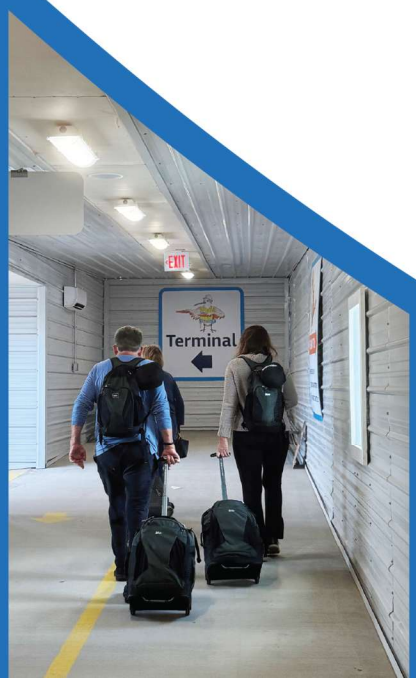
Chapter 7
Noise Compatibility Program

The objective of the noise compatibility planning process is to improve compatibility between aircraft operations and noise-sensitive land uses in the area while allowing the airport to continue to serve its role in the aviation transportation network in the community, state, and nation. The Noise Compatibility Program (NCP) includes three elements to satisfy this objective:

- The **Noise Abatement Element** includes voluntary noise abatement measures selected from the alternatives evaluated in Chapter Five.
- The **Land Use Management Element** includes measures to mitigate or prevent noise impacts on existing noise-impacted land uses and future land use development in the airport environs. The land use management techniques were evaluated in Chapter Six.
- The **Program Management Element** includes procedures and documents for implementing the recommended voluntary noise abatement and land use measures, monitoring the progress of the program, and updating the NCP.

Each measure of the NCP is summarized in **Tables 7B** and **7C** at the end of this chapter. For each measure, these tables include a brief description, the entity responsible for implementation of the measure, the estimated cost, the proposed timing, and potential sources of funding.



NOISE ABATEMENT ELEMENT

Potential noise abatement techniques were analyzed in the alternatives analysis presented in Chapter 5. For the purposes of 14 CFR Part 150, no noise abatement measures are carried forward; however, several voluntary noise abatement measures can continue to be implemented locally outside 14 CFR Part 150. The local measures not submitted for 14 CFR Part 150 review are discussed in the final section of this chapter.

NOISE CONTOURS

There are no recommended noise abatement measures that would alter the 2023 or 2028 baseline noise exposure contours shown on **Exhibits 7A** and **7B**.

LAND USE MANAGEMENT ELEMENT

Recommended land use mitigation measures for the vicinity of Wilmington International Airport (ILM) are summarized in **Table 7B**. The land use measures listed in this section include updates or amendments to applicable planning documents for the City of Wilmington and New Hanover County.

1. **Amend comprehensive plans to include a policy to amend comprehensive plan maps to establish an aviation noise threshold for land use compatibility.**

   Description: The comprehensive plans for the City of Wilmington and New Hanover County should include noise contours and associated policies; however, aircraft noise thresholds identified for noise-sensitive development are not specified. It would be beneficial for future comprehensive plan amendments to specifically reference the current 14 CFR Part 150 study and incorporate by reference policies and maps that will ensure consistency with the 14 CFR Part 150 noise compatibility program.

   Additionally, the City of Wilmington and New Hanover County should consider incorporating the day-night average sound level (DNL) noise contours for Wilmington International Airport that have been developed through this study into the city and county comprehensive plan maps during the next comprehensive plan amendment. This information may be useful to decision-makers when considering potential comprehensive plan map revisions.

   Implementation Actions: This measure can be established by amending the comprehensive plans as written in the description above.

   Costs and Funding: Adoption of this measure would involve administrative expenses for the City of Wilmington and New Hanover County. These expenses would be paid out of the operating budget for each respective entity.

   Timing: Amendments to comprehensive plans take time to prepare and process. The necessary amendments for this measure are projected for implementation during the next comprehensive plan update.

