U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

ORDER
5100.38D

National Policy

Effective date:
September 30, 2014

SUBJ: Airport Improvement Program Handbook

1. PURPOSE.

This Handbook provides guidance and sets forth policy and procedures used in the administration of the Airport Improvement Program.

2. DISTRIBUTION.

This Handbook is located on the FAA Office of Airports website (see Appendix B for link) where it is available to all interested parties.

3. CANCELLATION.

This Handbook cancels the following two orders:

- FAA Order 5100.38C, Airport Improvement Program Handbook (dated June 28, 2005).
- FAA Order 5100.20C, Programming Control and Reporting Procedures Grant-In-Aid Program (dated December 7, 1999).

4. EXPLANATION OF CHANGES.

This Handbook replaces the above two orders with updated information that reflects current legislation and policy. The Office of Airports has streamlined this Handbook and replaced guidance with references where there is a more appropriate source of guidance (such as in other orders or advisory circulars). This included deleting guidance on airport planning, capital planning, labor rates, and civil rights. The references appear as the basic publication number without any suffix. The intent is for the reader to use the latest version of the referenced publication.

The Office of Airports reorganized and revised this Handbook to incorporate the Plain Language Act of 2010; to differentiate what is required by law and policy; to incorporate program guidance letters issued prior to July 30, 2012; and to incorporate legislation from the FAA Modernization and Reform Act of 2012 (Public Law 112-95).

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Appendix R. Noise Compatibility Planning/Projects

R-1. How to Use This Appendix.

This appendix is not a valid stand-alone document for making eligibility and justification determinations. The information in this appendix must be used in conjunction with the Handbook, especially the project cost requirements in Chapter 3.

R-2. General Eligibility Requirements (The Four Types of Justification).

To be eligible, a noise compatibility project (also referred to as a noise mitigation project) must meet one of the following justification requirements in Table R-1.

Table R-1 General Eligibility Requirements for Noise Compatibility Projects

The noise compatibility project must be…
a. Included in an FAA approved 14 CFR part 150 Program. A noise compatibility project in an FAA approved 14 CFR part 150 Noise Compatibility Program (NCP). The Aviation Safety and Noise Abatement Act of 1979 (ASNA) directed the FAA to identify land uses that are normally compatible with various noise exposure levels. In response, the FAA adopted the 14 CFR part 150, Airport Noise Compatibility Planning. The adoption of the regulation was published in the 46 Federal Register 8316 (January 26, 1981). 14 CFR part 150 serves as the guidance for many of the AIP funded noise compatibility projects. 14 CFR part 150, Appendix A includes Table 1 - Land Use Compatibility with Yearly Day-Night Average Sound Levels that defines compatible and noncompatible land uses and related structures.
b. A Facility Used Primarily For Medical or Educational Purposes. A noise compatibility project for an adversely affected facility used primarily medical or educational purposes (per 49 USC § 47504(c)(2)(D), regardless if the airport has a 14 CFR part 150 program or not). Schools and hospitals are the most typical facilities that fall under this justification.
c. In a Land Use Compatibility Plan. A noise compatibility project that is included in a land use compatibility plan prepared by a local jurisdiction surrounding a medium or large hub airport that either has not prepared a 14 CFR part 150 program or has not updated 14 CFR part 150 program in the preceeding 10 years. Per 49 USC § 47141(f), grants for projects approved under an FAA accepted compatible land use plan are only allowable until September 30, 2015. After this date, the ADO must check the current legislation to see if the sunset date was extended.
d. In a Record of Decision. A noise mitigation project approved in an environmental record of decision for an airport development project.

R-3. Noncompatible Land Uses.

Table 1 of Appendix A in 14 CFR part 150 contains the requirements for determining when various land uses are noncompatible with aircraft noise, and therefore potentially eligible for AIP funding.

R-4. Not all 14 CFR part 150 Measures are Eligible.

Not all of the projects included in an approved 14 CFR part 150 program are eligible for AIP funding. Examples of ineligible 14 CFR part 150 NCP measures are listed in Appendix C.

R-5. Reduction Due to Aircraft Noise Associated with the Airport.

Noise insulation projects are designed to reduce interior noise in habitable rooms or classroom areas due to *aircraft* noise associated with the airport (as further discussed in the current version of Advisory Circular 150/500-9, Announcement of Availability Report No. DOT/FAA/PP/92-5, Guidelines for the Sound Insulation of Residences Exposed to Aircraft Operations).

R-6. Eligible Noise Contour Threshold (or the Use of a Lower Local Standards).

