	II
GA	Beech Baron 58	6,132	6,125	B	I
GA	BeechJet	1,139	1,071	B	I
GA	Cessna Citation CJ1	4,410	4,147	B	I
GA	Cessna Citation XLS	3,252	3,058	B	II
GA	Challenger 300	1,202	1,130	B	II
GA	Dassault Falcon/Mystere 20	195	184	B	II
GA	King Air	3,926	3,692	B	II
GA	Phenom 300	1,365	1,284	B	II
GA	Gulfstream 150	576	542	C	II
GA	Hawker 800	894	840	C	II
GA	Learjet 31	1,122	1,055	C	I
GA	Gulfstream 400	436	410	D	II
Military	Cherokee Arrow/Turbo	125	125	A	I
Military	Beech 200 Super King	883	883	B	II
Military	Cessna Citation CJ1	333	333	B	I
Military	Cessna Citation XLS	236	236	B	II
Military	Lockheed C130 Hercules	285	285	N/A	N/A
Military	Raytheon Texan 2	806	806	N/A	N/A
Military	Sikorsky SH-60 Seahawk	390	390	N/A	N/A
Total Operations	-	**75,184**	**77,780**	-	-
Subtotal by AAC	A	26,442	26,259	-	-
	B	23,073	22,143	-	-
	C	23,747	27,481	-	-
	D	440	415	-	-
Subtotal by ADG	I	36,968	36,536	-	-
	II	25,191	26,098	-	-
	III	11,544	13,666	-	-

Source: BTS T-100, FAA TFMSC, CHA, 2020.

Noise Analysis

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDIX F: NOISE AND COMPATIBLE LAND USE

The Greater Asheville Regional Airport Authority ('GARAA' or 'the Authority') is planning the redevelopment and expansion of the passenger terminal at Asheville Regional Airport ('AVL' or 'the Airport'). Prior to implementation, the Federal Aviation Administration (FAA) Memphis Airports District Office (ADO) is requiring the Authority to further complete a Focused Environmental Assessment (EA) to identify the impacts the redevelopment and expansion will have in terms of noise and compatible land uses in the vicinity of the Airport.

F.1 STUDY AND DATA SOURCES

For this Study, evaluations of potential noise impacts for existing and future airport conditions were based on requirements set forth in the following documents:

- FAA Order 5050.4B*, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* – Provides guidance on land use restrictions and agreements necessary for providing safe and efficient operations at airports.
- FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* – Discusses requirements set forth by the FAA regarding the requirements for assessing impacts related to noise and noise-compatible land uses, which includes screening aircraft noise, noise modeling, effects on and consequences to the overall environment, actions to be taken by airports, etc.
- FAA Environmental Desk Reference – provides a compendium of the Orders 1050.1F and 5050.4B, which summarizes applicable environmental regulations for the evaluation of potential impacts.
- Title 14 Code of Federal Regulations (CFR) Part 150, *Airport Noise and Compatibility Planning* – Official FAA guidelines that prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. This includes measuring noise at airports and surrounding areas and determining the exposure of individuals to noise that result from airport operations.

The data and assumptions used to define baseline conditions and future activity trends were derived from the following data sources and programs:

- FAA Terminal Area Forecast (TAF) – TAF activity estimates are derived by the FAA from national estimates of aviation activity. These estimates are then assigned to individual airports based upon multiple market and forecast factors. The FAA looks at local and national economic conditions, as well as trends within the aviation industry, to develop each forecast.

- Bureau of Transportation (BTS) T-100 Data – The Bureau of Transportation Statistics (BTS), part of the Department of Transportation (DOT), provides statistical data relating to commercial aviation, multimodal freight activity, and transportation economics. The T-100 data contains market data reported by U.S. carriers, including the air carrier, flight origin and destination, equipment type and seat information, and number of enplaned passengers.
- FAA Air Traffic Activity Data System (ATADS) – Contains official air traffic operations data, including airport operations, tower operations, Terminal Radar Approach Control Facility (TRACON) operations, total terminal operations, etc.
- Aviation Environmental Design Tool (AEDT) – A software system implemented by the FAA for modeling aircraft performance for the purpose of evaluating and estimating aircraft fuel consumption, emissions, and noise, as well as the effect on air quality consequences and impacts to surrounding land.

F.2 INTRODUCTION TO NOISE TERMINOLOGY

The following sections outline and describe the terminology associated with noise related studies.

F.2.1 Noise Contour Maps

Noise contour maps outline and illustrate the noise and land use compatibility related to land areas immediately surrounding and adjacent to Airport property. The contour maps factors in the airport layout and airfield operations, airfield stage length, aircraft related flight and ground activity, and the surrounding non-airport related land uses. Consistent with FAA guidance, the noise contours were developed for two separate time periods and conditions: current conditions (2019) and a five-year projection (2025).

F.2.2 Decibel (dB) and A-Weight Sound Pressure Level (dBA)

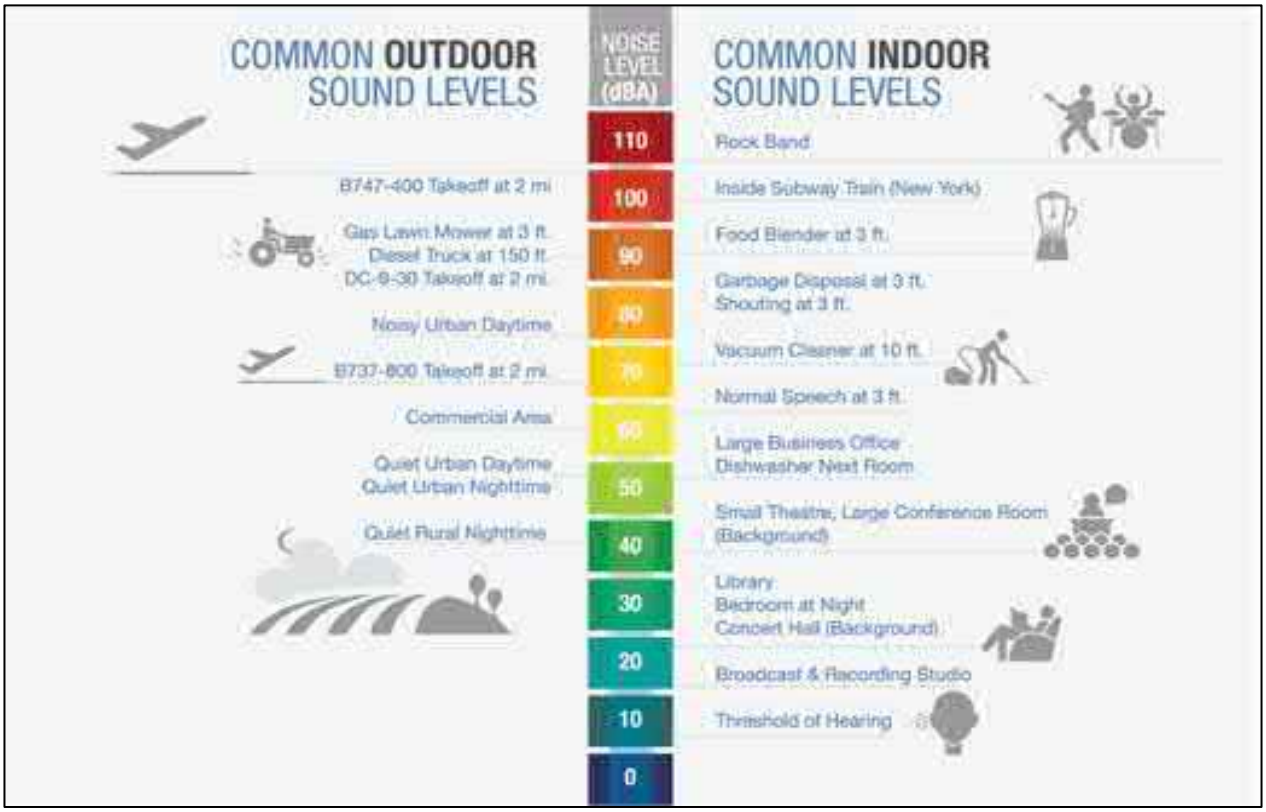
All sounds come from a source – a musical instrument, a voice, or an airplane passing overhead. It takes energy to produce a sound. Sound energy produced by any source travels through the air in sound waves and create a change in atmospheric pressure. Human ears can sense these pressure variations and translate them into sound. To allow us to perceive sound, our auditory system compresses our response in a complex manner, represented by a term called sound pressure level (SPL), which can be expressed in units called decibels (dB).