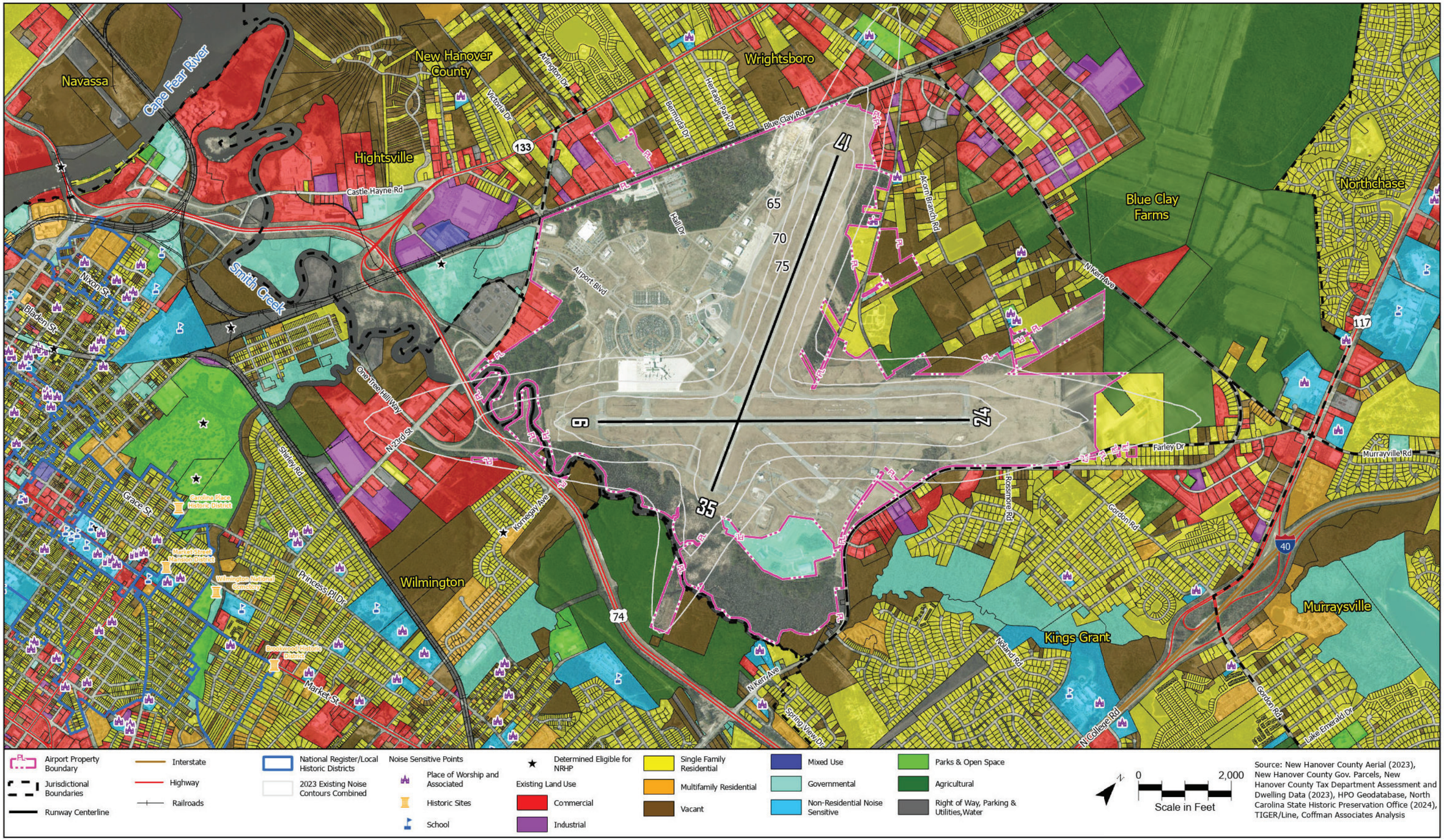


Exhibit 7A
EXISTING 2023 NOISE CONTOURS

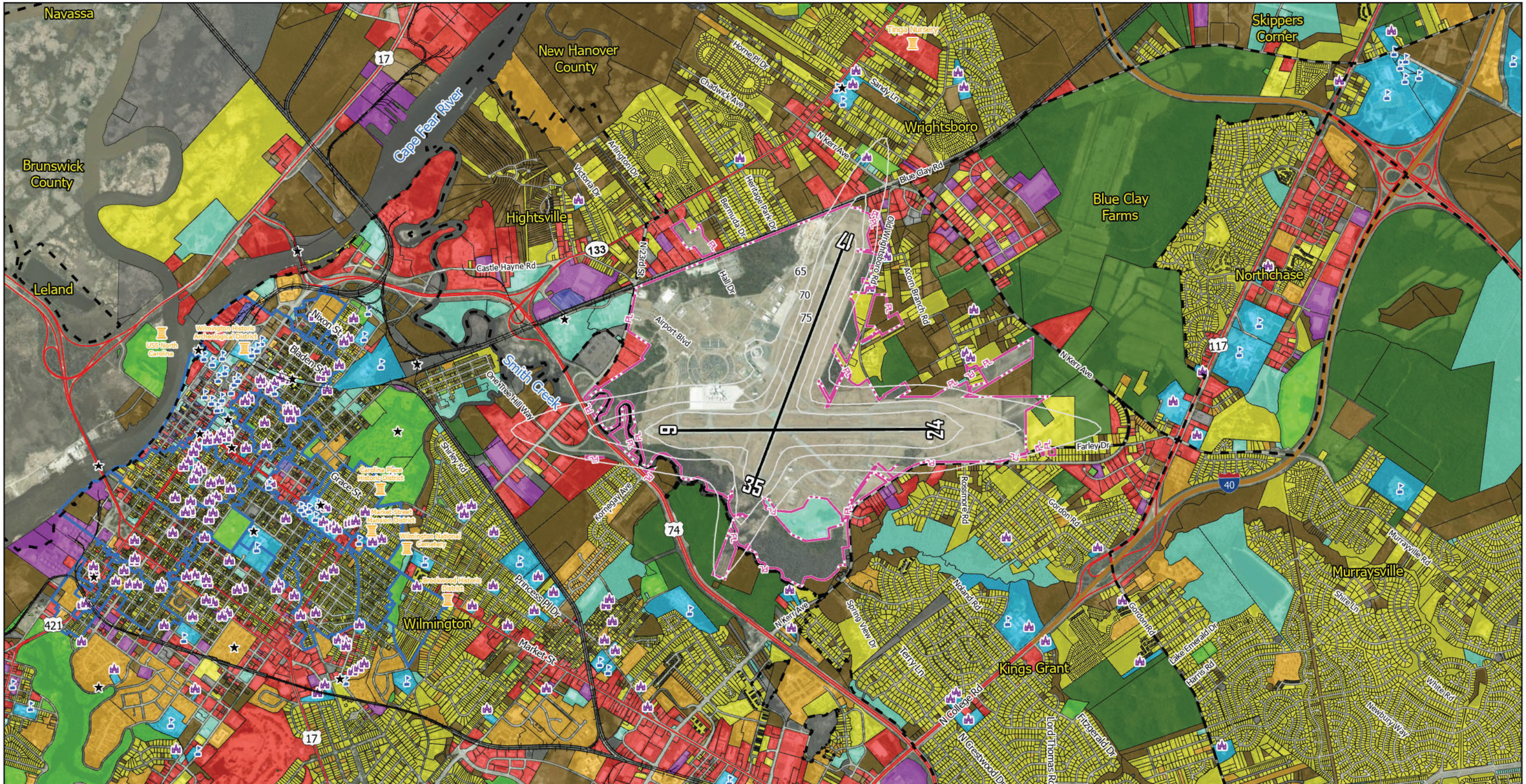


Exhibit 7A
EXISTING 2023 NOISE CONTOURS

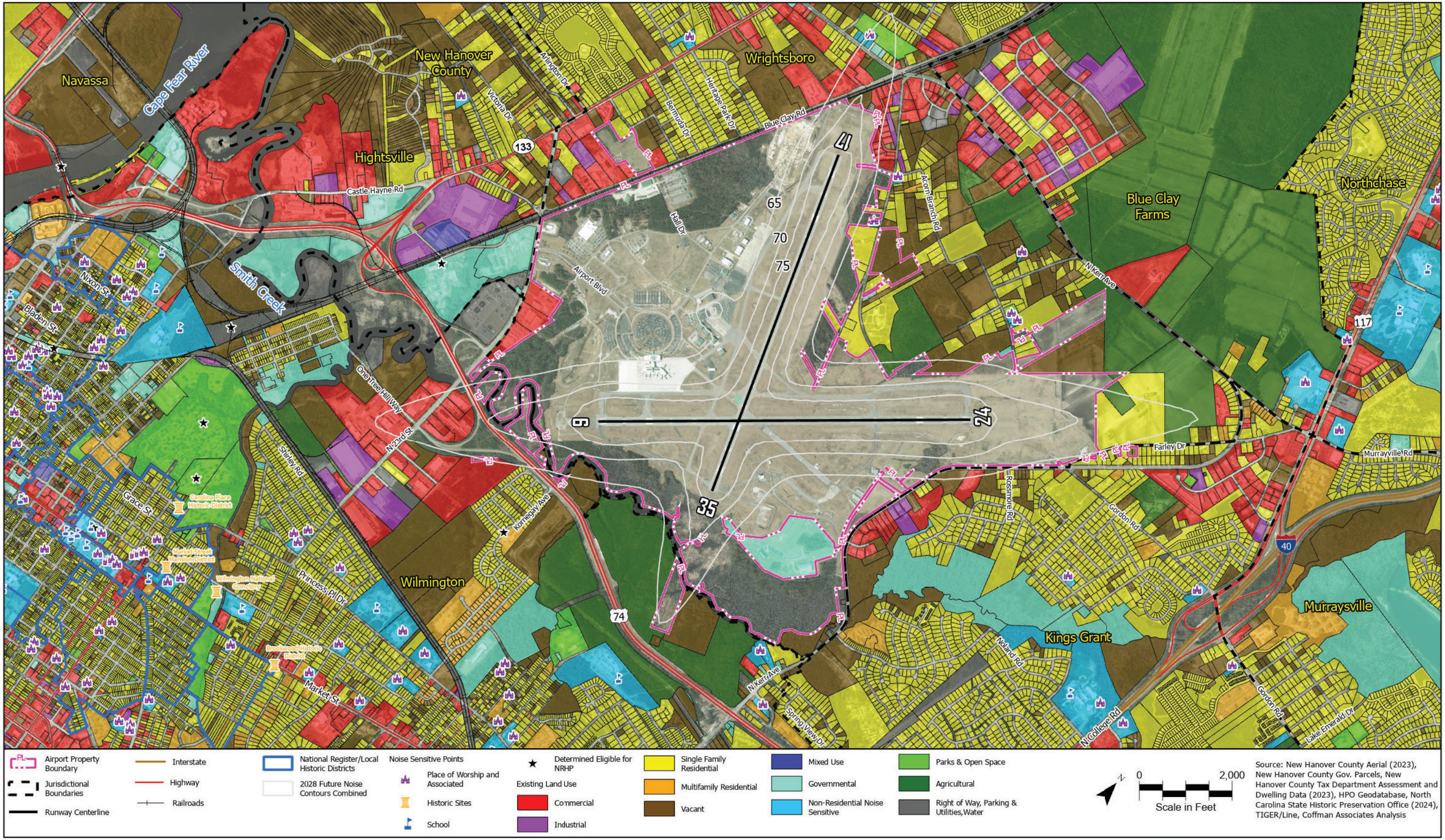


Exhibit 7B
FUTURE 2028 NOISE CONTOURS

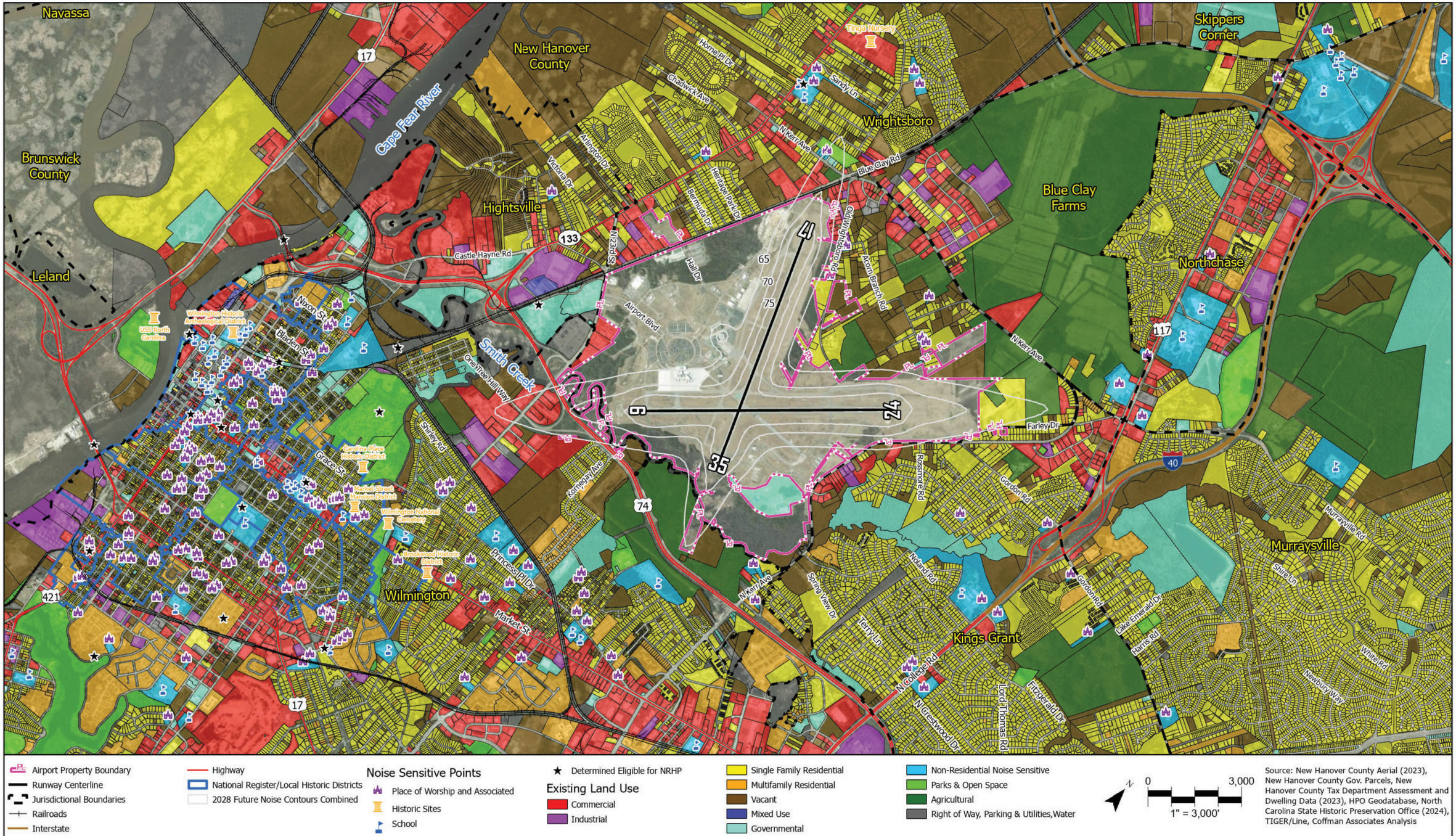


Exhibit 7B
FUTURE 2028 NOISE CONTOURS

2. Adopt formal project review guidelines that address noise compatibility issues.

Description: The City of Wilmington and New Hanover County should have project review checklists that address noise compatibility issues. The following criteria could be applied to proposed projects within the airport vicinity:

