



King County

KING COUNTY INTERNATIONAL AIRPORT

**RESIDENTIAL AIRCRAFT NOISE REMEDY
IMPROVEMENTS PROGRAM (RANRIP)
(AKA SOUND INSULATION PROGRAM)
POLICIES AND PROCEDURES
MANUAL**

September 2012

(Initially approved by FAA on November 17, 2006)

**KING COUNTY INTERNATIONAL AIRPORT/BOEING FIELD
SOUND INSULATION PROGRAM
POLICIES AND PROCEDURES MANUAL**

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King County

KING COUNTY INTERNATIONAL AIRPORT

RANRIP/SOUND INSULATION PROGRAM POLICIES AND PROCEDURES

INTRODUCTION

On June 21, 2005, the Federal Aviation Administration (FAA) approved King County International Airport's (KCIA's) FAR Part 150 Noise Compatibility Study. The Study included recommendations to develop and implement a Sound Insulation Program that calls for the Airport to sound attenuate, when economically feasible, single-family houses (4-plex or smaller), schools, public buildings and multi-family structures within KCIA's 65 dB *DNL and 70 dB DNL noise contours. The Sound Insulation Program is voluntary. The Study Advisory Committee recommended that sound attenuation of single-family residences and schools be a shared first priority, with multi-family attenuation second. The sleeping portions of fire stations (two) would be the last priority after multi-family structures. This program is funded with FAA and Airport funds following federal guidelines for eligibility.

The Part 150 Study also stated that, as an option, KCIA would offer a sales assistance program to Homeowners wishing to sell their homes, but are not able to do so due to proximity to the Airport. Another program would be the voluntary purchase of an Avigation Easement for those Homeowners who do not want to take advantage of either the sound attenuation or sales assistance programs. It should be noted that per the approved Part 150, both the sales assistance and the purchase of Avigation Easement options would not be considered until the completion of the following sound attenuation options:

- Qualified single-family residences and schools,
- Qualified multi-family structures, up to 4-plexes,
- Sleeping quarters of two fire stations (one in Seattle and one in Tukwila),
- Sales assistance program, and

** **Day-Night Average Sound Level (DNL or L_{dn})** – The day-night average sound level is a measure of the annual average noise environment over a 24-hour day. It is the 24-hour energy-averaged A-weighted sound level with a 10 dB penalty applied to the nighttime levels which occur between 10:00 p.m. to 7:00 a.m.*

- Purchase of Avigation Easements.

In addition, these programs are all contingent upon the availability of Federal and King County funds.

The only eligible school was Cleveland High School which is located in KCIA's 65 dB DNL noise contour. The Seattle School District's comprehensive remodeling of the school facility proceeded without a formal request of FAA grant funds.

1.0 Noise Mitigation Boundary

The Part 150 Study also included a Noise Mitigation Boundary map that identified residences within surrounding neighborhoods contained in KCIA's 2008 "Revised Future Noise Exposure Map" (reference Appendix C enclosed).

The existing noise environment at KCIA was determined through a comprehensive noise measurement survey and modeling assessment. The foundation of a Part 150 Noise Study is the accurate prediction of airport noise levels. The noise environment at KCIA has been depicted through the employment of noise measurement surveys of aircraft events and ambient noise levels, collection of aircraft operational data, and the incorporation of this information into an airport noise computer model consistent with FAA regulations.

Noise contour modeling was a key element of this noise study. Generating accurate noise contours is largely dependent on the use of a reliable, validated, and updated noise model. The FAA's Integrated Noise Model (INM) Version 6 was used to model the flight operations contours at KCIA. Aircraft data needed to generate noise contours include:

- Number of aircraft operations by type,
- Types of aircraft,
- Day/Evening/Night time distribution by type,
- Flight tracks,
- Flight track utilization by type,
- Flight profiles,
- Typical operational procedures, and
- Average Meteorological Conditions.

An additional important consideration in developing the noise contours is the percentage of time each runway is utilized. The speed and direction of the wind dictate the runway direction that is utilized by an aircraft. At KCIA, the wind is generally calm with the dominate wind direction from the south about 70% of the time, while wind direction from the north occurs about 30% of the time.

The primary noise metric that was used in the Part 150 noise study is DNL. Consequently, aircraft operations south of KCIA's runways constitute the noise

contours in the neighborhoods of Allentown in Tukwila and South Beacon Hill; whereas, aircraft operations north of KCIA's runways shape noise contours in the Georgetown and North Beacon Hill neighborhoods. The touch-and-go training operations by flight schools located at KCIA create the eligible noise contours in the Mid-Beacon Hill neighborhood. Another typical noise event from commercial jet aircraft at KCIA includes engine run-ups performed by The Boeing Company that create a 70 dB DNL "bulge" in the noise contour in Georgetown on Ellis Avenue.

The FAA approved Noise Mitigation Boundary (NMB) includes approximately one thousand three hundred and thirty (1,330) eligible residences, one school and the sleeping quarters in two fire stations (one in Seattle and one in Tukwila). The actual number of homes that qualifies for KCIA's Sound Insulation Program is determined by applying FAA criteria, noise testing and a "windshield" survey and inventory of eligible homes. Residences located in Phase I of the NMB automatically qualify for sound mitigation improvements. Homes constructed after September 30, 1998 are not eligible for FAA sound attenuation programs. (See footnote 1 on page 11 for more explanation.) Also exempt from this FAA program are mobile homes; however, modular structures are eligible on a case-by-case basis.

Project Organization – In August 2005, the Airport launched a multi-year Sound Insulation Program designed to reduce indoor noise from aircraft within the noise impacted area for single-family residences (4-plex or smaller). Applying FAA regulations, the Program implements sound insulation treatments for qualifying homes experiencing the most aircraft noise.

The Sound Insulation Program is managed by the KCIA Sound Insulation Program Manager, who is also KCIA's Noise Officer. KCIA is responsible for preparing a Request for Proposal (RFP) to select a consultant to serve as the Project Manager/Technical Representative for the design and construction phase; preparing and submitting FAA grant applications; developing a priority system, a Policy and Procedures Manual, a Homeowner's Handbook; notifying eligible Homeowners of program policies; and implementing the program consistent with FAA regulations. The FAA is responsible for program oversight and interpretation of all relevant federal regulations and for providing grant funds for the RANRIP/Sound Insulation Program.

This document outlines the policies and procedures to be followed for the administration of the King County International Airport's RANRIP/Sound Insulation Program.

1.1 Purpose

The purpose of the Sound Insulation Program is to "reduce the adverse impact of airport-related noise on building occupants or residents." In addition, the program

“is not intended to compensate for inadequate maintenance, or to bring nonconforming structures up to building code standards, or to improve the comfort or attractiveness of a building, although these benefits may result indirectly from the program.” (Airport Improvement Program (AIP) Handbook, U.S. Department of Transportation, Federal Aviation Administration, Order 5100.38C, June 28, 2005, Chapter 8, Section 2, “Noise Compatibility Projects,” §812, “Noise Insulation Projects,” paragraph a.(2), page 140.)