As dB is a unit to describe SPL, when expressed as an A-weighted Sound Pressure Level (dBA) the sound is filtered to reduce the effect of low and high frequency sounds, much like the human ear filters sounds. These 'filters' approximate the sensitivity of our ear and help us to judge the relative loudness of various sounds made up of many different frequencies. Without this filtering, calculated and measured sound level would include events that the human ear is unable to hear (frequencies above and below human audibility). Using A-weighting, calculations and sound monitoring equipment can approximate the sensitivity of the human ear to sounds of different frequencies. In simple terms, the "A" filter ("A weighting") generally does the best job of

matching human response to most environmental noise sources, including natural sounds and sound from common transportation sources.

To help in better understanding noise levels, the FAA provides a comparison of common outdoor and indoor sound levels, which are shown in **Figure F-1**.

Figure F-1 – FAA Comparative Noise Levels (dBA)



Source: FAA[1]

F.2.3 Day-Night Average Sound Level (DNL)

DNL is used to describe existing and predicted sound exposure for areas surrounding an airport based on the average daily operations over the year and the annual operational conditions at the airport. DNL is the average sound level based on annual aircraft operations for a calendar year. To calculate the DNL at an airport, the sound exposure levels at that airport associated with aircraft operations are determined. Using the sound exposure for each individual event, DNL is calculated for each aircraft operations, averaged over a 24-hour period, and then annualized over the course of 365 days (i.e., one calendar year).

DNL is commonly expressed in dBA and includes the cumulative total of all sound events related to aircraft operations rather than a single event. In addition to the average noise level, the DNL sound metric accounts for increased sound impacts to noise during nighttime or common sleeping hours. In the calculation of the DNL, each noise event occurring during the nighttime

[1] Federal Aviation Administration (2018) Fundamentals of Noise and Sound. Available at https://www.faa.gov/regulations_policies/policy_guidance/noise/basics/ [Accessed March 11, 2020].

period (10:00 p.m. to 6:59 a.m.) incur a 10-decibel penalty before the average sound level is calculated. This penalty serves as a weighted representation of sound levels during periods where ambient sound (e.g., daily activity, outdoor noise, roadway noise, conversation, etc.) levels are at their lowest. Federal regulations have set a DNL of 65 dB as the threshold of significance for noise sensitive land uses, such as homes, schools, and places of worship.

F.3 AVIATION ENVIRONMENTAL DESIGN TOOL (AEDT)

The required FAA tool for evaluating noise exposure associated with activity at the Airport is the Aviation Environmental Design Tool (AEDT). AEDT is designed to estimate long-term average effects using average daily input conditions. The FAA's approved version at the time of project initiation, AEDT Version 2d, was utilized to develop the noise analysis.

The first step when using AEDT is define the airport activity level and forecast changes. Flight tracks and aircraft performance profiles are created within the program based on operational conditions at the Airport. AEDT then selects the shortest distance from each flight track to each reference point and computes the noise exposure generated by each aircraft operation. Adjustments are applied for climate and environmental characteristics at the airport, atmospheric acoustical attenuation, aircraft thrust variations, and time of operation. Night-time operations consist of activity occurring between the hours of 10:00 pm (22:00) and 7:00 am, and, as previously discussed, are attributed a 10-decibel penalty (twice as loud). The noise exposure levels for each aircraft are then summed at each reference point to provide the day-night average sound level (DNL). The cumulative noise exposure levels at all reference points are then used to plot noise exposure contours for selected DNL values and are superimposed onto a base map. Noise contours generated by the AEDT represent outdoor noise levels and depict the generally expected average daily noise exposure at a relative location, rather than noise levels for a single aircraft event. It is important to note that noise exposure on any one day may be greater or less than the average day.

F.3.1 Airport Operational Data Inputs for Noise Contour Development

The data required by AEDT to develop noise contours are the existing and projected number of aircraft operations by time of day, aircraft type, and stage length (i.e., the departure trip length from AVL). In addition, the model also requires operational data, including runway utilization, location and directional elements of flight tracks (paths aircraft fly to arrive and depart the aircraft), the aircraft departure profiles, and existing noise abatement procedures when applicable.

Aircraft Operations

Existing and projected operations were determined by operator type (i.e., air carrier, air taxi, general aviation, and military), starting with the actualized 2019 operations occurring at AVL. In addition to the forecast being separated by operator, activity was further categorized as either itinerant or local. Local operations are those performed by aircraft that remain in the local traffic pattern or within a 20-mile radius of the tower. Local operations are commonly associated with training activity and flight instruction and include touch and go operations. Itinerant operations are arrivals or departures, other than local operations, performed by either based or transient aircraft that do not remain in the airport traffic pattern or within a 20-nautical mile radius.