- Notify airport management and the New Hanover County Airport Authority of development proposals that include noise-sensitive uses within the airport vicinity.
- Determine the sensitivity of the subject land use to aircraft noise based on the location within the overlay zones or noise exposure contours.
- Locate noise-sensitive public facilities outside the 65 DNL noise contour and away from approach and departure paths whenever possible.
- Discourage the approval of rezonings, exceptions, variances, and conditional uses that introduce noise-sensitive development into areas located near noise-impacted areas.

Implementation Actions: This measure can be established by implementing a development project review checklists as described above.

Costs and Funding: Adoption of this measure would involve administrative expenses for the City of Wilmington and New Hanover County Board of Commissioners.

Timing: Implementing the project review checklist would potentially require less time and resources than a comprehensive plan amendment. The suggested checklist items could be added as soon as 2027.

3. Implement a fair disclosure policy for residential property within the 65 DNL noise contours.

Description: No fair disclosure regulation is currently adopted for either the City of Wilmington or New Hanover County with regard to airport noise. A fair disclosure regulation requires real estate transactions for properties located within the 65 DNL contours to include a notice to prospective buyers about the location of these properties in proximity to the airport.

Implementation Actions: This measure can be established by local ordinance and is typically achieved through adoption of an Airport Influence Area overlay district.