This manual sets forth the general guidelines and identifies responsibilities to assist King County, its agents, employees, and contractors, in the implementation of the RANRIP/Sound Insulation Program. Subsequent sections of this manual discuss in detail the elements of the Program including: Program goals, eligibility for participation, phases and schedules for participation, Homeowner participation process, bid process and construction process, plus all necessary legal forms and Homeowner participation forms and documents.

During the course of implementing the Sound Insulation Program, this manual may be revised, as appropriate, as the Program is refined through experience gained over the years.

The objective of this manual is to ensure that all aspects of the Sound Insulation Program comply with all policies and approval criteria established by King County and the FAA, in order to secure Federal grant funding which is essential to implementing the approved Noise Compatibility Program (NCP).

1.2 Administrative and Implementation Roles and Responsibilities

A number of organizations will be involved in King County’s Sound Insulation Program implementation, including:

King County International Airport maintains and staffs a Sound Insulation Program Office. The Program Manager manages the Sound Insulation Program and provides day-to-day program implementation services. KCIA provides the local share of the funding, which is anticipated to be on the order of 5-10% of the overall program cost. KCIA plans to utilize revenue generated by airport rates and charges to fund their portion of the program cost.

King County Airport Roundtable: The Roundtable is comprised of aviation-related businesses and representatives of communities interested in airport issues. It was established as an advisory board to make recommendations to airport administration, the King County Executive, and the King County Council. The Roundtable has assigned their community representatives from Georgetown, Beacon Hill, Skyway and Tukwila to serve as the Roundtable’s primary contact with the RANRIP/Sound Insulation Program. The Roundtable will review the Program’s Policies and Procedures Manual and other relevant materials.

Federal Aviation Administration (FAA) will approve the Sound Insulation Program Policies and Procedures Manual, and provide a majority of the funding for the Program, which is anticipated to be on the order of 90-95% of the overall program cost. It is anticipated that the FAA will provide Federal grants through the Airport Improvement Program (AIP) to fund their portion of the program cost.

Sample Noise Testing and Home Survey and Inventory Consultant(s) conducted a home survey and inventory of all homes located within the 65 and 70 dB DNL and initially selected a representative number of the total eligible homes for sample noise testing. The results of the home survey and inventory plus the sample noise testing determined which homes qualified for Phase I sound insulation improvements. The consultant(s) were selected through King County's competitive bid process.

Architectural & Engineering Consultant(s), also known as the Technical Representative and Design Team, assesses each home, designs the sound insulation modifications for each residence, prepares plans and specifications, and assists in the preparation of associated bid documents for each construction bid package. The A&E also provides construction management and homeowner liaison services. The A&E is responsible for all code enforcement and permitting requirements in conjunction with the construction contractor(s). The Consultant is selected through King County's competitive bid process.

Construction Contractor(s) perform sound insulation improvement work on qualified residences. The construction contractor(s) work with the A&E Consultants (project managers) to ensure all code enforcement and permitting requirements are met. The A&E Consultants manage the construction contractor(s), and are responsible for day-to-day coordination and communication between the Contractor and the Homeowner. The construction contractor(s) are selected through King County's competitive bid process.

1.3 Program Goals

The FAA has established Noise Level Reduction (NLR) improvement criteria that the RANRIP/Sound Insulation Program must meet to be eligible for federal funding. These criteria are defined in the Airport Improvement Program (AIP) Handbook, U.S. Department of Transportation, Federal Aviation Administration, Order 5100.38C, June 28, 2005, Chapter 8, "Noise Compatibility Projects," §812, "Noise Insulation Projects," paragraph b. "Residential Noise Insulation," pages 141 - 142, and include the following:

Achieving an interior Day Night Level (DNL) of 45 dB in all habitable rooms, and/or provide at least 5 dB in the interior-to-exterior NLR for those residences that qualify for insulation.

Exterior noise exposure will be based on the forecast five-year conditions (2008) noise exposure map (NEM) included in the approved NCP. “For residences located in areas where exterior noise exposure is DNL 65 dB DNL, the requisite noise level reduction (NLR) provided by the structure should be at least 20 dB in major habitable rooms. The requisite NLR should be increased commensurate with any increase in exterior DNL above 65 dB DNL. The project design should be based on exterior DNL and the existing NLR in the structure.” To qualify for the Sound Insulation Program, the existing construction must provide less than the needed noise level reduction for the noise exposure level at the location of the residence.

The design objective for the Sound Insulation Program is to achieve the requisite NLR in each home treated when the project is completed.

1.4 Eligibility Area Boundary

Single-family residences and multi-family dwellings with up to four units located within the Noise Mitigation Boundary (reference map contained in Appendices), are considered eligible for interior noise testing and/or assessment to qualify for sound insulation improvements. This area is based on KCIA’s Noise Compatibility Program (NCP) 2008 Future Base Case Noise Exposure Map.

Approximately one thousand three hundred and thirty (1,330) parcels have been identified within the Noise Mitigation Boundary. (A listing of the street addresses of all residential parcels within the Noise Mitigation Boundary is contained in the Appendices.)

1.5 Qualification of Residences for Participation

There are two steps to qualify for KCIA’s Sound Insulation Program:

1. Residential units must be located within the 65-70 dB DNL noise contours contained in the Noise Mitigation Boundary approved by the FAA, and
2. At least one above-grade habitable room of an eligible residence must be at or exceed an interior noise level of 45 dB DNL as determined by noise testing.

Structures within the Noise Mitigation Boundary must also meet the following criteria to be included in the Sound Insulation Program:

- The structure must be a legally permitted residential unit,
- The structure must contain no more than four dwelling units,
- The structure must have been constructed prior to October 1, 1998¹, and

¹ KCIA will not confer eligibility upon any residence that has been built past October 1, 1998. In order to identify the correct dates associated with a residence built during 1998, KCIA will contact

- The existing structure cannot be a mobile home.

Only primary structures are eligible. Detached out-buildings used as residences, including detached garage apartments, will be considered for inclusion in the Sound Insulation Program only if the unit is finished, is occupied as a permanent residence, and otherwise complies with all applicable building codes, land use regulations, and zoning ordinances. Manufactured homes (modular structures) must be approved by FAA on a case-by-case basis.

1.6 Typical Home Modifications

Modifications to homes involved in the Sound Insulation Program may include some combination of the following improvements:

- Replacement of windows in above-grade habitable rooms with acoustically-rated units,
- Replacement of exterior doors,
- Provision of a continuous positive ventilation system for residential units without a system or where the present system is obsolete, or retrofit of existing positive ventilation systems to achieve requisite NLR.
- Provision or enhancement of thermal insulation in attics,
- Provision of chimney flaps, and
- Provision, replacement and/or enhancement of weather-stripping and/or caulking,

1.7 Phases and Schedules for Participation

KCIA's RANRIP/Sound Insulation Program is comprised of two phases over a multi-year period and is dependent upon FAA funding. Phases are currently identified as:

Pilot Program – (2007-2008) – KCIA implemented a pilot project to sound insulate ten homes within the 70 dB DNL noise contour for completion in 2007-08. The goal of the Pilot Project was to determine the effectiveness of the sound insulation treatments recommended and installed by the selected consultant in

the appropriate jurisdiction to learn the date the residence was permitted in order to determine its eligibility and to insure that the permit date is prior to October 1, 1998. This is necessary because King County's Assessor's Office identifies a residence simply as being built in 1998 without regard to the month it was completed. Since the City of Seattle does not issue occupancy permits for residential construction, KCIA has determined the most predictable and reliable form of documentation to validate eligibility is the date when a building permit is issued to the builder/developer. The alternative would be for KCIA to declare any residence built in 1998 ineligible, which would be discriminatory to homeowners with residences built between January-September 30, 1998.

meeting FAA mandated NLR* requirements. The Pilot Project also served as a staging mechanism to prepare for follow-on phases of the RANRIP/Sound Insulation Program. Post-construction noise testing was conducted in pre-noise audited homes to confirm a 5 dB noise reduction in acoustically-treated homes.