Existing Operations (2019)

The following data sources were used to identify AVL's 2019 activity data:

- BTS T-100 Data (commercial passenger flights)
- FAA 2020 TAF[2]
- FAA ATADS Data

Per the BTS Air Carrier Statistics database (T-100 data base), AVL had 14,150 operations conducted via commercial carriers. According to the FAA's Air Traffic Activity Data System (ATADS), AVL experienced a combined total of 24,521 air carrier and air taxi operations; therefore, the Airport actually had 10,371 air taxi operations, with 7,010 being conducted on aircraft with 50 seats or more and 3,361 via aircraft with less than 50 seats. Furthermore, according to ATADS data, AVL had 29,140 itinerant GA and 2,408 itinerant military operations. The Airport also had 19,115 local operations, 18,464 of which were conducted via civil aircraft users and 651 via the military. Combined, airport activity resulted in a total of 75,184 operations in 2019 at AVL. (See **Table F-1** below).

Future Operations (2020 through 2025)

Since 2019 is the last year of historical data, 2020 was chosen to represent the base year for the activity forecast. The forecast was built out over a five-year period from the base year (through 2025) using the TAF's year-over-year growth for each aircraft user group. For example, the FAA TAF (depicted below in **Table F-2**) shows approximately 23.9 percent growth in air carrier operations from 2019 to 2020, followed by approximately 5.0 percent growth from 2020 to 2021; therefore, the actual air carrier operations in 2019 at AVL (14,150) are assumed to grow by 23.9 percent from 2019 to 2020 (resulting in 17,530 air carrier operations), with the 17,530 operations projected to grow by approximately 5.0 percent from 2020 to 2021. This methodology was continued through 2025 and was applied to each user group.

For the purpose of inputting the forecast into the AEDT model, the air taxi operations occurring on aircraft with 50 seats or more were recategorized as air carrier, while those flown via aircraft with less than 50 seats were recategorized as general aviation air taxi and incorporated into GA operations.

[2] Note, the 'FAA 2020 TAF', which was accessed in March 2020, represents the TAF containing all data through FY 2018, with the activity levels in FY 2019 being estimated (indicated by * in the TAF).

Table F-1 – AVL Operations Forecast

Year	Itinerant Operations						Local Operations			Total Operations
	Air Carrier	Air Taxi (>50 seats)	Air Taxi (<50 seats)	GA	Military	Total	Civil	Military	Total	
2019	14,150	7,010	3,361	29,140	2,408	56,069	18,464	651	19,115	75,184
2020	17,530	8,534	4,091	29,193	2,408	61,757	19,095	651	19,746	81,503
2021	18,398	7,550	3,620	29,179	2,408	61,154	19,097	651	19,748	80,903
2022	19,614	5,843	2,801	29,165	2,408	59,831	19,100	651	19,751	79,581
2023	21,094	3,577	1,715	29,150	2,408	57,944	19,102	651	19,753	77,697
2024	21,715	2,980	1,429	29,136	2,408	57,667	19,104	651	19,755	77,422
2025	22,038	3,011	1,444	29,121	2,408	58,022	19,106	651	19,757	77,780
AAGR (2020-2025)	**4.68%**	**-18.81%**	**-18.81%**	**-0.05%**	**0.00%**	**-1.24%**	**0.01%**	**0.00%**	**0.01%**	**-0.93%**
Growth (2020-2025)	**25.72%**	**-64.71%**	**-64.71%**	**-0.25%**	**0.00%**	**-6.05%**	**0.06%**	**0.00%**	**0.06%**	**-4.57%**

AVL Operations Forecast Recategorized for Noise Modeling Purposes

Year	Itinerant Operations				Local Operations			Total Operations
	Air Carrier	GA	Military	Total	Civil	Military	Total	
2019	21,160	32,501	2,408	56,069	18,464	651	19,115	75,184
2020	26,064	33,285	2,408	61,757	19,095	651	19,746	81,503
2021	25,948	32,799	2,408	61,154	19,097	651	19,748	80,903
2022	25,457	31,966	2,408	59,831	19,100	651	19,751	79,581
2023	24,671	30,865	2,408	57,944	19,102	651	19,753	77,697
2024	24,695	30,565	2,408	57,667	19,104	651	19,755	77,422
2025	25,049	30,565	2,408	58,022	19,106	651	19,757	77,780
AAGR (2020-2025)	**-0.79%**	**-1.69%**	**0.00%**	**-1.24%**	**0.01%**	**0.00%**	**0.01%**	**-0.93%**
Growth (2020-2025)	**-3.89%**	**-8.17%**	**0.00%**	**-6.05%**	**0.06%**	**0.00%**	**0.06%**	**-4.57%**

Note: Actual activity is represented in 2019, while 2020 through 2025 represent projected activity levels.
Source: BTS T-100, FAA ATADS, FAA TAF (released January 2020), CHA, 2020.

Table F-2 – FAA TAF for AVL (Released January 2020)

Fiscal Year	Itinerant Operations					Local Operations			Total Operations
	Air Carrier	Air Taxi & Commuter	GA	Military	Total	Civil	Military	Total	
2019*	12,132	11,144	28,325	2,502	54,103	16,410	557	16,967	71,070
2020*	15,030	13,566	28,377	2,502	59,475	16,971	557	17,528	77,003
2021*	15,774	12,002	28,363	2,502	58,641	16,973	557	17,530	76,171
2022*	16,817	9,288	28,349	2,502	56,956	16,975	557	17,532	74,488
2023*	18,086	5,686	28,335	2,502	54,609	16,977	557	17,534	72,143
2024*	18,618	4,737	28,321	2,502	54,178	16,979	557	17,536	71,714
2025*	18,895	4,787	28,307	2,502	54,491	16,981	557	17,538	72,029
AAGR (2020-2025)	**4.68%**	**-18.81%**	**-0.05%**	**0.00%**	**-1.74%**	**0.01%**	**0.00%**	**0.01%**	**-1.33%**
Growth (2020-2025)	**25.72%**	**-64.71%**	**-0.25%**	**0.00%**	**-8.38%**	**0.06%**	**0.00%**	**0.06%**	**-6.46%**

*Projected.
Note: FAA TAF enplanements, TRACON operations, and based aircraft are not shown.
Source: FAA TAF (released January 2020), CHA, 2020.

It is important to note that the AVL operations forecast does not account for activity lost in 2020 related to the COVID-19, as it is assumed activity will recover before the end of the five-year planning horizon (2025).

Aircraft Fleet Mix

After evaluating existing and future operations at AVL, it was necessary to determine the Airport's current and future fleet mix. The FAA's Traffic Flow Management System Counts (TFMSC) database, as well as BTS T-100 data was used to identify the 2019 fleet mix. Unlike the ATADS data, which is based on Air Traffic Control Tower (ATCT) operation counts, the TFMSC data is based on filed flight plans, which includes the specific aircraft model. The TFMSC database was used to categories operations into the aircraft models operating at AVL. The operations listed in **Table F-3** include all the air carrier (and schedule air taxi) aircraft types, as well as the most common GA and military aircraft users at AVL. As there are over 100 different GA and military aircraft types operating at AVL, it is reasonable to combine the similar aircraft types for purposes of the analysis.