The primary measurement of noise impact is the exterior noise measurement of cumulative yearly day-night average sound level (DNL), normally depicted as noise contours on a map. The noise contour is a graphical representation of the level of 24 hour average sound level in decibels for the period from midnight to midnight, obtained after the addition of ten decibels to sound levels for the periods between midnight and 7 a.m. and between 10 p.m. and midnight local time that is experienced by land uses surrounding the airport due to aircraft operations.

a. DNL 65 dB Noise Contour. The DNL 65 dB noise contour is the noise level at or above which certain land uses are not considered to be compatible (49 USC § 47502, as implemented by Table 1 of Appendix A in 14 CFR part 150). The converse is also true – because DNL 65 dB is the federal threshold for considering certain land uses as compatible, noise-sensitive land uses located outside of the DNL 65 dB noise contour are not considered to be impacted by airport related noise. They are not eligible for mitigation funding unless a lower local standard is formally adopted.

b. Community Noise Exposure Level (CNEL). The FAA recognizes CNEL (community noise exposure level) as an alternative noise metric for California. For purposes of this Handbook the metric DNL and CNEL can be used interchangeably for projects in California.

c. Lower Local Standard. The FAA can consider a lower level of noise than the DNL 65 dB noise contour only if both the jurisdictions with land use authority surrounding the airport and the sponsor have each formally adopted a lower local standard (per a footnote to Table 1 of Appendix A in 14 CFR part 150, which reads in part, “The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities.”). The ADO can contact APP-400 for further information on determining whether locally adopted noise contours may be considered a local standard in the 14 CFR part 150 study.

R-7. Required Validation of the Noise Exposure Maps.

Per 49 USC § 47503, the noise exposure maps that the sponsor submits to the FAA must reflect current or reasonably projected conditions. 49 USC § 47503(b) requires that sponsors update their noise exposure maps if there is a substantial increase or significant decrease in the noise contour over noncompatible land uses. 14 CFR part 150 defines a DNL 1.5 dB change or more

as substantial. The exception is for noise mitigation projects in an environmental record of decision for an airport development project.

In addition, the FAA requires by policy that if the FAA-accepted Noise Exposure Maps used to document project eligibility are more than five years old, sponsors must confirm in writing to the ADO that the noise exposure maps upon which noise compatibility projects are based continue to be a reasonable representation of current and/or forecast conditions at the airport. The ADO must verify whether or not the noise exposure map reflects the current or projected operational conditions at the airport and associated noncompatible land uses. The ADO must also place a copy of the sponsor confirmation and ADO verification in the project files. The ADO must not program noise compatibility projects using noise exposure maps that are more than five years old unless this process has been completed.

R-8. Interior Noise Level Requirements.

The 45 dB standard has been adopted by the FAA for interior noise. This is based on 46 Federal Register 8316 (January 26, 1981), which established the interim rule for 14 CFR part 150 and included specific requirements regarding interior noise level. This was further clarified in 1992 by the Federal Interagency Committee on Noise (FICON) findings of 45 dB to be the interior noise level that will accommodate indoor conversations or sleep.

A noise-impacted noncompatible structure must be experiencing existing interior noise levels that are 45 dB or greater with the windows closed to be considered eligible. (For schools, the 45 dB measurement is based on the number of hours of the school day.)

The calculation of interior noise level must be based on the average noise level of only the habitable rooms or parts of school that are used for educational instruction. Habitable areas of residences are living, sleeping, eating or cooking areas (single family and multifamily) per the current version of Advisory Circular 150/5000-9, Announcement of Availability Report No. DOT/FAA/PP/92-5, Guidelines for the Sound Insulation of Residences Exposed to Aircraft Operations. Bathrooms, closets, halls, vestibules, foyers, stairways, unfinished basements storage or utility spaces are not considered to be habitable. For schools, noise insulation is limited to classrooms, libraries, fixed seat auditoriums, and educators' offices.

Areas that are not allowed under local building codes are not considered habitable. For example, a resident has converted part of a basement to a bedroom and the bedroom conversion does not meet the building code requirements to be categorized as a bedroom. The converted bedroom is not considered habitable space. For schools, areas that are used for incidental instruction, such as hallways, gymnasiums and cafeterias, are not eligible.

By policy, the FAA does not recognize a lower local standard below 45 dB for interior noise levels.

R-9. Block Rounding.

Per FAA policy, if sponsor proposes to expand noise mitigation just beyond the DNL 65 dB contour to include parcels contiguous to the project area (referred to as block rounding), the ADO has the option to approve this request if the requirements in Table R-2 are met.