Phase I, Year 1 – KCIA received an AIP grant for design of 120 qualified homes and for construction of 80 homes with exterior noise of 69.5 to 74 dB DNL, including the ten-home pilot program within the highest decibel noise contours within the 70 dB DNL.

Phase I, Year 2 – KCIA received an AIP grant for design of 122 qualified homes with exterior noise of 69.5-74 dB DNL (September 2009-September 2010) and for construction of 84 homes (including potentially historic homes).

Phase I & II, Year 3 – KCIA received an AIP grant to design 130 qualified homes (including historic homes) in October 2010-September 2011 and for construction of 156 homes (including historic homes).

Phase I & II, Year 4 (forecasted) – KCIA received AIP grant funding for design of 102 qualified homes (including historic homes) from October 2011-September 2012 and for construction of 137 homes (including historic homes).

Phase I & II, Year 5 (forecasted) – KCIA received AIP grant funding for design of 101 qualified homes (including historic homes) for October 2012 – September 2013 and for construction of 186 homes at various phases (including historic homes).

While homeowners were contacted to participate based upon the qualification of their homes and the decibel level noise contour where they were located, homes from both Phase I and Phase II may be combined in construction bid packages depending upon when the homeowner made the decision to participate.

While KCIA continually contacts homeowners who have not signed up for participation, prior to initiation of the final phase, and subject to available funding, all Homeowners who deferred participation in prior phases will be contacted and informed of their final opportunity to participate in the Sound Insulation Program. Homeowners will be given a maximum of 30 days from the date of this final contact to notify the airport of their desire to participate in the final phase. Homeowners who do not notify KCIA within this time frame will be automatically withdrawn from the program and offered no further opportunity to participate in the Sound Insulation Program.

* **Noise Level Reduction (NLR)** – *The numerical difference, in decibels, of the average sound pressure levels in two adjacent areas or rooms. A measurement of noise reduction combines the effect of the transmission loss performance of the built construction separating the two areas or rooms, plus the effect of acoustic absorption present in the receiving room.*

On April 9, 2007, the Airport Roundtable approved the use of a priority system to determine a fair sequence of selecting qualified homes for sound insulation improvements. In general, the phasing schedule will be based on noise decibel levels, working from areas of highest to lowest noise exposure. For example, dwellings within the 70 dB DNL contour will be addressed before homes within the 65 dB DNL contour.

Consequently, the approved priority system for competing qualified residences within the noisiest noise contours is based upon decibel level—not upon whether the home is owner-occupied or tenant-occupied.

In summary, the goal of the program is to successfully sound insulate on an annual basis as many residences as funding allows. The availability of FAA grant and KCIA funds ultimately determines the number of homes to be included in the RANRIP/Sound Insulation Program during any specified time frame. There may be adjustments to the number of participants in any phase due to the availability of funding.

1.8 Funding of Sound Insulation Treatment

King County and FAA Funding Responsibility. Eligible homes located in the highest decibel level contours, that are shown by the tests to have an interior noise level at or greater than 45 dB DNL, will qualify for sound insulation treatment under the program. The FAA and King County will fund 100 percent of the eligible work items (labor and materials) for the specified number of homes identified in each grant application to FAA. In the event that Federal and/or County funding of the program is reduced or terminated, the RANRIP/Sound Insulation Program shall also be reduced and/or terminated. Eligibility for noise insulation treatment under this program is not a guarantee that treatment will occur if the Program is not funded or is terminated.

In exchange for funding of sound insulation modifications, Homeowners participating in the Sound Insulation Program must grant King County an Avigation Easement (reference King County's Avigation Easement form contained in Appendices).

In consideration for participating in and receiving the benefits of the Program, Homeowners must agree to convey to King County an Avigation Easement, which will be recorded against the Homeowner's property. In the event Homeowner(s) withdraws from the Program prior to the final acceptance of work, the Avigation Easement form will be returned to Homeowner(s). In rare instances, Homeowner(s) shall, at King County's request, obtain the signed agreement of any lien holders who have a lien on their property to subordinate their interests to the Avigation Easement.

Homeowner Funding Responsibility. The RANRIP/Sound Insulation Program will not reimburse Homeowners for any costs associated with window or door repairs or improvements that occurred prior to the residence qualifying for the program.

Any structural repairs to a home that are unrelated to noise reduction, such as deferred maintenance or rehabilitation, will not be funded by the Sound Insulation Program. The cost of any repairs or remodeling necessary to “ready” the residence, or required by city building codes, must be borne by the Homeowner as “pre-work” requirements prior to installation of sound insulation home improvements.

Additional work items requested by the Homeowner, that are not necessary for proper implementation of this Sound Insulation Program, will not be included in the Scope of Work by Contractor(s) and will not be funded by King County or the FAA. These items of work may be negotiated between the construction Contractor and the Homeowner, but this work must not begin until after completion and final acceptance of the sound insulation work. Under no circumstances shall such additional work reduce the acoustic performance of the sound insulation improvements. The Homeowner shall not intentionally remove or compromise any of the sound insulation materials and/or noise reduction equipment installed as part of the Sound Insulation Program prior to post-noise testing.

2.0 Community Outreach Program

The Sound Insulation Program is committed to implementing a comprehensive and effective community outreach program that will inform residents in surrounding Airport communities and key stakeholders of all aspects of participating in KCIA’s noise mitigation program.

Community outreach includes, but is not be limited to, informational handouts and brochures, a Homeowner’s Handbook, one-on-one meetings with Homeowners, newsletters, written communication and emails, presentations at community meetings, and Program videos.

When the Sound Insulation Program was launched during the summer of 2005, KCIA contracted with a firm to provide community relations in order to update program-eligible residents of the creation and status of the Sound Insulation Program. The result was the development of a series of communications with residents that included Homeowner briefings, letters to every address identified within the NMB, and the production of an informational video that was distributed to interested residents and all volunteers for noise testing in 2005.

A new segment was added to KCIA’s website featuring the Sound Insulation Program, which contained a “Frequently Asked Questions” document in English, Spanish, and Chinese, a NMB map, and Program contact information. A

Program branding symbol (logo) was created, the NMB map was produced and distributed, and method and manner of noise testing were all included in KCIA's new web pages.

In 2006, KCIA communicated with residents through a series of letters including a description of the "windshield survey" and sample noise testing, and a flyer to recruit volunteers for sample noise testing.