For the GA activity, the 10 most common corporate jets were included in the operations data; less commonly used corporate jets were incorporated into these 10 based on size (i.e., large, midsize, and light). The two most common turboprop aircraft were included, as were the most common single- and twin-engine piston aircraft.

For the future year 2025, it was assumed that the percent makeup of each aircraft will remain static during the forecast period. The 2019 percent was applied to 2025 to determine the operations by aircraft type.

Table F-3 – AVL Fleet Mix (2019 & 2025)

User	Aircraft	2019	2025
Air Carrier	A319	1,072	1,269
Air Carrier	A320-100/200	4,986	5,902
Air Carrier	A320-200N	60	71
Air Carrier	Boeing 717-200	942	1,115
Air Carrier	CANADAIR CRJ 900	4,320	5,114
Air Carrier	CANADAIR RJ-100/ER	24	28
Air Carrier	CANADAIR RJ-700	2,606	3,085
Air Carrier	CRJ-200ER/CRJ-440	5,388	6,378
Air Carrier	Embraer-145	1,598	1,892
Air Carrier	Embraer-175	160	189
Air Carrier	Boeing 737-800	4	5
GA	Cessna 172 Skyhawk	23,708	23,680
GA	Pilatus PC-12	2,609	2,454
GA	Beech Baron 58	6,132	6,125
GA	BeechJet	1,139	1,071
GA	Cessna Citation CJ1	4,410	4,147
GA	Cessna Citation XLS	3,252	3,058
GA	Challenger 300	1,202	1,130
GA	Dassault Falcon/Mystere 20	195	184
GA	King Air	3,926	3,692
GA	Phenom 300	1,365	1,284
GA	Gulfstream 150	576	542
GA	Hawker 800	894	840
GA	Learjet 31	1,122	1,055
GA	Gulfstream 400	436	410
Military	Cherokee Arrow/Turbo	125	125

User	Aircraft	2019	2025
Military	Beech 200 Super King	883	883
Military	Cessna Citation CJ1	333	333
Military	Cessna Citation XLS	236	236
Military	Lockheed C130 Hercules	285	285
Military	Raytheon Texan 2	806	806
Military	Sikorsky SH-60 Seahawk	390	390
Total Operations	-	**75,184**	**77,780**

Source: BTS T-100, FAA TFMSC, CHA, 2020.

Daytime and Nighttime Operations

After determining the fleet mix of operations, arrivals and departures were split between daytime and nighttime. Daytime activity includes operations occurring from 7:00 am to 10:00 pm (22:00), whereas nighttime activity encompasses operations occurring between 10:00 pm (22:00) and 7:00 am.

To determine the breakdown of commercial operations occurring during the day versus at night, the operating schedules provided by the airlines were evaluated, resulting in approximately 87.2 percent of commercial operations occurring during the day and approximately 12.8 percent occurring during nighttime hours. Since GA and military operations are not scheduled but typically occur more frequently during daytime hours, the daytime and nighttime operating split was assumed at 95 percent and 5 percent, respectively.

Average Day Operations

The daily operations by representative aircraft type were determined for each noise study case year using the fleet mix analysis, daytime/nighttime assumptions, and operational forecasts. As previously discussed, activity is averaged into a single day; therefore, the number of operations was expressed in terms of an annual average day, determined by dividing the annual operations by 365 days.

Stage Length

The trip length of aircraft departures from the airport is commonly referred to as stage length. This stage length represents the total non-stop distance in nautical miles (nm) the aircraft travels after it departs the airport. The stage length metric is used to determine the take-off weight of the aircraft (due to fuel load) that affects the departure profile and noise distribution of a particular operation. For this Study, only two stage lengths are used and are outlined as follows:

- Stage Length 1 (SL1): 0 to 500 nm
- Stage Length 2 (SL2): 500 to 1,000 nm

These lengths were chosen based the existing and anticipated non-stop destinations from AVL; flights to destinations over 1,000 nm are not anticipated during the study period.

Runway Utilization

At a single-runway airport, the determining factor of runway utilization percentages is wind direction. Additional variables that may had a minor affect runway use including instrumentation, the arrival location of the operation in the air and location of the parked aircraft position on the

airfield and the destination direction. All of these factors, to varying degrees, affect runway utilization percentages at AVL.

AVL has a single runway configuration (Runway 17/35) that is capable of supporting the different types of operations. According to airport personnel and the Airport's past ATCT Siting Study, the runway end usages for Runway 17 and Runway 35 are approximately 25 percent and 75 percent, respectively. It is important to note that this runway is temporary and will be replaced by the end of 2020 with a permanent runway with the same configuration and magnetic headings. Given the identical orientation, runway usage for the future runway is assumed to be equal to the usage of the current runway.

Table F-4 – AVL Current and Future Runway

Runway	Latitude	Longitude	Elevation	Length	Usage
Runway 17 (Current)	35° 26' 36.4959" N	82° 32' 48.4148" W	2,162.4 ft.	7,001'	25%
Runway 35 (Current)	35° 25' 31.5042" N	82° 32' 19.237" W	2,111.9 ft.		75%
Runway 17 (Future)	35° 26' 47.14" N	82° 32' 48.05" W	2,164 ft.	8,001'	25%
Runway 35 (Future)	35° 25' 32.87" N	82° 32' 14.70" W	2,117.4		75%

Source: Airport Master Record (Form 5010), CHA, 2020.

Flight Tracks

Flight tracks (i.e., the flight path of aircraft arriving or departing the airport) are an essential part the AEDT data inputs because they designate the direction the aircraft is traveling and the associated area exposed to sound from individual operations. Identifying the flight track of each individual operation is not practical; therefore, FAA guidance flights are consolidated into generalized tracks that are representative of all operation paths to and from the airport. This is validated by evaluating and utilizing official FAA ATCT arrival and departure procedures. It is important to note that during rare instances, deviations from the official arrival and departure procedures may occur due to unforeseen circumstances [i.e., weather, pilot control, air traffic control (ATC) procedural change, the weight of the aircraft, amount of traffic, etc.].

This study utilized straight-in approach and departure flight tracks as they are the current procedures at the airport.