Table R-2 Block Rounding Requirements

Requirements include…
a. DNL 65 dB Contour does not have a Reasonable End Point. The block rounding must be necessary to reach a reasonable end point for noise insulation projects.
b. Sponsor Provides a Detailed List of Residences. The sponsor must provide the ADO the proposed end point information, including a complete list of the specific residences (by address) that are proposed for block rounding.
c. Called Out on All Lists. On all other lists of residences, these residences must be noted as *included due to block rounding*.
d. ADO Determination. The ADO must review and either approve or disapprove including the proposed block rounding residences at part of the associated noise mitigation program or environmental study. The ADO must document the determination and place a copy of the determination in the project file.
e. Logical Breakpoint. In determining the reasonable end point for noise insulation projects, the ADO must ensure that the end point is a logical breakpoint (such as a neighborhood boundary, significant arterial surface street, highway, river, other physical or natural barrier or feature) or whether the end point extends unreasonably beyond a natural break. Neighborhood or street boundary lines may help determine what is a reasonable additional number of properties.
f. Interior Noise Levels Qualify. Once a residence is approved for block rounding, its interior noise levels must meet the requirements in Paragraph R-8 in order for that particular residence to be eligible.
g. Not Applicable for Lower Local Standards. Residences that lie outside of an eligible lower local standard below DNL 65 dB (per Paragraph R-6) are not eligible for block rounding.

R-10. Neighborhood Equity.

A sponsor may consider the use of neighborhood equity when a few residences in the eligible noise contour threshold (per Paragraph R-6) that do not meet the interior noise level requirements are scattered among residences that do meet the interior noise level criteria. If sponsor proposes to use neighborhood equity provisions, the ADO has the option to approve this request if the requirements in Table R-3 are met.

Table R-3 Requirements for Neighborhood Equity

Requirements include…
a. In the Eligible Noise Contour Threshold. The residence must be in the eligible noise contour threshold (per Paragraph R-6).
b. Separate Package. The sponsor must develop a separate neighborhood equity package limited to improvements such as caulking, weather stripping, installation of storm doors or ventilation packages. The ADO must not approve the use of the standard noise insulation package for neighborhood equity residences.
c. Percent Participation Limit. Per FAA policy, the ADO must not approve neighborhood equity for more than10% of the residences in the neighborhood, (as logically bounded by either streets or other geographic delineation) or 20 residences in a phase of the noise insulation program, whichever is less. Note that the FAA has determined that PFC and airport revenue cannot be used to fund any residences beyond this limit, because homes beyond this limit are not adversely affected by airport noise.
d. APP-1 Approval for Exceeding Percent Participation Limit. In extremely rare cases, ADO may determine that the program will benefit by providing noise equity packages to more than the 10%/no more than 20 residence limit. In this instance, the ADO must have received written APP-1 approval to exceed this limit.
e. Sponsor Provides a Detailed List of Residences. The sponsor must provide the ADO with a complete list of the specific residences (by address) that are proposed for neighborhood equity.
f. Sponsor Provides a Cost Comparison. The sponsor must provide the ADO with detailed information comparing the cost of the proposed neighborhood equity package with the cost of a standard noise insulation package.
g. ADO Determination. The ADO must review and approve or disapprove the sponsor's proposed neighborhood equity package. In their determination, the ADO must ensure that the use of the minimal neighborhood equity packages on non-eligible residences is required to allow successful completion of the overall noise insulation program in the neighborhood, thus allowing these residences to be noise insulated within the guidelines of AIP eligibility. The ADO must document the determination and place a copy of the determination in the project file.

R-11. Pre- and Post-Testing Criteria for Noise Insulation Projects.

In order for a structure to be funded with AIP grant funding, the sponsor must follow the sampling and testing criteria listed in Table R-4.

Table R-4 Pre- and Post-Testing Criteria for Noise Insulation Projects

For the following…	The requirement is…
a. Published Guidance	**(1)** In 1992, the FAA adopted guidance on test sampling frequency and other statistical measures that can be applied to a neighborhood to estimate the interior noise levels in the residences that are in the 65 dB DNL contour. This information is compiled into the Acoustical Testing Plan. Long standing agency policy is that an airport sponsor must use the 1992 guidance to establish the existing interior noise levels to determine whether or not the building qualifies for sound insulation using AIP. The 1992 guidance is found in current version of Advisory Circular 150/5000-9, Announcement of Availability Report No. DOT/FAA/PP/92-5, Guidelines for the Sound Insulation of Residences Exposed to Aircraft Operations. **(2)** The 1992 guidance was written to cover a broad range of sound insulation topics. There are recommendations in the guidance that exceed what is justified under AIP. However, just because an item is discussed in the guidance, this does not make it eligible or justified. This Handbook, not the guidance, provides the guidance for determining eligibility and justification for any project that is AIP funded.
b. Sponsor Requirements for submitting Testing Protocol to the ADO	**(1)** The sponsor must submit the proposed testing protocol to the ADO. **(2)** The ADO has the option to review the testing protocol. **(3)** After ADO review or after the ADO has indicated that the testing protocol will not be reviewed, the sponsor will then noise insulate the residences in the testing phase.
c. First Step – Initial Testing	**(1)** The first step of a noise insulation program is generally the initial testing phase. In this phase, the sponsor characterizes the neighborhood by characterizing the housing types, level of noise exposure (i.e., Location within the noise contour) and address. The sponsor must also describe the acoustical issues, number of residences to be tested and describe the acoustical criteria and testing methodology. **(2)** A sponsor starting a sound insulation program in a community near the airport will typically first conduct a windshield survey of the types of residences that are in the current phase. The windshield survey catalogs the types of residences in the neighborhood, notes similarities and differences in the age, construction type, size, number of levels, and types of housing (single family or multi-family). **(3)** Once the sponsor has characterized the diversity of the residences in the noise contour, it will select a representative sample of each type of similarly-constructed residences for testing, which based on industry review is typically 10% to 30%. Testing in this case means that the sponsor develops and installs a sound insulation package that the sponsor believes will reduce the interior noise level in the residence for each type of construction. **(4)** In a neighborhood where the residences are made of either brick or wood siding, the sponsor will develop two different packages – one for the brick residences and one for the siding residences. **(5)** The sponsor will then measure the interior noise levels and prepare a summary report detailing the effectiveness of the design package, make