Based upon Homeowner Contact and Participation forms returned by volunteers, three additional languages were identified for translation services: Japanese, Tagalog, and Vietnamese. KCIA's website includes translated materials on a continuous basis and a second video that explains the noise testing process and the two-step qualification requirements. KCIA contracted with Comprehensive Language Services in 2007 to provide extensive translation and interpretive services for Program materials in any language requested by residents; and also residents who are visually or hearing impaired.

Since the Program's inception, KCIA has attempted to reach all eligible residents within the 65 dB DNL and greater noise contour boundary area. While responses from Homeowners arrive frequently, the response rate has not reached 100% despite translation of Program information into all six languages in 2007. For unsuccessful deliveries, attempts are made to contact those Homeowners through other means, such as by telephone, certified mail, or in person. If necessary, additional strategies will be implemented to provide notification and Sound Insulation Program updates to non-English speaking property owners within the Noise Mitigation Boundary.

3.0 Homeowner Participation

Homeowners have a responsibility to complete each step of the process if they volunteer to participate in the Sound Insulation Program. (The Homeowner Participation Process is summarized in a graphic contained in the Appendices.) Conditions of participation are listed below:

Execution of Documents. Homeowners are informed via one-on-one personal meetings and Program briefings that there are legal forms necessary to sign at specific steps of the Program prior to construction work commencing. If Homeowners fail to sign any of these documents, Homeowners understand they are considered withdrawn from Program participation.

Review written materials and attend meetings. Homeowners must agree to review all written materials offered by King County regarding this Program and to attend all relevant meetings consistent with Program participation.

Scope of Work. Based upon the information obtained by King County's Project Management/Technical Representative (aka Design Team), a Scope of Work will be developed describing product installation of noise remedy materials and

equipment. Homeowners must understand that, failure to sign and return a Scope of Work within three weeks, means Program staff will assume a residence is withdrawn and it will be assigned a deferred status.

Avigation Easement. In consideration of King County's agreement to install sound insulation modifications in qualified residences, and as required by State of Washington RCW 53.54.030(3), Homeowners must convey and warrant to King County, a permanent and non-exclusive Avigation Easement for the free and unobstructed use and passage of all types of aircraft through the airspace over or in the vicinity of their property, with such use and passage to be unlimited as to frequency, type of aircraft, and proximity. An Avigation Easement is perpetual in nature and shall bind and attach to the title of the property for the benefit of King County or its successor interest as owner and operator of the Airport. (A copy of Frequently Asked Questions about an Avigation Easement is included in the Appendices.)

Title Search. King County performs a title search on the qualified property once a Homeowner has signed a Statement of Interest and Understanding form; and Homeowners are not charged for this title search.

Lender's Consent. Homeowners shall, at King County's request, obtain the signed agreement of any lien holders who have a lien on their property to subordinate their interests for an Avigation Easement.

Access to Homeowner's Property. At reasonable times and upon not less than forty-eight (48) hours notice, Homeowners will agree to be present (or to have a Power of Attorney designee present) in order to grant King County and its contractors access to the property to perform, supervise, or inspect work. Homeowners shall permit King County and its contractor's minimal use of Homeowner's utilities, such as light, heat, power and water, necessary to install sound insulation improvements at the property at no cost to King County or its contractors.

Repair of Property. King County reserves the right to require Homeowners to repair or remedy any condition on the property that might affect the installation or effectiveness of sound insulation measures as a condition of Program participation. In the event Homeowners fail to repair identified deficiencies within a reasonable and mutually agreed-upon time, Homeowners shall be considered withdrawn from participation in the Sound Insulation Program.

Hold Harmless. A "Hold Harmless" provision is included in the Program Contract that Homeowners must sign. This provision describes the limits of liability and expense that Homeowners agree to grant King County in connection with all claims, suits and actions brought against it, by any person or entity as a result of or on account of actual or alleged injuries, or damages to any persons; entities, and/or property received or sustained, or alleged to have been received or

sustained, in connection with or as a result of any work undertaken as part of this Program. It is important that Homeowners understand and secure, if desired, legal assistance at Homeowners' expense prior to signing the Program Contract and Avigation Easement (referenced legal forms contained in Appendices).

Language and Interpretive Services. King County provides Homeowners with translation and interpretive services on all required program materials upon request. Services for visual and/or hearing impaired Homeowners are also available by contacting the Sound Insulation Program Office.

Noise Reduction Limitations. By installing sound insulation improvements into qualifying properties, King County's goal is to achieve a 5 decibel (dB) reduction in the interior noise level of habitable rooms consistent with FAA regulations. Notwithstanding any warranties provided by manufacturers or contractors, King County does not guarantee any additional specific reduction, or absence, of aircraft noise.

Cooperation. Homeowners agree to cooperate fully with King County during this Program (and to insure the cooperation of tenants, if any). If Homeowners fail to cooperate or falsify and/or modify any King County documents, then Homeowners will be withdrawn from the Program.

Power of Attorney. If more than one person holds a share of the title to the qualified property, a King County Power of Attorney form provided by King County may be executed to designate one person to act on behalf of the others during all phases of the Program. If a representative or agent is to act in Homeowners' behalf with regards to the Program, the Power of Attorney form must be executed and submitted designating the representative or agent.

Designated Representative of Corporate Homeowner. In the event a corporate or government entity owns the qualifying property, King County must be provided with the name, address, and telephone number(s) of a single contact representative to sign all required documents and to act as the responsible party designated to be available during construction phases of this Program.

3.1 Notification of Eligibility within the Noise Mitigation Boundary

KCIA has attempted to contact all Homeowners with property located within the Noise Mitigation Boundary's noise contours 65 dB DNL and greater; and non-English speaking homeowners have been notified at their homes by KCIA's language assistance firm.

For unsuccessful deliveries, attempts will be made to contact those Homeowners through other means, such as by telephone, registered and/or certified U. S. Postal Services, or in person. Translation and interpretive services are also available upon request to provide Program information to non-English speaking

Homeowners, as well as a multi-lingual line that is monitored weekly. Visual and hearing-impaired property owners within eligible noise contours are also accommodated upon request.

3.2 Pre-Qualification Noise Level Assessment

Consistent with FAA criteria for Program participation, pre-qualification of eligible residences are subject to noise testing and post-noise testing audits to determine the level of noise reduction provided by installation of noise remedy products. Residences found to have an interior noise level below 45 dB DNL shall not qualify for the Sound Insulation Program.

Residences with an interior noise level of 45 decibels DNL or greater shall be accepted into the Program and invited to a Homeowner's Briefing where they meet members of the Design Team and Program staff.

Prior to design visits, Homeowners are invited to a Homeowner briefing where steps to participate in the Program are discussed and a Participation Packet is provided that will include the following information:

- A quick-reference brochure containing Program contact telephone numbers, email addresses, and web site locations.
- A Homeowner's Handbook with the participation process described, including samples of legal forms for the Homeowner's review throughout the Program.
- A Contact and Participation form to gather/verify change-of-status information for the Sound Insulation Program and to confirm the location of Homeowner's property and mailing address, and other contact information.
- Other relevant brochures and handouts that describe Program participation.