F.3.2 Noise Contours

The fundamental noise elements of any noise analysis are the DNL contours for existing and projected conditions (i.e., 2019 and 2025), which are presented over mapping depicting the Airport's layout, local land uses, and noise-sensitive areas (e.g., residential dwellings, schools, places of warship, etc.). For the purposes of this Study, the following graphics were developed:

- **Figure F-2** presents the 2019 noise contour map based on the current airfield layout and the operational conditions
- **Figure F-3** presents the projected 2025 noise contour map based on projected operational activity and current airfield procedures

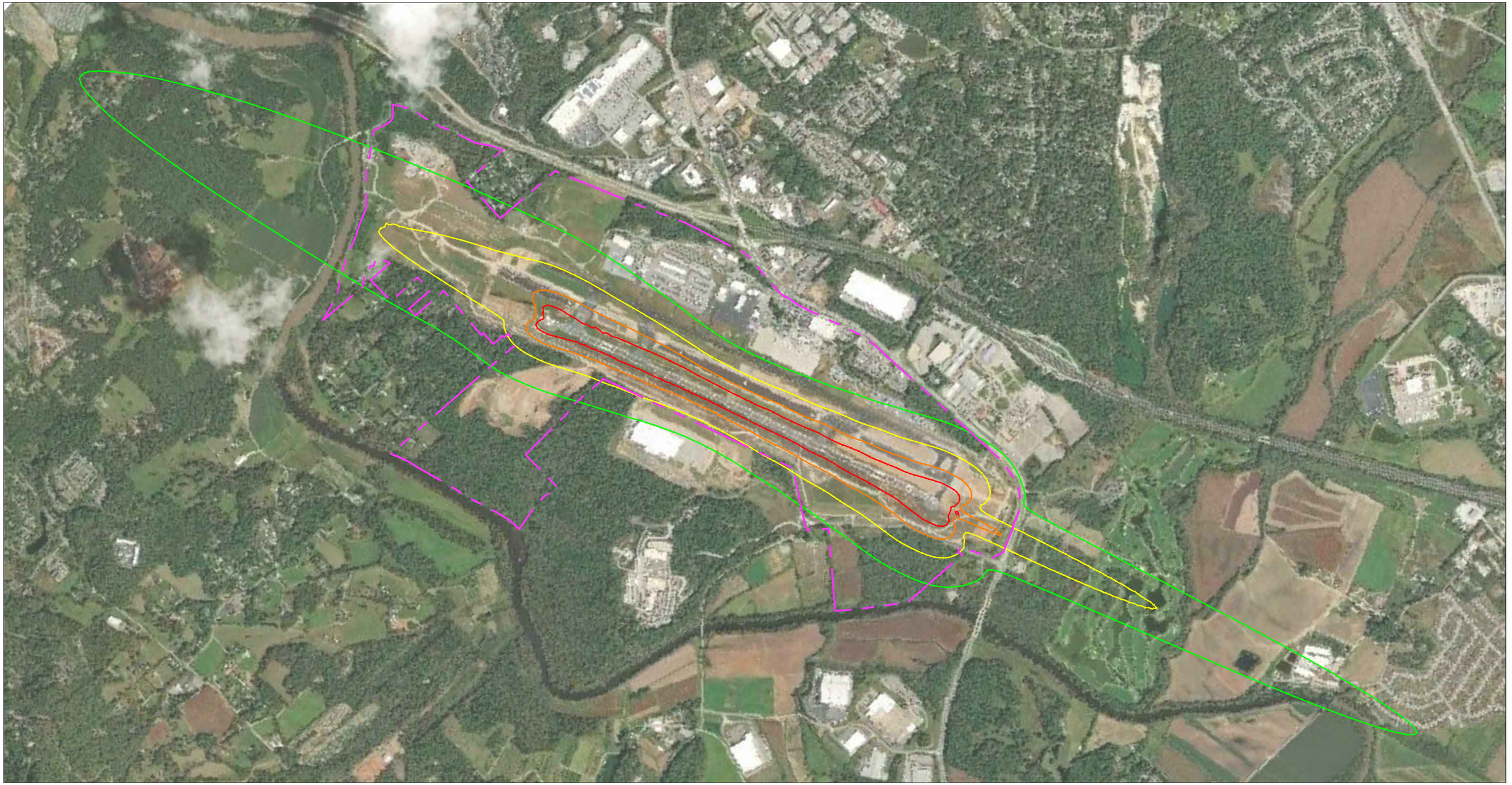
F.4 LAND USE COMPATIBILITY

Title 14 Code of Federal Regulations (CFR) Part 150, *Airport Noise Compatibility Planning*, is the primary Federal regulation guiding and controlling planning for aviation noise compatibility on and around airports. Within this regulation, the FAA provides guidelines for evaluating various land uses within locations of aircraft noise exposure. The guidelines reflect the statistical variability of the responses of large groups of people to noise; therefore, noise levels might not accurately assess an individual's perception of an actual noise environment.

All land uses are considered compatible with noise levels when noise is less than 65 DNL, per 14 CFR Part 150. Residential development of all types are considered incompatible with airport noise above 65 DNL. Other noise sensitive uses such as hospitals, nursing homes, and places of worship are also incompatible and discouraged in locations of 65 DNL or greater. In certain cases, these uses may be permitted if the structure is designed with, or contains, adequate measures to achieve reduction of outdoor noise levels (i.e., soundproofing). Land uses that are less sensitive to noise levels, such as commercial use, are considered compatible with noise levels of 70 DNL without soundproofing and up to 80 DNL with soundproofing.

As shown in **Figure F-2**, the area within the 65 DNL contours (yellow outline) for the 2019 Existing Conditions consists primarily of airport property. Although the contour extends off airport-owned property to the south, those areas are designated as commercial, recreational, and agricultural; therefore, there are no non-compatible land uses with the 65 DNL contours for the existing runway.

The future runway's contours also extend off-airport property to the north, south, and other small areas to the east and west, but with the majority of the area consisting of airport property. Prior to 2025, the Airport plans to acquire the property to the south that is located within the 65 DNL range. Despite the future runway transitioning back to the permanent 8,001' runway, and being shifted towards the east from the temporary runway, the 65 DNL contour does not encroach on noise sensitive land use parcels as shown in **Figure F-3**.