Table R-4 Pre- and Post-Testing Criteria for Noise Insulation Projects

For the following…	The requirement is…
	recommendations for any changes to the package, lists the before and after interior noise level data, and submits the package to the ADO. **(6)** Reimbursement for initial and subsequent phase testing is limited to 10% of the residences of a particular type unless the sponsor has provided the justification for the request to the ADO and the ADO has approved the request. **(7)** The ADO must approve or disapprove a sponsor request for reimbursement for testing more than 10%, but not more than 30%, of the residences of a particular construction type. The ADO may request APP-400 assistance in evaluating sponsor requests. A copy of the sponsor's written request and the ADO approval or disapproval must be kept in the project file. **(8)** For requests for reimbursement for more than 30% of the residences of a particular type, the ADO must have received APP-400 approval. The request to APP-400 from the ADO must contain unless the sponsor's justification for the request, and the ADO's recommendation for approval or disapproval.
d. Second Step - ADO and Sponsor Review of Initial Testing Results	**(1)** The sponsor must review the results to determine if additional residences should be tested. **(2)** The ADO has the option to review and approve or disapprove all sponsor revisions to the sampling program.
e. Special Circumstance – Resident Requests Specific Testing	**(1)** A resident may request that their residence be tested specifically. This may be because of the condition of the home, or because the resident believes that their residence will test differently than others. These additional tests are generally allowable. However if an additional residence is tested, it must be tested both before and after any noise insulation work to ensure the 5 dB NLR is achieved.
f. Final Step – Completing the Testing Phase	**(1)** After the completion of the testing phase, the sound insulation program will begin for the neighborhood. In these later phases, the sponsor is still expected to test from 10% to 30% of each different category of residences in the phase to revalidate the design assumptions. The results of the revalidation testing must be submitted by the sponsor to the ADO. The ADO has the option to review these test reports.

R-12. Conditions for Posting Planning Documents on the Internet.

If the sponsor, or a sponsor's agent such as a consultant, posts an AIP funded planning document on the internet, it is FAA policy that the public must not be required to register to view or download the document (even if the document is posted elsewhere without registration requirements). This is because the collection of personal data may be construed by the public as a surveillance tool for the airport, which may intimidate members of the public, dissuading them from reviewing the document. In addition 5 USC § 552a(e), The Privacy Act of 1974, prohibits

the unnecessary collection of private data by federal agencies by restricting the agency to maintain only such information about an individual as is relevant and necessary to accomplish the purpose.

R-13. Disposal of Excess/Unneeded AIP Funded Noise Land (and ADO/Sponsor Tracking).

The requirements for the disposal of excess or unneeded AIP funded noise land are contained in Paragraph 5-67.

R-14. Project Requirements Tables.

In addition to the information provided in the above paragraphs and tables, and the following tables, Appendix C contains examples of prohibited projects and costs and is very useful to use alongside this appendix.

Table R-5 Noise Compatibility Planning/Project Work Codes

If the noise mitigation planning and implementation project is defined by where it is in the DNL, and is…	Use the following work codes…
Outside the 65 DNL.	XX XX 60
Within the 65 – 69 DNL.	XX XX 65
Within the 70 – 74 DNL.	XX XX 70
Within the 75 DNL.	XX XX 75

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
a. Conduct Noise Compatibility Program Study *(14 CFR part 150 Study)*	**(1)** The study and noise exposure maps must comply with the requirements of 14 CFR part 150.	An FAA approved noise compatibility program study and FAA accepted noise exposure maps.	EN PL NO
b. Conduct Noise Compatibility Plan Study *(Stand-Alone Noise Exposure Map Update)*	**(1)** The noise exposure map (NEM) update must comply with the requirements of 14 CFR § 150.21(d). **(2)** Per 14 CFR § 150.21(a)(1), the noise exposure levels must be based on forecast aircraft operations at the airport for a	New FAA accepted noise exposure maps.	EN PL NO