Costs and Funding: Adoption of this measure would involve administrative and legal expenses for the City of Wilmington and New Hanover County Board of Commissioners.

Timing: Adopting a new local ordinance would require public involvement and city council or board approval. The timing would depend on staff availability and funding. The recommended disclosure process could begin in one to three years.

NOISE MITIGATION ELEMENT

1. **Offer to provide sound insulation for the 14 dwelling units located in the program area on a voluntary basis.**

   Description: There are 14 dwelling units in the potential program area identified for Wilmington International Airport, based on the presence of dwelling units located in the 65 DNL noise contours for the existing (2023) and future (2028) conditions. As discussed in Chapter Six, the Federal Aviation Administration (FAA) allows for noise mitigation program boundaries to be delineated at logical breakpoints, such as a neighborhood boundary, significant arterial surface street, highway, river, or other physical or natural barrier or feature. Using this guidance, a program area boundary was developed using the 2023 noise exposure, as shown on Exhibit 6B, which contains a total of 14 residential dwelling units.

   This is intended to be a voluntary program offered to homeowners in the program area to mitigate noise exposure for structures that meet sound insulation requirements. The airport may consider adding conditions in exchange for participation in the sound insulation program, such as granting noise and avigation easements to the airport.

   Implementation Actions: No specific implementation actions are required other than those discussed in the description of this measure.

   Costs and Funding: The cost of sound-insulating all the dwelling units in the program area is estimated to be $960,000. This alternative would be eligible for up to 90 percent funding from FAA noise and environmental set-aside funding. New Hanover County Airport Authority would be responsible for the remaining 10 percent, which would come from the airport operating budget.

   Timing: This management technique is proposed for implementation whenever funding becomes available, in consultation with the New Hanover County Airport Authority.

2. **Offer to purchase avigation easements for the 14 dwelling units located in the program area on a voluntary basis.**

   Description: Purchase of noise and avigation easements over existing homes may be appropriate if noise substantially interferes with the full enjoyment of the property. This is intended to be a voluntary alternative to mitigate noise exposure for homeowners in the program area. Property owners who elect not to participate in the voluntary sound insulation program (described above as Measure #1 under the Noise Mitigation Element) would be given the opportunity to receive compensation in exchange for recording avigation easements for their properties.

   Implementation Actions: No specific implementation actions are required other than those discussed in the description of this measure.

   Costs and Funding: The cost of purchasing avigation easements for all the dwelling units in the program area is estimated to be $70,000. This alternative would be eligible for up to 90 percent funding from FAA noise and environmental set-aside funding. New Hanover County Airport Authority would be responsible for the remaining 10 percent, which would come from the airport operating budget.

Timing: This management technique is proposed for implementation whenever funding becomes available, in consultation with the New Hanover County Airport Authority.

PROGRAM MANAGEMENT ELEMENT

The success of the Noise Compatibility Program requires a continuous effort to monitor compliance and identify new or unanticipated problems and changing conditions through program management. Three program management measures are recommended at Wilmington International Airport, as discussed below and summarized in **Table 7B**. The airport operator, the New Hanover County Airport Authority, is responsible for implementing these measures and has agreed to do so on an ongoing basis.

1. **Update the airport's noise exposure maps (NEM) and Noise Compatibility Program.**

   Description: Airport management should periodically review the NCP and consider revisions and refinements as necessary. A complete plan update may be needed to respond to changing conditions in the local area and the aviation industry. By law (49 USC 47503), the FAA must rely on only those noise exposure maps that reflect current or reasonably projected conditions.

   Proposed changes to the NCP should be reviewed by the FAA and all affected aircraft operators and local agencies. Proposed changes should be submitted to the FAA for approval after local consultation and a public hearing to comply with 14 CFR Part 150.

   Implementation Actions: No specific implementation actions, other than those discussed above, are required.

   Costs and Funding: The cost of a complete update of the 14 CFR Part 150 Study is estimated to be $1,200,000. This would be eligible for up to 90 percent funding from the FAA. New Hanover County Airport Authority would be responsible for the remaining 10 percent, which would come from the airport operating budget.