If for any reason, a Homeowner of a qualified property has not been reached by Program staff to begin readiness for construction, and did not receive a Participation Packet described above, the Homeowner may obtain one upon request from the Sound Insulation Program Office by contacting the Program Manager at 206-296-7437, or by writing to Ms. Sharyn Parker, Sound Insulation Program Manager, King County International Airport, 7277 Perimeter Road South, Seattle, WA 98108-3844; or by emailing sharyn.parker@kingcounty.gov.

3.3 Pre- and Post-Construction Methods of Noise Testing

For five months in 2005, KCIA used a conventional method of noise testing where an acoustician measured interior and exterior levels of noise consistent with FAA regulations while cargo carriers from KCIA flew over noise-sensitive homes within the Noise Mitigation Boundary. The disadvantage of this method

was that noise testing could occur only once-daily between 5-7 PM in one house at a time and it was necessary to schedule two residences each day and cancel one when the wind direction was confirmed. Not only was this method slow, but it was easily interrupted by weather and wind conditions.

In addition, the conventional method of noise testing required residents and their pets to vacate their homes up to three hours while noise testing occurred which inconvenienced Homeowners who volunteered for sample noise testing.

Consequently, KCIA researched alternative methods of noise testing and identified fifteen other airports in seven other FAA regions that successfully used artificial noise in their home insulation programs to simulate aircraft noise. Using artificial noise also facilitated testing multiple homes in a single day.

Therefore, KCIA selected a firm to conduct sample noise tests in the 65-70 dB DNL noise contours using an artificial noise method that placed the noise generating source inside the home. KCIA determined that this method would be the least intrusive and would avoid public nuisance and provide accurate noise reduction measurements.

This field-tested method is known as “indoor-outdoor” noise testing. Features of this method include:

- Loudspeaker is located inside a habitable room,
- Spectral measurements occur indoors and outdoors,
- The NLR is related to aircraft measurements by applying frequency-dependent “adjustment factors,”
- “Adjustment factors” are determined from measured acoustical properties of the room tested,
- Results include satisfactory statistical validation comparable to earlier KCIA tests, and
- This method does not require the use of an outside loudspeaker that could annoy neighbors.

This artificial noise testing method successfully compared to previous KCIA in-home noise tests where noise from cargo over-flights was measured. In fact, test results measured a variance of only 0.1 dB and 0.2 dB, which is equivalent to using actual aircraft over-flights.

Homeowners are required to be home during the NLR noise measurements. However, a King County Power of Attorney form is available, upon request by the Homeowner, in order to identify a designee for the purposes of this Program. Also, it is recommended that the Homeowner or designee, and any pets, remain in a room not being tested.

The noise level reduction (NLR) measurements required by FAA are computed based on the measured test data and the acoustical conditions of each room. They are used to determine which products, or combination of products, reduce the interior noise level of a residence. Post-construction noise measurements are also documented for these same residences, then compared and summarized for qualitative evaluation of the effectiveness of products to meet program goals. Noise test results by residence are also shared with the FAA.

3.4 Program Participation for Qualified Residences

Homeowners may participate by following the process outlined in Section 3.0 above. Homeowner's completed and signed Contracts, Scope of Work, and Avigation Easement forms are logged in by date and reviewed for completeness. Applications found to be incomplete will be returned to the Homeowner for correction.

Residences qualified for noise insulation will be prioritized based on the criteria set forth in Section 1.5 above. Homes not able to be accommodated in a pending construction bid package will be placed on a list for the next bid package. Homeowners may withdraw from the Program at any time, subject to the condition that a Waiver of Participation form is submitted to the Program Office, (reference forms contained in Appendices) or other notification from the Homeowner is received.

3.5 Design Visits with Homeowners of Qualified Residences

In preparation of each construction bid package, KCIA's subcontracted Homeowner Liaison will contact Homeowners of qualified residences who have volunteered to participate in the Program and set up appointments for two design visits that last approximately 1-2 hours each. Homeowners—or their designee--must be present during these visits in order to insure a thorough evaluation occurs; and to provide a short history and special characteristics of their residence.

The Design Team documents and analyzes the acoustical, mechanical, and electrical features of the residence, as well as interview the Homeowner about its existing condition. Residences are tested for any regulated building materials or conditions.

The Program staff reviews with Homeowners the steps and requirements for participation, explains requisite paperwork that Homeowners must complete, and explains that securing title and mortgage information is necessary for participation. Program staff also reviews the Contract, Scope of Work, and Avigation Easement forms with Homeowners, and answers any questions they have regarding Program participation.

The Design Team also describes the design and construction process to the Homeowner; and the need for access to the property and the likelihood of visits by Team members throughout the construction process.

The Design Team also discusses sound reduction options, technical issues and other sound insulation measures with the Homeowners during on-site visits. In addition, at a later time, Homeowners are shown samples of the available acoustically-rated windows and doors; and are invited to make color and style selections.

Subsequent to the design visits, the Design Team summarizes the findings from the visits and produces a Scope of Work that details the tasks and materials necessary to complete installation and construction. Team members video tape the interior and exterior of the residence, review interior spaces, and define the extent of work contained in the Scope of Work. There may be unresolved issues or conditions of special concern that may require follow-up discussions prior to finalizing a Scope of Work.

3.6 Assessment of Conditions

During the design visits, the Design Team, to the best of their ability, determines if conditions exist that may pose health hazards or life endangerment and if any general repairs are required at a residence prior to installation of proposed sound insulation improvements. These repairs and corrections, solely related to the sound insulation improvements, are discussed with the Homeowner to develop an approved Scope of Work and schedule for completion. The Homeowner must have any repairs and corrections substantially completed before the residence is considered “ready-to-go.”

Major non-conforming building code issues which compromise the safe and sanitary occupation of the residence make the property ineligible for participation in the Program until such issues are brought into compliance by the Homeowner. These code deficient conditions may arise at any point during the design and construction process. Certain latent conditions may not be exposed until or during construction.

The intent of the Program is not to conduct a detailed code review and analysis of each property, nor to undertake extensive remedial measures to correct outstanding deficiencies to allow installation of acoustical improvements. The Program focuses only on the mechanical, electrical, structural, or code issues that will affect proper installation of the sound insulation products as recommended in the Scope of Work. The responsibility for resolution of these deficiencies rests with the Homeowner. Once resolution of outstanding issues occurs, participation in the Program will continue provided scheduling and funding permit.

The presence of regulated (hazardous, such as lead-containing paint and asbestos) materials may affect participation in the Program, as well as options for acoustical improvements for certain building components. Under current federal and state regulations, the handling and removal of regulated (hazardous) materials from residential structures in connection with window retrofitting type projects are clearly defined. As in the case of pre-existing code violations, the Program is not intended to remove regulated (hazardous) materials throughout the residence. The handling of regulated (hazardous) materials is limited to areas where the acoustical improvements, or associated improvements, are installed. Two primary regulated (hazardous) materials, asbestos and lead paint, are dealt with under the following Program procedures.