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	forecast period that is at least five years in the future beginning at the date of sponsor submission. **(3)** The sponsor must submit the updated noise exposure map to the ADO for FAA review. **(4)** The FAA must complete the required notice and comment in the Federal Register (this is a requirement in 14 CFR § 150.21(c)) **(5)** The sponsor must evaluate the impact of the updated NEMs against the existing noise compatibility program (NCP). *Note: This is not a complete update of the Record of Approval and NCP – rather this is an evaluation of whether the work items in the NCP are still valid.* **(6)** The sponsor must submit the results of the evaluation to the ADO. The ADO must include the sponsor's evaluation in the grant file. **(7)** If, in the opinion of the FAA, the changes in the NCP impact are extensive, the FAA has the option to require an update to the NCP.		
c. Conduct Noise Compatibility Plan Study (Compatible Land Use Plan by State and Local Governments per 49 USC § 47141)	**(1)** The compatible land use planning is for an area around a large or medium hub airport. **(2)** The airport has not submitted an airport noise compatibility program to the FAA under 14 CFR part 150, or has not updated its approved noise compatibility program within the preceding 10 years. **(3)** The state or local government sponsor and airport have entered into a written agreement to prepare the compatible land use plan cooperatively (prior to the grant being issued).	An FAA accepted (and airport approved) compatible land use plan with a capital improvement plan containing the plan measures.	EN PL NO

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	(4) The state or local government sponsor must maintain compatible land use measures listed in the completed plan. **(5)** The land use plan will be reasonably consistent with the goal of reducing existing non-compatible land uses and preventing the introduction of additional non-compatible land uses per 14 CFR part 150. **(6)** The land use plan will only include measures that are within the authority of the state or local government sponsor to implement. Measures such as studying or implementing aircraft operational procedures, airport layout changes, and airport noise and access restrictions must not be included because the state or local government sponsor has no authority to carry out these measures. **(7)** The airport must provide the state or local government sponsor with valid airport noise exposure maps and all noise abatement measures adopted by the airport. The airport must certify to the state or local government sponsor and the FAA that the noise exposure maps are representative of the current conditions at the airport. The state or local government sponsor must use this information when developing the land use plan. **(8)** The land use plan must not duplicate and must be consistent with all of the airport's noise compatibility measures for the same area. **(9)** The state or local government sponsor must include evidence of public involvement in the land use plan.		

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	(10) The state or local government sponsor must make provisions to implement those elements of the plan that are ineligible for federal financial assistance. **(11)** Per 49 USC § 47141(f), these types of grants are only allowable until September 30, 2015. After this date, the ADO must check the current legislation to see if the sunset date was extended.		
d. Noise Mitigation *(Required by an Environmental Record of Decision)*	**(1)** Noise mitigation projects approved in an environmental record of decision for an AIP eligible project is an allowable cost (or phase) of the AIP eligible project per Paragraph R-2.	A noise mitigation measure that meets the requirements of the record of decision.	The work code of the associated AIP eligible project must be used
e. Acquire Land for Noise Compatibility *(To Change Land Use)*	**(1)** The project must be included in an FAA approved 14 CFR part 150 program or an FAA accepted compatible land use plan. **(2)** The land must be included on Noise Land Inventory Map and the Noise Land Reuse Plan. APP-400 maintains current guidance on noise land inventory and reuse plans. **(3)** Per 49 USC § 47141(f), grants for projects approved under an FAA accepted compatible land use plan are only allowable until September 30, 2015. After this date, the ADO must check the current legislation to see if the sunset date was extended. **(4)** The project must be within the DNL 65 dB noise contour unless a lower local standard has been formally adopted. **(5)** The requirements for interior noise do not apply to acquisition projects. **(6)** The project may include residential	Sponsor owned land with good title that will allow the sponsor to clear the noncompatible land use.	EN LA 60 EN LA 65 EN LA 70 EN LA 75 See Table R-5 for correct work code

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	relocation. **(7)** The sponsor must provide the ADO with the number of people that have benefited. **(8)** The acquisition must meet the requirements of 49 CFR part 24, the current version of FAA Order 5100.37, Land Acquisition and Relocation Assistance for Airport Projects, and the current version of Advisory Circular 150/5100-17, Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects. **(9)** The sponsor must certify that the requirements of 49 CFR part 24 are being met. **(10)** The acquisition must meet all other applicable requirements in Appendix Q. **(11)** The project must meet the general eligibility requirements in Paragraph R-2.		
f. Acquire Easement for Noise Compatibility *(No Change in Land Use)*	(1) The project must be included in an FAA approved 14 CFR part 150 program or an FAA accepted compatible land use plan. (2) Per 49 USC § 47141(f), grants for projects approved under an FAA accepted compatible land use plan are only allowable until September 30, 2015. After this date, the ADO must check the current legislation to see if the sunset date was extended. (3) The project must be within the DNL 65 dB noise contour unless a lower local standard has been formally adopted. (4) An easement may be conveyed by the property owner in exchange for the sound insulation improvements provided. However, an AIP grant	A sponsor owned easement with good title.	EN LA 60 EN LA 65 EN LA 70 EN LA 75 See Table R-5 for correct work code