LEGEND

- 60 DNL
- 65 DNL
- 70 DNL
- 75 DNL
- AIRPORT PROPERTY LINE

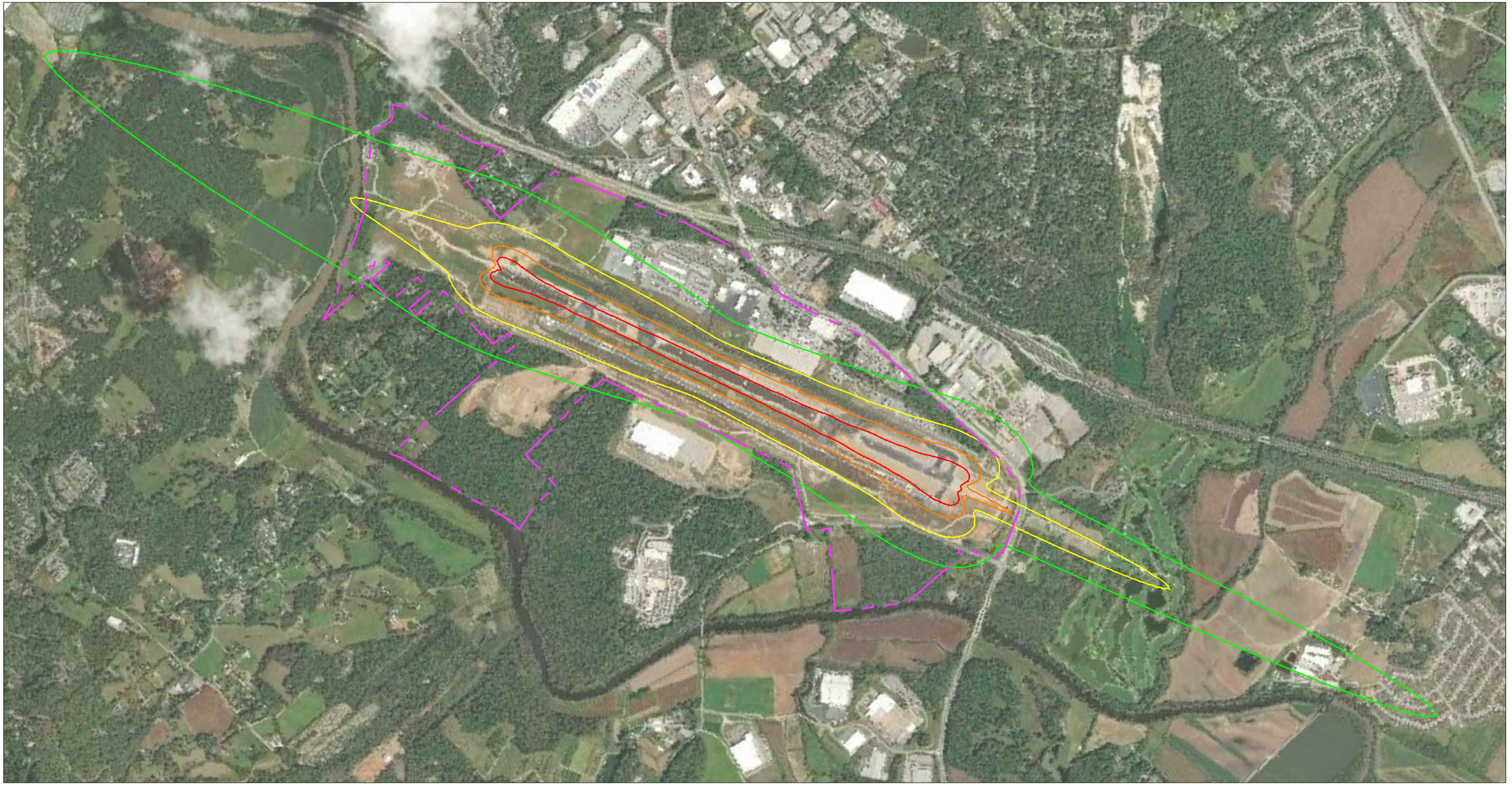
GRAPHIC SCALE (FEET)
0 750 1500

ASHEVILLE REGIONAL AIRPORT

ENVIRONMENTAL ASSESSMENT

FIGURE F-2

Existing Noise Contours (2019)



LEGEND

- 60 DNL
- 65 DNL
- 70 DNL
- 75 DNL
- AIRPORT PROPERTY LINE

GRAPHIC SCALE (FEET)
0 750 1500

ASHEVILLE REGIONAL AIRPORT

ENVIRONMENTAL ASSESSMENT

FIGURE F-3

Projected Noise Contours (2025)

F.4.1 Noise Analysis Conclusions

The change in noise contours between the current conditions and the forecasted conditions will not impact noise sensitive land uses and populations. In both current and further conditions, noise sensitive land use (e.g., residential development) is located within the 70 DNL contour, there are no noise sensitive receptors within the DNL 65 dB contour. As such, the airport, and the planned improvements do not result in noise exposure above significant levels and mitigation efforts will not be necessary. However, it is important to note that the AEDT noise contour results are that of an annualized average, not peak noise levels; therefore, while conditions comply with federal regulations, airport noise may still result in disturbance of some nearby residents during peak hours.

Appendix G

Asheville
REGIONAL AIRPORT

July 29, 2020

Renee Gledhill-Earley
State Historic Preservation Office
4617 Mail Service Center
Raleigh, NC 27699-4617

RE: Asheville Regional Airport
Passenger Terminal Building Expansion &
Air Traffic Control Tower
Buncombe & Henderson Counties, NC
CHA Project No.: 060382

Dear Renee:

The information below is a project submittal for the above referenced project.

Project Name:

Passenger Terminal Building Expansion & Air Traffic Control Tower

Project Location:

Asheville Regional Airport (AVL)
61 Terminal Drive, Suite 1
Fletcher, NC 28732
Buncombe & Henderson Counties

Project Contact Information:

Nicole Frazer, Senior Scientist
CHA
III Winners Circle
Albany, NY 12205
518.453.8211
nfrazer@chacompanies.com

Project Description:

The Greater Asheville Regional Airport Authority (GARAA) is proposing the redevelopment and expansion of the airport passenger terminal on the site of the current facility. It is proposed to expand the current terminal footprint of 110,100 square foot (SF) to approximately 162,800 SF. The terminal expansion project area is primarily contained within the location of the existing terminal building. The future terminal building height would be approximately 50 feet.

Also, included in the project is the relocation of the Air Traffic Control Tower (ATCT). The ATCT needs to be relocated as a result of the terminal expansion. Three locations on airport property are being evaluated for the new ATCT location. The three locations are Site 6, Site 2A and Site 10. The ATCT sites will include a building, tower, parking, utility connections and access. Tree cutting is proposed at Sites 2A and 6. The tower heights have not been determined to date and vary depending on location chosen.

Lastly, a Central Energy Plant (CEP) is proposed to be located on airport property to support the growing power needs while providing expandability and redundancy. The CEP will include a small separate building and three locations are currently being evaluated (Sites 2a, 3a & 6b). Work at the CEP locations would include a building, parking and utility connections. If Site 2a is chosen, the existing airport operations building would be demolished.

The total acreage of the project is approximately 25 acres. Refer to Figures 1-3 in Attachment A for the project areas. The Airport Layout Drawing, which includes the proposed project, has also been provided in Attachment A. The project is intended to better accommodate the ongoing growth of passengers.

The terminal project area is within airport property and has been previously disturbed. A small portion of the terminal project area has been previously reviewed by the State Historic Preservation Office (SHPO) as part of expansion of the existing terminal apron (ER 17-1624). The apron expansion was documented in a Short Form Environmental Assessment (Terminal Apron Expansion- July 2018). This apron expansion is not a connected action or part of the project proposed herein. The apron expansion is currently under construction. A letter dated September 1, 2017, from SHPO, indicated that no historic resources would be affected by the project. Refer to Attachment B for a copy of this letter as well as an aerial which illustrates the limits of that project.