- Asbestos containing materials that are encountered in the sound insulation process may be removed, altered and/or disposed of under the construction contract. These can be found as part of the existing ventilation systems or in “transite”* type asbestos siding materials which may be affected by window and/or door replacement. Where possible, the recommended improvements will not disturb any asbestos-containing materials. Work performed in connection with such construction operations must be completed in conformance with all applicable federal, state and local regulations.
- Lead paint, if present in a structure, does not exclude the residence from the Program. If however, a Homeowner has been issued an order to “de-lead” by the prevailing jurisdiction, the residence will be placed “on-hold” until all de-leading activity has been completed (at the Homeowner’s expense) and certified by the responsible oversight agency. Appropriate federal, state and local regulations must be followed where the installation of acoustical improvements or associated improvements may disturb known or suspected lead paint-containing materials.

Regulated materials are removed only in areas that are directly impacted by proposed insulation treatment; and it is probable that regulated materials will remain in the residence after removal of regulated materials in the vicinity of the worksite have been completed. The disposal of regulated materials is regulated locally by the Puget Sound Clean Air Agency (PSCAA) and the Department of Ecology (DOE). Construction contractors are required to comply with all local, state and federal regulations concerning the disposal of regulated materials; and Homeowners are required to disclose (using Form 19) the presence of any regulated materials for future property transactions of the property where the presence of regulated materials is known.

** Transite is a building material used in older structures as a fire retardant and consists of 12-50% asbestos and cement. Because handling transite releases carcinogenic asbestos fibers into the air, its use requires special precautions and disposal techniques to protect workers and residents.*

Homeowners may want to re-use windows and doors extracted from their home instead of them being disposed of by the construction contractor. This is permitted by the Program; PROVIDED, there are no windows and/or doors with lead-containing paint involved. Homeowners also may want to contact local vendors who purchase and pick-up recycled windows and doors and Program staff can assist Homeowners by providing them with these vendors contact information.

The presence of wood-damaging insects may affect participation in the Program, as well as acoustical improvements for certain building components. As in the case of pre-existing code violations and hazardous materials, the Program is not authorized to remedy insect infestation or to repair insect-damaged wood. The exception is when there is an infestation of rodents in an attic where construction workers must install insulation materials.

If the Homeowner believes they cannot make the repairs necessary to meet structural standards required for the sound insulation improvements within the time frame allotted to their construction phase, they may defer participation in the Program until such time as repairs have been made (as long as the Program is still active and funding is available). Program staff will confirm the Homeowner's request for deferral in writing and/or by completing a King County Waiver from Participation Form.

If Homeowners choose not to make repairs necessary to meet Program requirements, they may notify Program staff in writing or complete a King County Waiver of Participation form and submit it to the Program Office.

3.7 Residential Scope of Work

Subsequent to the Design Visit and after 95% architectural documents are completed, KCIA's subcontracted Homeowner Liaison will contact Homeowners to schedule a time to meet and to review and obtain Homeowner's signature(s) on the Program Contract, which includes a detailed and completed Scope of Work, and an Avigation Easement. Any changes proposed by the Homeowner during this meeting must be reviewed by the Design Team prior to its approval. A fully-executed Program Contract, including the Scope of Work and Avigation Easement, must be signed and completed before the residence is assigned a "ready-to-go" status to proceed to a construction bid package.

The Scope of Work documents existing conditions, floor plans and miscellaneous items that are to be incorporated into the plan for installing sound insulation improvements and includes the following information:

- Window and door selections,
- Photographs,

- Homeowner pre-work requirements, If any,
- Schematic floor plans,
- Mechanical recommendations,
- Electrical recommendations, and
- Ceiling and wall treatment recommendations, if any.

If the Homeowner has not signed the Program Contract form, including the Scope of Work, and the Avigation Easement form within four weeks of their meeting with Program staff and a member of the Design Team, their participation in the Program is assigned a deferred status until notified that the program and funding is about to end.

3.8 Homeowner Options for Deferral, Waiver or Withdrawal from Program Participation

Should the Homeowner be dissatisfied with the sound insulation improvements described in the Scope of Work and included in the Program Contract, they may request to sign a Waiver of Participation Form from the Program. KCIA's Program staff will confirm the Homeowner's request to ***withdraw*** from the Program in writing and advise project managers to remove this residence from a construction bid package.

Should a Homeowner decide not to proceed with the sound insulation recommendations described in the Scope of Work, Homeowner may ***defer*** participation in the Program if it is necessary to complete pre-work or to meet code requirements. KCIA's Program staff will confirm the Homeowner's request to defer participation in the program in writing and advise project managers to remove this residence from a construction bid package.

Homeowners who choose to ***defer*** their participation at this step will be given an opportunity to participate in the program at a later time as long as the Program is still active and funding is available. Similarly, Homeowners who were previously contacted and waived their participation in the Program may submit a request in writing at any time during the Program's existence, and their request will be considered based under the same conditions.

Homeowners may ***withdraw*** from the Program and terminate their Program Contract at any time. However, Homeowners may be held responsible for costs of construction, labor, administration, and materials incurred by King County. A lien may be recorded against Homeowner's property for all costs incurred by King County or other parties related to Homeowner's participation in the Program. Program staff encourages Homeowners to withdraw prior to construction if there is any inclination to terminate participation, thus avoiding a Homeowner requirement to reimburse the program for materials already ordered.

Prior to the final construction phase of the Program, all Homeowners who **deferred** participation in prior phases will be contacted and informed of this final opportunity to participate, subject to any funding and/or Program limitations at the time. Homeowners will be given a maximum of 30 days from the date of this contact to notify KCIA of their desire to participate in the final phase. Homeowners who do not notify the KCIA within this time frame will be automatically **withdrawn** by Program staff in writing and offered no further opportunity to participate.

3.9 Section 106 Consultation Process for Historic Homes

The protection of historic properties is a requirement for all programs funded by federal grants. Consistent with federal law, Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their funded projects (defined as “undertakings”) on historic properties.

Section 106 of **36 CFR Part 800 defines FAA’s role in the “consultation process” as,**

“The process seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.”

On December 23, 2004, when FAA released its Notice for Publication in the Federal Register, FAR Part 150 Noise Exposure Map Determination, King County International Airport, Seattle, Washington, it was noted on page 4 that,

“The potential exists for numerous properties to be eligible for inclusion in the National Register of Historic Places. Consultation with the State Historic Preservation Office has indicated that it is not necessary to perform a detailed evaluation of potential eligible properties at this stage of planning. Detailed evaluation will occur during the preparation of environmental documents required prior to implementation of the program.”

Prior to implementation of Phase I², KCIA confirmed with FAA as lead agency, that there were four potentially significant historic residences located in the Georgetown community based upon a survey of potentially historic properties conducted during the Part 150 Study. Subsequently, FAA initiated a Section 106 Consultation Process that included (besides FAA and KCIA) the City of Seattle and the King County offices of Historic Preservation. The “kick-off” “consultation”

² *There were no historic properties identified among the ten homes involved in KCIA’s Pilot Program.*

meeting occurred on February 20, 2008. A Memorandum of Agreement was signed by KCIA, FAA, and the Washington State Department of Archaeology and Historic Preservation for four properties in Phase I on April 20, 2010.

Subsequently, on September 15, 2010, a second Memorandum of Agreement was signed by all parties covering potentially significant Phase II properties.

4.0 Bidding Process

Bids for RANRIP construction projects shall be completed and submitted following the instructions provided on pages 1-12 from SECTION 00100—INSTRUCTIONS TO BIDDERS and SECTION 00300—FORM OF BID included in Sample Bid Document (enclosed and identified as Appendix R).