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	may not include a requirement that a property owner convey an easement (or other interest in the property) to the sponsor in exchange for sound insulation. The FAA encourages sponsors to work out such voluntary property agreements locally. (5) The acquisition must meet the requirements of 49 CFR part 24, the current version of FAA Order 5100.37, Land Acquisition and Relocation Assistance for Airport Projects, and the current version of Advisory Circular 150/5100-17, Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects. (6) The sponsor must certify that the requirements of 49 CFR part 24 are being met. (7) The acquisition must meet all other applicable requirements in Appendix Q. (8) The project must meet the general eligibility requirements in Paragraph R-2.		
g. Noise Mitigation Measures for Residences *(Full Sound Insulation Package)*	**(1)** The project must be included in an FAA approved 14 CFR part 150 program or an FAA accepted compatible land use plan. **(2)** Per 49 USC § 47141(f), grants for projects approved under an FAA accepted compatible land use plan are only allowable until September 30, 2015. After this date, the ADO must check the current legislation to see if the sunset date was extended. **(3)** The project must meet the two-stage eligibility test. First the property must be in an eligible noise contour threshold (per Paragraph R-6) and second, the property must meet the interior	A residence that has been mitigated to 14 CFR part 150 requirements.	EN HO 60 EN HO 65 EN HO 70 EN HO 75 See Table R-5 for correct work code.

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	noise level requirement (per Paragraph R-8). **(4)** The sound insulation package must provide a reduction in indoor noise level of at least 5 dB and bring the average interior noise level below 45 dB. If for any reason the sponsor believes that the 5 dB reduction cannot be achieved, the sponsor must provide a written request to the ADO. The ADO must receive APP-1 concurrence to proceed with the work. APP-1 concurrence will generally be limited to ventilation packages, cases of neighborhood equity or for older or poorly maintained residences where the 5 dB reduction may be difficult to achieve. **(5)** The sponsor must follow the sampling and testing criteria listed in Paragraph R-11. **(6)** The following measures are allowable: window and door replacement, caulking, weather-stripping, and installing central air ventilation so that the windows can be kept closed only if the structure does not already have a central air ventilation system. The use of other measures is not allowable unless the ADO has approved the use of the measures in advance. In this case, the ADO must keep a copy of the sponsor's request for use of other measures and a copy of the ADO approval of the request in the project files. Eligibility is limited to the measures listed above unless the ADO has received approval from APP-400 and APP-500 to use other measures. **(7)** The structure must have been built prior to October 1, 1998 unless the sponsor has demonstrated to the		

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	ADO that no published noise contours existed at that time. New noncompatible land uses created by subsequent airport development may also be eligible for funding consideration. The October 1, 1998 date is based on the FAA Final Policy on Part 150 Approval of Noise Mitigation Measures: Effect on the Use of Federal Grants for Noise Mitigation Projects, 63 Federal Register 16409 (April 3, 1998). **(8)** An easement may be conveyed by the property owner in exchange for the sound insulation improvements provided. However, an AIP grant may not include a requirement that a property owner convey an easement (or other interest in the property) to the sponsor in exchange for sound insulation. The FAA encourages sponsors to work out such voluntary property agreements locally, exclusive of FAA grant stipulations. **(9)** Both single and multi-family residences, including apartment buildings, are eligible. **(10)** The sponsor must provide the ADO with the number and address of homes mitigated and the number of people that have benefited. **(11)** Additional guidance is provided in the current version of Advisory Circular 150/5000-9, Announcement of Availability Report No. DOT/FAA/PP/92-5, Guidelines for the Sound Insulation of Residences Exposed to Aircraft Operations. **(12)** Permanent Modular Buildings. Some modular structures may be classified as permanent if they meet construction guidelines applied to permanent structures.		

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	(13) The project must meet the general eligibility requirements in Paragraph R-2.		
h. Noise Mitigation Measures for Residences *(Positive Ventilation Package Only)*	**(1)** The residence must not have continuous positive ventilation and when tested, must demonstrate interior noise levels less than 45 dB. **(2)** Because the interior noise measurements are conducted with "windows closed", there may be situations where a residence does not have an existing ventilation system, but relies on keeping the windows open for air circulation. **(3)** A Continuous Positive Ventilation System is the allowable package for these residences. The sponsor must also provide detailed information about the ventilation package including costs of the package compared to the cost of a standard noise insulation package. The sponsor may recommend an air conditioning system in lieu of ventilation- only. **(4)** Because a ventilation system is likely to increase utility and maintenance costs for the residence, the sponsor should provide information about utility and maintenance costs for the installed equipment to the residence owners. **(5)** This package is limited to those structures that do not have an existing continuous positive ventilation system. It is not available to structures that have an existing continuous positive ventilation system in place even if the system is inoperable, older, or does not meet the current building code standards for air exchanges. **(6)** The project must meet the general	A residence that has been mitigated to 14 CFR part 150 requirements.	EN HO 60 EN HO 65 EN HO 70 EN HO 75 See Table R-5 for correct work code.