Additionally, there was another project, not connected to the one proposed herein, for the Runway Reconstruction and Parallel Taxiway. Portions of the project areas for ATCT's Sites 2A and 6 overlap within the construction limits for the Runway Reconstruction and Parallel Taxiway. In a letter dated April 28, 2011 (Attachment B), the Federal Aviation Administration (FAA) requested concurrence from the SHPO on their determination that the project would no affect archeological or historic properties listed or eligible for listing in the National Register of Historic Places. In an email dated May 9, 2011, the SHPO concurred with FAA's finding of effect (Attachment B). The runway and taxiway work was documented in an Environmental Assessment (Runway Reconstruction and New Parallel Taxiway- August 2011). The information and correspondence pertaining to the apron expansion and the Runway Reconstruction and Parallel Taxiway project has been provided to illustrate the previous reviews of portions of the project area.

Funding for the project is anticipated to be provided from the FAA, GARAA and possibly the state. Additionally, it is anticipated that Erosion and Sediment Control and Stormwater permits will be required from the state.

The 2013 Asheville Regional Airport Master Plan (https://flyavl.com/about-the-airport/planning-development/master-plan-documents), indicates that the existing terminal building opened in 1961 and was expanded in 1980 (baggage claim and boarding gate expansion), 1992 (increase the size of the airline ticket counter lobby, baggage claim area, administrative office space, and boarding gate areas) and then again in 2003 (increased the passenger lounge). In 2009 and 2010 projects included the construction of an additional baggage carousel, expansion of the car rental desk area, office space increases, gate holding area expansion, new passenger boarding bridges, and an enlarged security screening area. The original Department of Safety Building was constructed in 1979. This building was demolished in 2016, and the Commercial Apron expanded in its place.

Additionally, construction of a new Public Safety Building to the north of the terminal began in 2013. Lastly, the parking garage to the east of the existing terminal building was constructed in 2017. The parking garage would not be impacted by the proposed project.

National Register District Rugby Grange (ID HN0042) is located to the southeast of the Airport, however, no historic properties are located within or immediately adjacent to the project areas. Refer to Attachment C for a copy of the SHPO search.

Based on review of the Natural Resources Conservation Service Soil Survey Map (Attachment D), the project area for the terminal expansion area, potential CEP sites and ATCT Site 10 contain Urban land (Ux) and Udorthents-Urban Land Complex (UhE). ATCT Site 6 contains Hayesville loam (HyE), Udorthents-loamy (Ud) and Clifton -Urban Land (CuB & CuC). ATCT Site 2A contains Hayesville loam (HyC), Clifton sandy loam (CsC & CsD) and Udorthents, loamy (Ud).

A majority of the project area has been previously disturbed by the existing terminal, airport facilities, apron expansion and runway reconstruction.

In determining whether there is an undertaking that will have impacts to the proposed sites, the FAA and the SHPO need to consider what is being developed by the new proposal.

Project Area Map:

Refer to Attachment E for a copy of the USGS Topographic Map, Aerial Map and a Tax Parcel Map.

Site Photographs:

Refer to Attachment F for photographs of the project areas and surroundings.

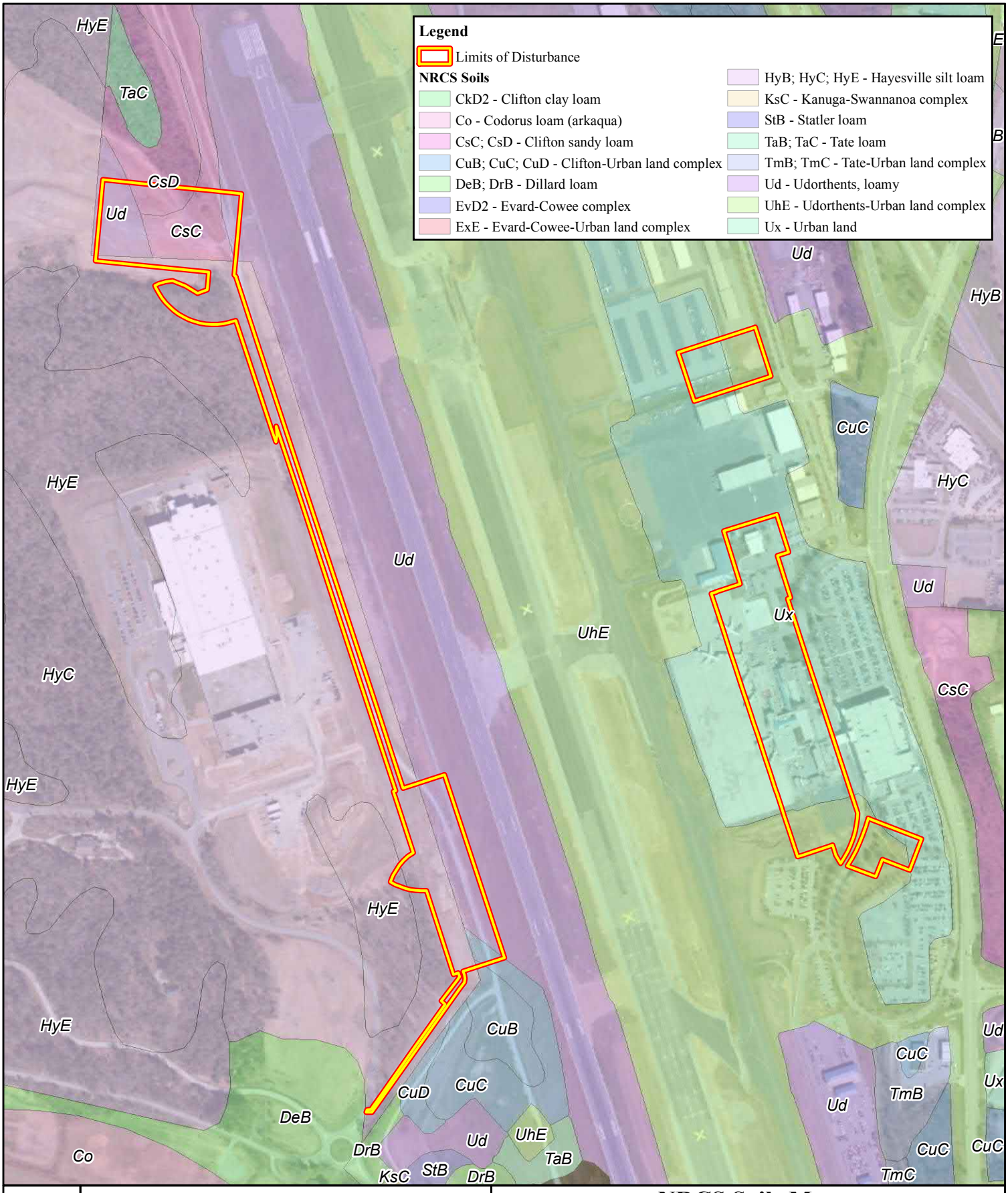
Should you have any questions, please contact me at (828)209-5113 or jmerrill@flyavl.com.