4.1 SECTION 00100 contains four parts:

Part 1—General Bidding Considerations
Part 2—Preparation and Submittal of Bids
Part 3—Bid Evaluation and Rejection
Part 4—Award and Execution of Contract

4.2 SECTION 00300—Form of Bid

This section addresses the responsibilities for bidders to comply with all the provisions outlined on pages 1-8, including the Bidding Schedule (page 3 of 8), Bid Evaluation and Contract Award (page 4 of 8), completion of a Letter of Intent (page 5 of 8), the Bidder's List (page 6 of 8), Buy America certification (page 7 of 8), bidder's federal and state licensing and tax identification numbers and bidder's contact information (page 8 of 8).

Access to planholders list, addenda for each solicitation, and electronic documents are available at King County's Procurement website at <http://www.kingcounty.gov/procurement/solicitations>.

4.3 SECTION 00120 of Appendix R—Non-Discrimination, Equal Employment Opportunity, Small Contractors, and Suppliers, and Apprenticeship Requirements

Contractors hired by King County must comply with non-discrimination and equal employment opportunity provisions including, but not limited to small contractors and suppliers utilization, apprenticeship program requirements as determined by contract, federal civil rights provisions, and disadvantaged business enterprise goals; all described under Section 00120, pages 1-21 (enclosed as Appendix R).

4.4 SECTION 00130—Federal Wage Determinations Established by the Department of Labor for the State of Washington and Prevailing Minimum

Hourly Wage Rates Established by the Washington State Department of Labor and Industries

Each RANRIP bid solicitation includes both the federal wage determinations as well as the Washington State Prevailing wage rates. Contact information for both federal and state agencies responsible for wage determinations are included in this Section (enclosed as Appendix R).

4.5 SECTION 00310—Bid Guaranty Bond

Page 1 of 1 of this section (enclosed as Appendix R) must be signed by the Principal and Surety; and included as integral to a responsive and responsible bid.

4.6 SECTION 00410—Forms Due Prior to Contract Execution by King County

Forms numbered 1-10 and listed on page 1 of 1 of this Section (enclosed as Appendix R) must be submitted within five (5) calendar days after receipt of the Notice of Selection. Contracts will not be executed without receipt of the required documents from the selected bidder.

All forms are available for review and download at www.kingcounty.gov/procurement/forms.aspx.

4.7 SECTION 00420—Performance and Payment Bond

This form is included in this section of Appendix R and is in compliance with Chapter 39.08 RCW to cover the contract price for the “faithful performance” of the full contract sum; signed and executed by the Principal and Surety bond holder.

4.8 SECTION 00430—Insurance Requirements

This section of Appendix R establishes King County’s requirements for contractor’s insurance, including documentation, scope, liability, coverage of subcontractors, job site safety, and other insurance provisions.

4.9 SECTION 00440—Qualification Information from Bidders

Pages 1-7 of this Section (enclosed as Appendix R) determine whether the bidder is qualified to perform the work consistent with the County’s requirements:

- Work Performed by Bidder
- Bidder and subcontractor Experience
- Schedule

- Project Team Members
- Contract History
- Criminal History
- Accident/Injury Experience
- Additional Information

5.0 SECTION 00500—Agreement

This Section is a template (enclosed as Appendix R) of the contract between King County International Airport and the Contractor which describes the amount of the contract, work contained in the Contract Documents consistent with the contractor's bid, and signatures of the Airport Director and the Contractor.

6.0 SECTION 00600—Addenda

Any addenda issued during the bidding process are included in this section.

7.0 SECTION 00700—General Terms and Conditions

This 59-page section (enclosed and included in Appendix R) details ten specific Articles:

- Definitions
- County and Contractor responsibilities
- Administration of the Contract
- Changes to the Contract
- Time and Price Adjustments
- Payment and Completion
- Termination
- Claims and Litigation
- Miscellaneous provisions

8.0 SECTION 00800—Supplemental Terms and Conditions

This 22-page section (enclosed and included in Appendix R) provides additional direction and definitions, and supersedes any provisions that are in conflict with Section 00700; however, "the unaltered portions of Section 00700 remain in full force and effect."

Section 00800 also contains new provisions concerning Subcontractor Responsibility, Payments, Retainage, and Part 11 entitled, FAA PROVISIONS.

9.0 Bid Packages

A complete set of bid documents are developed by 'KCIA's RANRIP Technical Representative that meet all FAA requirements and code requirements of local

jurisdictions. The construction documents include written specifications that describe the products, suppliers, materials, and workmanship that are acceptable and meet the technical requirements of the project. The construction documents also include the plans and details selected by homeowners. The documents are of sufficient detail to be used for the formal bid process as well as for the actual construction phase of the work.

Residences from a homeowner's group are clustered into small (five-six properties) and medium-sized (25-40) bid packages.

Each bid package identifies the following information for each residence:

- Floor plan that shows the existing construction and acoustical modifications that are recommended for each habitable space ;
- Door and window selections that are preferred by homeowners with elevation drawings of typical doors and windows;
- HVAC requirements, that address ventilation and electrical capacity; and,
- Other elements that reflect current conditions of the residence.

10.0 RANRIP Construction Process

This Section clarifies the roles and responsibilities of the County, Technical Representative, and Contractor after all contractual requirements are satisfied prior to the commencement of construction.

10.1 Pre-Construction Conference

A Pre-Construction Conference is held to review the scope of work and the coordination plan. Administrative procedures and performance requirements are reviewed with the contractor. The Technical Representative provides contractor personnel with any unique design features. The Pre-Construction Conference covers the following material:

- Purpose of the project;
- Goals to be achieved;
- Homeowner interaction and cultural/language issues;
- Submittal requirements;
- Scheduling and phasing of construction;
- Coordination and meeting requirements;
- FAA Labor and DBE requirements;
- Progress payments;
- Requisitions and change orders;
- Final closeout documentation requirements.

10.2 Notice-To-Proceed

After execution of the Contract, the Contractor will be issued a written Notice-to-Proceed for each phase of construction. During Phase One (Pre-Construction Phase) all shop drawings are submitted and approved by the Technical Representative. Upon completion of Phase One, a NTP will be issued for Phase Two (Construction Phase) for on-site construction.

10.3 Contractor Walk-Through

Pre-construction measurement visits are coordinated and scheduled with Homeowners in consultation with the construction Contractor by the Technical Representative once the NTP has been issued. Each residence contained in the bid package requires a one-hour visit, depending on the scope of work at the residence. The data from this visit will be used for development of the shop drawings submittal by the Contractor. The tasks at this visit include:

- Product Measurements – The Contractor measures the window and door openings for ordering and manufacturing the designated acoustical products contained in each scope of work for each residence.
- Review of Installation Details – The Contractor examines the existing condition of the windows and doors of each residence and compares them to the detailed scopes of work. If the Contractor offers an alternative method of installation, these should be identified and discussed with the Technical Representative; and revisions submitted in the shop drawings for approval.
- Verification of Existing Conditions – Any changes to the existing conditions that may have occurred since the site assessment visits may impact the acoustical treatment recommendations contained in the scopes of work. Any changes should be addressed and reviewed by the Technical Representative; and any recommendations for modification of the Contract Documents will be addressed in a CPR (Change Proposal Request).
- Photographs and/or video of the interior and exterior of each residence become a record of existing conditions.
- Verification of Finishes, Colors and Styles – As part of the submittal process, the Contractor is required to submit a checklist for each residence, signed by the homeowner, confirming all products and materials to be installed. In addition, all product selection styles, colors and finishes, window operations and configuration, and the location of any air ventilation unit will be verified with the Homeowner.