   Timing: In general, NEMs less than five years old are considered current unless conditions have created a significant change that would affect noise contours. NEM noise exposure contours older than five years must be certified by the sponsor and updated as required in FAA Order 5100-38D; however, an update may be needed sooner if major changes occur. An update may not be needed until later if conditions at the airport and in the surrounding area remain stable. The FAA interprets this to mean an increase in noise levels of 1.5 DNL or more above 65 DNL, over incompatible areas that had formerly been compatible (FAA Order 1050.1G, Appendix C, Section C-1.5).

2. **Monitor implementation of the 14 CFR Part 150 Noise Compatibility Program.**

   Description: Airport management must monitor compliance with the noise abatement and land use management elements of the NCP, including recommended measures and voluntary noise abatement procedures. Monitoring the implementation of the plan will involve periodically checking with the City of Wilmington and New Hanover County for consideration of the

recommendations. An annual summary report should be prepared to indicate the status of each item on the checklist.

Implementation Actions: No specific implementation actions are required other than those discussed in the description of this measure.

Timing: This should be done annually.

RESIDUAL NOISE IMPACTS

Table 7A shows the population that would be exposed to noise following implementation of the NCP in comparison with baseline conditions. For the 2023 baseline condition, 31 residents and one place of worship are impacted by noise above 65 DNL. For the 2028 forecast conditions, five residents and one place of worship are impacted by noise above 65 DNL. Additionally, the New Hanover County Airport Authority recognizes that some community members are disturbed by noise at levels below the FAA guidelines for noise exposure. Local measures to address this disturbance are discussed in the final section of this chapter.

TABLE 7A | Noise-Sensitive Land Uses and Population Exposed to the 2023 and 2028 Aircraft Noise Above 65 DNL

	Area (acres)		
	65–70 DNL	70–75 DNL	75+ DNL
2023 Noise-Sensitive Land Uses			
Single-Family Residential	46.96 acres/14 d.u.	0	0
Multi-Family Residential	–	0	0
Noise-Sensitive Institutions	1 Place of Worship	0	0
2028 Noise-Sensitive Land Uses			
Single-Family Residential	37.14 acres/2 d.u.	0	0
Multi-Family Residential	–	0	0
Noise-Sensitive Institutions	1 Place of Worship	0	0
Population			
2023 Noise Exposure Contours	31 people	0	0
Total:	**31 people**	**0**	**0**
2028 Noise Exposure Contours	5 people	0	0
Total:	**5 people**	**0**	**0**

d.u. = dwelling units

Source: Coffman Associates analysis

SUMMARY OF NOISE COMPATIBILITY MEASURES FOR REVIEW UNDER 14 CFR PART 150

The noise compatibility measures for Wilmington International Airport for review under 14 CFR Part 150 are summarized in **Table 7B**. The total cost of the program is estimated at $1,630,000, which represents the estimated cost for updating the Noise Compatibility Plan ($600,000), the offer to sound-insulate the program area dwelling units ($960,000), and the offer to purchase avigation easements ($70,000).

Most of the cost (90 percent of eligible projects) would be eligible for FAA funding through the noise set-aside portion of the federal Airport Improvement Program (AIP). 10 percent of the cost ($163,000) would come from the New Hanover County Airport Authority's capital budget.

TABLE 7B | Summary of Noise Compatibility Program Measures for Review Under 14 CFR Part 150

Measure	Cost to Airport or Government	Direct Cost to Users	Timing	Lead Responsibility	Potential Funding Sources
LAND USE MANAGEMENT ELEMENT					
1. Amend comprehensive plans to amend comprehensive plan maps to establish an aviation noise threshold for land use compatibility.	Administrative	None	2036	City of Wilmington and New Hanover County	City and county operating budgets
2. Adopt formal project review guidelines that address noise compatibility issues.	Administrative	None	2028	City of Wilmington and New Hanover County	City and county operating budgets
3. Implement a fair disclosure policy for residential property within the 65 DNL noise contours.	Administrative and Legal	None	2028	City of Wilmington and New Hanover County	City and county operating budgets
NOISE MITIGATION ELEMENT					
1. Offer to provide sound insulation for the 14 dwelling units located in the program area on a voluntary basis.	$960,000	None	TBD	New Hanover County Airport Authority	FAA, New Hanover County Airport Authority
2. Offer to purchase avigation easements for the 14 dwelling units located in the program area on a voluntary basis.	$70,000	None	TBD	New Hanover County Airport Authority	FAA, New Hanover County Airport Authority
PROGRAM MANAGEMENT ELEMENT					
1. Update the airport's noise exposure maps and Noise Compatibility Program.	$600,000	None	2036	New Hanover County Airport Authority	FAA, New Hanover County Airport Authority
2. Monitor implementation of the Part 150 Noise Compatibility Program.	Administrative	None	Ongoing	New Hanover County Airport Authority	New Hanover County Airport Authority Operating Budget
Total Cost and Funding Source					
Funding Source				**Amount**	**Percent of Project**
FAA				$1,467,000	90.0%
New Hanover County Airport Authority Budget				$163,000	10.0%
			Total Cost:	**$1,630,000**	**100.0%**