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	eligibility requirements in Paragraph R-2.		
i. Noise Mitigation Measures for Public Buildings *(Full Sound Insulation Package)*	**(1)** The project must meet the two-stage eligibility test. First the property must be in an eligible noise contour threshold (per Paragraph R-6) and second, the property must meet the interior noise level requirement (per Paragraph R-8). **(2)** The sound insulation package must provide a reduction of at least 5 dB and bring the average interior noise level below 45 dB. Depending on the pre-insulation noise measurements, the 5 dB reduction may result in an interior noise level that is less than 45 dB. If for any reason the sponsor believes that the 5 dB reduction cannot be achieved, the sponsor must provide a written request to the ADO. The ADO must receive APP-1 concurrence to proceed with the work. APP-1 concurrence will generally be limited to ventilation packages and cases of neighborhood equity or for older or poorly maintained residences where the 5 dB reduction may be difficult to achieve. **(3)** The sponsor must follow the sampling and testing criteria listed in Paragraph R-11. **(4)** The following measures are allowable: window and door replacement, caulking, weather-stripping, and installing central air ventilation so that the windows can be kept closed only if the structure does not already have a central air ventilation system. The use of other measures is not allowable unless the ADO has approved the use of the measures in advance. In this case, the ADO must keep a	A public building that has been mitigated to 14 CFR part 150 requirements.	EN PB 60 EN PB 65 EN PB 70 EN PB 75 See Table R-5 for correct work code

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	copy of the sponsor's request for use of other measures and a copy of the ADO approval of the request in the project files. Eligibility is limited to the measures listed above unless the ADO has received approval from APP-400 and APP-500 to use other measures. **(5)** For schools, only the actual educational areas are eligible. This normally only includes classrooms, libraries, fixed seat auditoriums, and school educator's offices. The ADO must contact APP-400 for guidance on eligibility for facilities or areas beyond those specifically listed here. Appendix C includes some areas that have previously been determined to be ineligible. **(6)** The structure must have been built prior to October 1, 1998 unless the sponsor has demonstrated to the ADO that no published noise contours existed at that time. New noncompatible land uses created by subsequent airport development may also be eligible for funding consideration. The October 1, 1998 date is based on the FAA Final Policy on Part 150 Approval of Noise Mitigation Measures: Effect on the Use of Federal Grants for Noise Mitigation Projects, 63 Federal Register 16409 (April 3, 1998). **(7)** Permanent Modular Buildings. Some modular structures may be classified as permanent if they meet construction guidelines applied to permanent structures. **(8)** The sponsor must certify to the ADO that the engineering plans and specifications for the noise insulation project conform to the local building code.		

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	(9) Only the costs related to the noise insulation improvements are included in the project. If it is determined in the course of designing a noise insulation project that a building needs improvements in order to conform to local building codes, only the costs of the noise insulation are allowable. **(10)** An easement may be conveyed by the property owner in exchange for the sound insulation improvements provided. However, an AIP grant may not include a requirement that a property owner convey an easement (or other interest in the property) to the sponsor in exchange for sound insulation. The FAA encourages sponsors to work out such voluntary property agreements locally, exclusive of FAA grant stipulations. **(11)** The sponsor must provide the ADO with the number of students benefitting. **(12)** The project must meet the general eligibility requirements in Paragraph R-2.		
j. Noise Mitigation Measures for Public Buildings *(Positive Ventilation Package Only)*	**(1)** The building must not have continuous positive ventilation and when tested, must demonstrate interior noise levels less than 45 dB. **(2)** Because the interior noise measurements are conducted with "windows closed," there may be situations where a public building does not have an existing ventilation system, but relies on keeping the windows open for air circulation. **(3)** A Continuous Positive Ventilation System is the allowable package for these building. The sponsor must also provide detailed	A public building that has been mitigated to 14 CFR part 150 requirements.	EN PB 60 EN PB 65 EN PB 70 EN PB 75 See Table R-5 for correct work code