10.4 Product Submittals and Shop Drawings – PHASE ONE of RANRIP Construction

The Contractor is required to provide architectural, mechanical and electrical product submittals. Product submittals are required after Notice-To-Proceed.

Shop drawings are required for each residence after the Contractor Walk-through. Ordering products prior to shop drawing submittal and approval is done

at the Contractor's own risk and is not advised. All deviations and changes from the Contract Documents are to be noted by the Contractor. The Contractor should not assume these changes will be approved.

10.5 Construction Schedule—PHASE TWO of RANRIP Construction

Only after all Phase One pre-construction activities are completed and approved, the Contractor is required to submit for approval summary a construction schedule with start and end dates that also includes the name, homeowner code, and address of each residence in the bid package for completing the project within the time allotted by contract. This schedule will be a fully developed, horizontal bar chart type Contractor's construction schedule with a separate time bar for each significant construction activity per residence. The schedule also needs to address time for close-out activities, including preparing Operation and Maintenance Manuals, with warranty information, for distribution to Homeowners. Special attention is required to address documentation for removal and disposal of regulated materials at any residence within the bid package where they have been identified.

10.6 Notice to Homeowners

The Program Manager writes each Homeowner to provide notice of the contractor's selection; and once a schedule has been approved, another notice to Homeowners is distributed containing the start and end dates for construction. The Contractor contacts the Homeowner at least 48 to verify that the Homeowner is prepared for the start of construction activity in their residence.

10.7 Construction Meetings/Visits

Bi-weekly, and sometimes weekly, construction progress meetings are held with the Contractor, Technical Representative or designee, and Program Manager. The Contractor is required to provide a construction status summary, including scheduled product delivery status, construction progress and/or delays, and to report any Homeowner/tenant issues. These meetings are also used to discuss origination and/or approval of Field Directives (FD), Change Orders (CO), Change Proposal Requests (CPRs), Request for Change Orders (RFCO), or Requests for Information (RFI) by the Contractor or Technical Representative that are consistent with Contract Documents (see ARTICLE 5 of SECTION 00700).

10.8 Punch Lists during RANRIP Construction

When a residence has reached substantial completion, the Contractor is to notify the Technical Representative who schedules an appointment with the Homeowner to perform a "punch list." This inspection includes a complete operational and cosmetic examination of all the architectural, mechanical and

electrical elements in the contract documents. The Contractor takes care to inspect the residence prior to the “punch list” to insure the outstanding items noted by the inspection are minimal. The Technical Representative or designee will “punch” the residence with the exception of the missing item(s). When the delayed items are completed, the Contractor will ask for a “punch/final inspection.” The item will be punched at the final inspection visit. The Contractor needs to be prepared to repair, adjust or replace any item the inspector finds at the time of the final inspection.

10.9 Final Inspection

The final inspection is a scheduled appointment with the Homeowner, Contractor, Technical Representative, and building inspector from the appropriate jurisdiction. This inspection is to determine that all work has been done per the base contract, and any approved revisions, and that all work meets project standards for workmanship and quality, and code requirements.

10.10 Contractor’s Time of Performance

The Contractor shall complete all work, including final inspection, site clean-up, and removal of all material and equipment within the time period identified in the Project Schedule submitted under 10.5 above unless delayed by circumstances beyond their control. Delays encountered during construction should be reported to the Technical Representative as soon as they occur; and a description of the anticipated duration of the delay, along with a request for extension of the completion schedule, if necessary. The Technical Representative, in consultation with the RANRIP Contract Administrator and Program Manager, will review, approve, or deny the requested schedule modification contained in a Request for Change Order that includes a request for an adjustment in the Contract Time. Requests for Change Orders or Change Proposal and Claim must be submitted in compliance with ARTICLE 6 of SECTION 00700 contained in Appendix R.

11.0 Post-Construction Process

This Section defines the steps and procedures to “close-out” each project under Phase Two of the construction process.

11.1 Warranty Package

When all the residences within a construction bid package have signed their construction inspection punch lists and have final inspections by jurisdictional building inspectors, the Contractor is to provide two warranty packages for each residence. One package is supplied to the homeowner and the second is kept in the project office. Warranty information packets include any regulated materials

disposal information, warranty and operating manuals, and a Post-Construction Survey.

For follow-up questions about maintenance, homeowners are directed to contact the construction contractor and product manufacturers directly using the information contained in the packet.

As a final step, KCIA requests that homeowners complete a Post-Construction Survey form that measures their satisfaction with the Program and the products. A copy of the *Post-construction Homeowner Survey* is located in **Appendix O**.

11.2 As-Builts/Photographic Record

The Technical Representative or designee provides photographic copies of as-built conditions and includes them in construction logs.

11.3 Final Acceptance/Application for Payment

All required documentation for each residence contained in a Contract Documents is reviewed with the Contractor consistent with ARTICLE 7.6 of SECTION 00700 contained in Appendix R enclosed. A project is not considered complete if there are any outstanding or unresolved issues pending.

Issues related to a Contractor's Retainage, Warranty and Guaranty, Termination, Claims and Litigation are resolved applying ARTICLES 7.7, 7.8, 7.9, 8 and 9 of SECTION 00700 contained in Appendix R enclosed.

11.4 Post-modification Noise Audits

Each home measured before construction must be measured upon completion of the work according to FAA regulations.

Following completion of the Final Inspection for each residence in a construction bid package the Program Manager contacts each Homeowner to arrange an appointment for the post-modification noise audit. The Acoustical Technician hired by KCIA conducts the post-modification noise audit of the same habitable rooms pre-tested. The post-modification noise audit takes approximately two hours to complete.

The noise level reduction (NLR) measurements are calculated for each of the habitable rooms pre-audited.). An overall NLR is mathematically computed based on the measured test data and the acoustical conditions of each habitable room measured during a qualification noise test.

Post-modification measurements are compared and summarized for qualitative evaluation of the treatment protocols and program goals; and submitted to FAA as required.

11.5 Homeowner's Post-Construction Survey

After completion of the post-construction noise tests, the Project Manager mails a copy of the Homeowner's Post-Construction Survey form to all Homeowners who participated. The purpose of this questionnaire is to measure the Homeowner's satisfaction with the products and services offered by RANRIP. A copy of the Post-Construction Survey is enclosed as Appendix O.

11.6 Warranty Requests

For a one-year period following program acceptance, the Technical Representative acts as a clearing-house for all warranty requests. All warranty requests are investigated and the appropriate Contractor (or designated individual) is contacted to provide repair/service as required. This follow up activity is an excellent way to collect data about and monitor the products used in RANRIP. After this one year period, Homeowners are instructed to contact the manufacturer or manufacturer's representative directly about warranty issues.