Sincerely,

Jared Merrill
Planning Manager
Greater Asheville Regional Airport Authority
(828)209-5113
jmerrill@flyavl.com

CC (via email): Nicole Frazer, CHA
Michael Reisman, GARAA

Appendix H



N

CHA

NRCS Soils Map

Asheville Regional Airport
Passenger Building Terminal Expansion & Air Traffic Control Tower
City of Asheville and Town of Mills River
Buncombe and Henderson County, North Carolina

Scale 1" = 600'

CHA Project No. 060382

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
Soil Data Courtesy of the Natural Resource Conservation Service

United States Department of Agriculture

Natural Resources
Conservation Service

North Carolina
State Office

4407 Bland Road
Suite 117
Raleigh, NC 27609
Voice 919-873-2171
Fax 844-325-6833

April 24, 2020

Nicole Frazer
Senior Scientist
CHA Companies
III Winners Circle
Albany, NY 12205

Subject: Greater Asheville Regional Airport Authority (GARAA) plans to redevelop and expand the airport passenger terminal on the site of the current facility.

Dear Ms. Frazer:

The following guidance is provided for your information.

Projects are subject to the Farmland Protection Policy Act (FPPA) requirements if they may irreversibly convert farmland (directly or indirectly) to non-agricultural use and are completed by a federal agency or with assistance from a federal agency. Farmland means prime or unique farmlands as defined in section 1540(c)(1) of the FPPA or farmland that is determined by the appropriate state or unit of local government agency or agencies with concurrence of the Secretary of Agriculture to be farmland of statewide local importance.

For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forestland, pastureland, cropland, or other land, but not water or urban built-up land.

Farmland does not include land already in or committed to urban development or water storage. Farmland already in urban development or water storage includes all such land with a density of 30 structures per 40-acre area. Farmland already in urban development also includes lands identified as urbanized area (UA) on the Census Bureau Map, or as urban area mapped with a tint overprint on the United States Geological Survey (USGS) topographical maps, or as urban-built-up on the United States Department of Agriculture (USDA) Important Farmland Maps.

The area in question meets one or more of the above criteria for Non-Farmland. No farmland area will be affected or converted according to the Code of Federal Regulation 7CFR 658, Farmland Protection Policy Act, Section 658-2; and the 2010 Census Bureau Maps. You are exempt from filling the AD1006 form at this time. Use this letter and the enclosed map as proof of exemption..

The Natural Resources Conservation Service
is an agency of the Department of Agriculture's
Natural Resources mission.

An Equal Opportunity Provider, Employer, and Lender

If you have any questions, please contact us at 919-873-2171 or by email: milton.cortes@usda.gov.

Again, thank you for writing. If we can be of further assistance, please do not hesitate to contact us.

Sincerely,

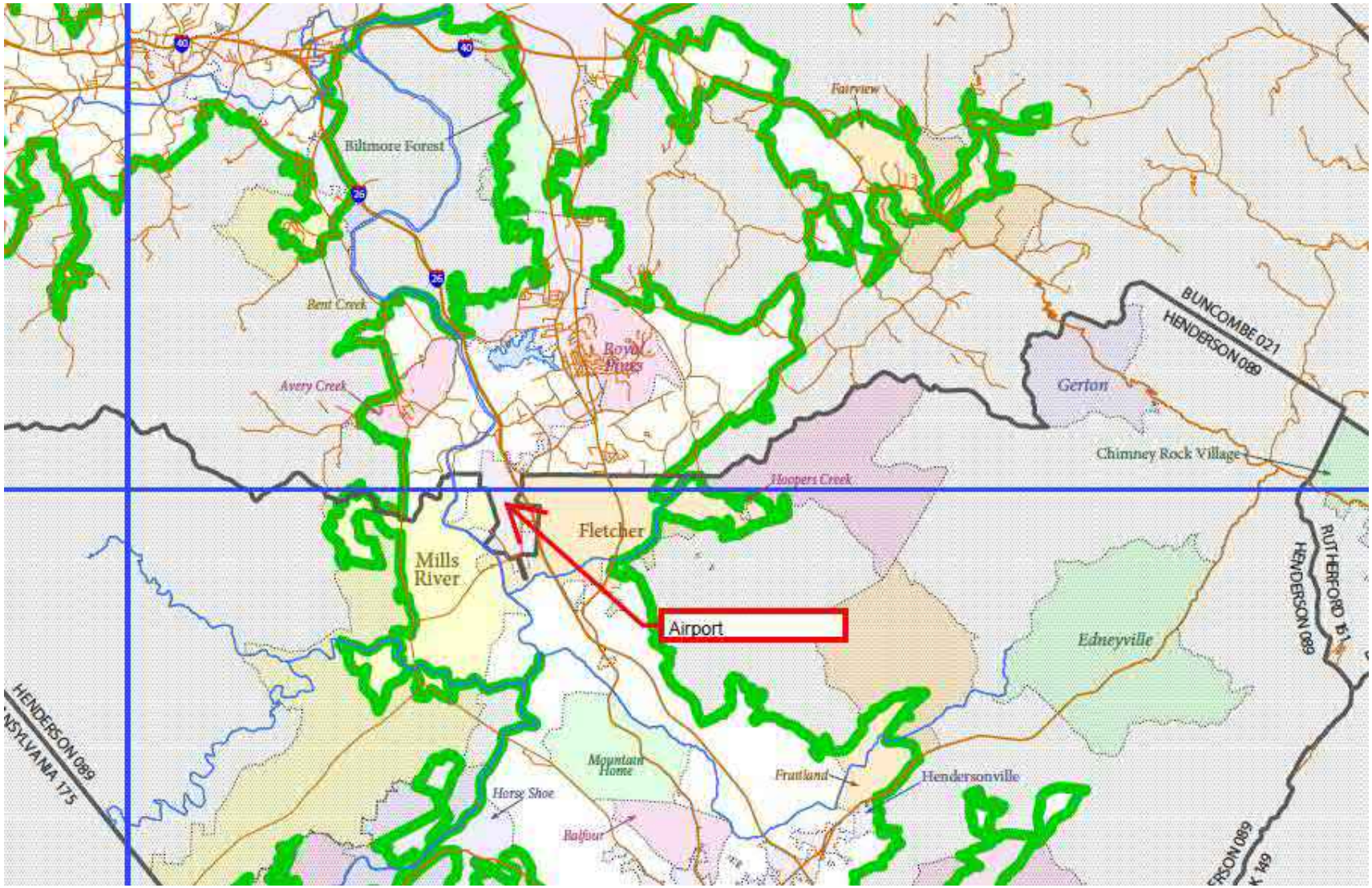
Milton Cortes

Milton Cortes
State Soil Scientist

Greater Asheville Regional Airport Authority (GARAA)
Buncombe County, North Carolina
2010 Census Bureau Map Asheville, NC Area

Milton Cortes, State Soil Scientist
USDA NRCS, Raleigh NC

April 24, 2020



Appendix I

Place Holder for EDDA

Appendix J

Place Holder for Public Involvement