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	information about the ventilation package including costs of the package compared to the cost of a standard noise insulation package. The sponsor may recommend an air conditioning system in lieu of ventilation- only. **(4)** This package is limited to those structures that do not have an existing continuous positive ventilation system. It is not available to structures that have an existing continuous positive ventilation system in place even if the system is inoperable, older, or does not meet the current building code standards for air exchanges. **(5)** This package is limited to only those areas that are being noise insulated in the public building. **(6)** The project must meet the general eligibility requirements in Paragraph R-2.		
k. Install Outdoor Noise Monitoring System/Equipment *(Portable Noise Monitoring System and Equipment*	**(1)** The project must be included in an FAA approved 14 CFR part 150 Noise Compatibility Program or an FAA accepted compatible land use plan. **(2)** Per 49 USC § 47141(f), grants for projects approved under an FAA accepted compatible land use plan are only allowable until September 30, 2015. After this date, the ADO must check the current legislation to see if the sunset date was extended. **(3)** Non-airport sponsors are only eligible for portable noise monitoring equipment when used in connection with noise insulation projects managed by the non-airport sponsors. **(4)** In cases where more than one sponsor is expected to engage in noise insulation programs, the	A completely operational portable outdoor noise monitoring system that meets the requirements of 14 CFR part 150.	EN OT NO

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	airport sponsor is encouraged to acquire the equipment and make it available to other local agencies as needed. **(5)** The system can be replaced every 10 years (the useful life). **(6)** Portable outdoor noise monitors must be used for carrying out/certifying approved noise mitigation measures. This typically includes periodic short-term noise monitoring of aircraft operations at the airport for the purposes of reporting the results as described in an approved 14 CFR part 150 program management measure. This also means that purpose for the outdoor noise monitors cannot be for enforcement of noise rules. **(7)** The sponsor must provide the ADO copies of noise monitoring data on request. **(8)** Monitoring Systems are limited to outdoor monitoring systems. **(9)** The sponsor is responsible for ongoing vendor service costs that may be needed to access FAA surveillance tracking data. **(10)** The project must meet the general eligibility requirements in Paragraph R-2.		
l. Install Noise Monitoring System/Equipment *(Fixed Noise Monitoring System and Equipment)*	**(1)** The project must be included in an FAA approved 14 CFR part 150 program or an FAA accepted compatible land use plan. **(2)** Per 49 USC § 47141(f), grants for projects approved under an FAA accepted compatible land use plan are only allowable until September 30, 2015. After this date, the ADO must check the current legislation to see if the sunset date was extended.	A completely operational fixed noise monitoring system that provides regular reporting of noise events.	EN OT NO

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	(3) Systems are limited to circumstances where sponsors can clearly show that portable monitors are not feasible. **(4)** Placement of fixed noise monitoring equipment is eligible only within the DNL 65 dB noise contour at the time of installation. **(5)** Only the federal share of the least costly system that will satisfy the purposes used to justify the project is eligible. **(6)** The sponsor is responsible for ongoing vendor service costs that may be needed to access real-time FAA surveillance tracking data. **(7)** The system can be replaced every 10 years (the useful life). **(8)** Monitoring results must be in accordance with the approved 14 CFR part 150 program or compatible land use program measure. **(9)** The sponsor must provide the ADO copies of noise monitoring data on request. **(10)** The project must meet the general eligibility requirements in Paragraph R-2.		
m. Noise Mitigation Measures *(On-Airport Noise Barriers)*	**(1)** The project must be approved in a 14 CFR part 150 program. **(2)** Noise barriers, earth berms, wall structures, hush houses, ground run-up enclosures and other devices designed to shield land uses that are noncompatible with aircraft noise are eligible. **(3)** The on-airport noise barrier must be public-use (not exclusive use by any specific aircraft operator). **(4)** The project must reduce noise to a land use noncompatible with	A fully functional noise reduction structure that meets the requirements of 14 CFR part 150.	EN OT MS

Table R-6 Noise Compatibility Planning/Project Requirements

What Can Be Done If Justified	Factors to Consider For Justification and Eligibility	Required Usable Unit of Work and Required Outcome	Work Code*
	aircraft noise by at least 5 dB. **(5)** The project must not impact wingtip clearances or air traffic control tower line of sight. **(6)** The project must meet the general eligibility requirements in Paragraph R-2.		
n. Noise Mitigation Measures *(Runway and Taxiway Construction)*	**(1)** These are rare, so the ADO must contact APP-400 for guidance to ensure that all of the necessary requirements are being met. **(2)** The project must be approved in a 14 CFR part 150 program. **(3)** A runway or taxiway project (including land acquisition, lighting, marking, and/or NAVAIDs) is eligible as a noise mitigation measure if it can be shown that the principal purpose and benefit of the project is for noise relief. If the noise relief is a secondary benefit, the FAA will not approve the project as a noise mitigation measure, and the project must meet the normal eligibility requirements for a runway or taxiway project. **(4)** Lighting and NAVAIDs for noise must be used for the purpose of directing pilots to follow noise abatement flight paths and must be associated with a noise abatement runway. **(5)** The project must meet the general eligibility requirements in Paragraph R-2.	An airfield or NAVAID installation that meets FAA design standards.	EN OT MS
o. Conduct Environmental Study for Flight Procedures Approved in a 14 CFR part 150 Study	**(1)** The requirements for environmental studies for flight procedure approvals are provided in Appendix S.	N/A	N/A

*The official list of work codes can be obtained from the automated AIP system.