LOCAL NOISE COMPATIBILITY MEASURES NOT SUBMITTED FOR 14 CFR PART 150 REVIEW

NOISE ABATEMENT

As discussed in Chapter Four of the NEM document incorporated herein by reference, there are limited noise impacts to residential dwelling units for the 2023 and 2028 noise scenarios under 14 CFR Part 150 regulations; however, in response to community concerns, as discussed in Chapter Five, the following four local noise compatibility measures are recommended for voluntary implementation.

1. **Explore new departure procedures for all runways, with a particular focus on establishing heading changes for departures from Runway 24 that achieves both noise abatement and aircraft separation.**

   Implementation Actions: Implementation of departure procedures will involve coordination with the FAA airport traffic control tower (ATCT). The FAA will need to develop and approve any procedures put into service.

   Timing: Alternatives development is estimated to take 12 months. FAA review, approval, and publication of the new procedures could take from one to three years.

2. **Explore a Charted Visual Flight Procedure (CVFP) for Runway 6 arrivals, using the Cape Fear River railroad bridge as the visual reference point.**

   Description: The approach procedure could be used to shift the path of arriving aircraft away from downtown and to the north over compatibly developed areas. This process would include FAA ATCT and FAA coordination.

3. **Continue noise abatement procedures as published for flight planning in the ILM Chart Supplement and Military Flight Information Program (FLIP) publications.**

   Description: Beginning in January 2022, the FAA and the 2nd MAW executed a Letter of Agreement to establish voluntary noise abatement procedures related to military aircraft operations at Wilmington International Airport. The 2nd MAW has agreed to specific procedures, including avoiding overflights of the Historic Downtown Wilmington area and prohibiting carrier breaks. The agreement is enforced through direction given by FAA ATCT management and through published military flight procedure guidelines.

   Following agreement with the tower, the airport and FAA ATCT implemented the agreed upon procedures for all aircraft, including civilian aircraft and military aircraft flown by other units, by publishing such procedures in the U.S. Chart Supplement for civilian flight planning and in the FLIP for military flight planning. The FLIP is the standardized flight planning and procedure resource utilized across all military units.

   Implementation Actions: This is a fully implemented and ongoing measure and will require continued coordination with the FAA ATCT staff and military staff, as needed.

   Costs and Funding: The FAA will continue to incur minimal administrative costs associated with enforcing procedures through FAA ATCT staff implementation, as well as publication of procedures in the Chart Supplement and in the FLIP.

   Timing: This is an ongoing measure that should be continued.

SUMMARY OF LOCAL NOISE COMPATIBILITY MEASURES NOT SUBMITTED FOR 14 CFR PART 150 REVIEW

A summary of the noise compatibility measures for Wilmington International Airport for local implementation is presented in **Table 7C**.

TABLE 7C | Summary of Local Noise Compatibility Measures Not Submitted for Review Under 14 CFR Part 150

Measure	Cost to Airport or Government	Direct Cost to Users	Timing	Lead Responsibility
LOCAL NOISE COMPATIBILITY MEASURES				
1. Explore new departure procedures with a particular focus on establishing heading changes for departures from Runway 24 that achieves both noise abatement and aircraft separation.	Administrative	None	TBD	FAA
2. Explore a Charted Visual Flight Procedure (CVFP) for Runway 6 arrivals, using the Cape Fear River railroad bridge as the visual reference point.	Administrative	None	TBD	FAA
3. Continue noise abatement procedures as published for flight planning in the ILM Chart Supplement and military Flight Information Program (FLIP) publications.	Administrative	None	Ongoing	FAA
Funding Source			**Total Cost**	**Percent Funding**
New Hanover County Airport Authority			$0	100.0%