



Noise Mitigation Plan

Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Expansion Project

Broward County Aviation Department



PREPARED BY:
The Urban Group, Inc.

October 25, 2010

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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project

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Prepared By:

The Urban Group, Inc.
Noise Mitigation Consultant Team

Submitted To:

Broward County Aviation Department

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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Table of Contents

INTRODUCTION 1

SUMMARY 4

VOLUNTARY SOUND INSULATION OF SINGLE- AND MULTI-FAMILY UNITS 10

 OVERVIEW – VOLUNTARY SOUND INSULATION..... 10

 OBJECTIVE –VOLUNTARY SOUND INSULATION..... 11

 PROJECT AREA – VOLUNTARY SOUND INSULATION..... 12

Noise Impact Area 1 - West: 12

Noise Impact Area 2 - South:..... 12

Noise Impact Area 3 - Southeast: 13

 PROJECT SCHEDULE – VOLUNTARY SOUND INSULATION..... 13

 PROJECT ELIGIBILITY – VOLUNTARY SOUND INSULATION 19

 ESTIMATED COSTS AND BENEFITS – VOLUNTARY SOUND INSULATION 19

 FUNDING SOURCES – VOLUNTARY SOUND INSULATION..... 19

VOLUNTARY ACQUISITION OF MOBILE HOME PARKS, MOBILE HOME UNITS AND RELOCATION OF RESIDENTS 21

 OVERVIEW – VOLUNTARY MHP ACQUISITION PROGRAM..... 21

 OBJECTIVE – VOLUNTARY MHP ACQUISITION PROGRAM 21

 PROJECT AREA – VOLUNTARY MHP ACQUISITION PROGRAM..... 22

 PROJECT SCHEDULE – VOLUNTARY MHP ACQUISITION PROGRAM..... 23

 PROJECT ELIGIBILITY – VOLUNTARY MHP ACQUISITION PROGRAM 30

 ESTIMATED COSTS AND BENEFITS – VOLUNTARY MHP ACQUISITION PROGRAM 31

 FUNDING SOURCES – VOLUNTARY MHP ACQUISITION PROGRAM 31

VOLUNTARY SALES ASSISTANCE PROGRAM FOR PREVIOUSLY SOUND INSULATED RESIDENCES..... 33

 DESCRIPTION – VOLUNTARY SALES ASSISTANCE 33

 OBJECTIVE – VOLUNTARY SALES ASSISTANCE 33

 PROJECT AREA – VOLUNTARY SALES ASSISTANCE 34

Noise Impact Area 1 - West: 34

Noise Impact Area 2 – South: 34

Noise Impact Area 3 - Southeast: 34

 PROJECT SCHEDULE – VOLUNTARY SALES ASSISTANCE..... 35

 PROJECT ELIGIBILITY – VOLUNTARY SALES ASSISTANCE 39

 ESTIMATED COSTS & BENEFITS – VOLUNTARY SALES ASSISTANCE..... 39

 FUNDING SOURCES – VOLUNTARY SALES ASSISTANCE 39

 DESCRIPTION – VOLUNTARY PURCHASE ASSURANCE (NOT RECOMMENDED BY BCAD)..... 40

CONCLUSION 42

APPENDIX A: BROWARD COUNTY MITIGATION PRINCIPLES ERROR! BOOKMARK NOT DEFINED.

APPENDIX B: NATIONAL NOISE MITIGATION PLAN SURVEY ERROR! BOOKMARK NOT DEFINED.

APPENDIX C: MARKET ABSORPTION STUDY ERROR! BOOKMARK NOT DEFINED.



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Introduction

Broward County (County) is embarking on the Fort Lauderdale-Hollywood International Airport (FLL) Runway 9R/27L Expansion Project. The Broward County Aviation Department (BCAD) has the responsibility to manage and administer the noise mitigation measures proposed and approved by the Federal Aviation Administration (FAA) in the *Record of Decision for the Development and Expansion of Runway 9R/27L and other associated Airport Projects at Fort Lauderdale-Hollywood International Airport (ROD)*.¹

The Broward County Board of County Commissioners (Board) authorized the Early Action Voluntary Residential Sound Insulation Pilot Program (Pilot Program) on January 26, 2010. The Board further determined that an avigation easement would not be required for the Pilot Program. In keeping with that prior Board action, this Noise Mitigation Plan does not require execution of an avigation easement as a pre-requisite to participate in the Voluntary Residential Sound Insulation Program.

The purpose of this document is to detail a Noise Mitigation Plan (Plan) to achieve land use compatibility for areas located within the FAA approved 65 DNL and higher (65+ DNL) noise contour per FAA regulations. The FAA determined the noise impact project area by using natural boundaries and neighborhood blocks so that each neighborhood area would be eligible for sound insulation and so that community cohesion would be unbroken. The noise mitigation programs described in this Plan will be fully funded. This Plan specifies the types of measures to be undertaken, actions needed for implementation and administration, estimated costs, funding sources, and project phasing and timelines. This Noise Mitigation Plan exceeds noise mitigation standards utilized by the majority of other airports implementing noise mitigation programs by including areas outside the 65+ DNL.

The ROD identifies noise mitigation measures that would be eligible for federal funding that are designed to ensure compatible land use planning within the 65+ DNL long-term/ultimate noise contour (FAA's preferred Alternative (B1b) 2020 Noise Contour, Figure 1). The noise mitigation measures listed in the ROD include the following:

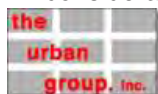
- Voluntary sound insulation of eligible single-family and multi-family units with the FAA's recommendation that an avigation easement be secured
- Voluntary acquisition of mobile home parks and mobile home units and relocation of residents in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (49 CFR Part 24)
- Voluntary sales assistance or purchase assurance (with sound insulation) for eligible single-family and multi-family units with the FAA's recommendation that an avigation easement be secured.

¹ Federal Aviation Administration Record of Decision, The Development and Expansion of Runway 9R/27L and Other Associated Airport Projects at Fort Lauderdale-Hollywood International Airport, Broward County, Florida, Executive Summary, Section 4, Summary of Mitigation Measures, Page 55, December 2008.

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

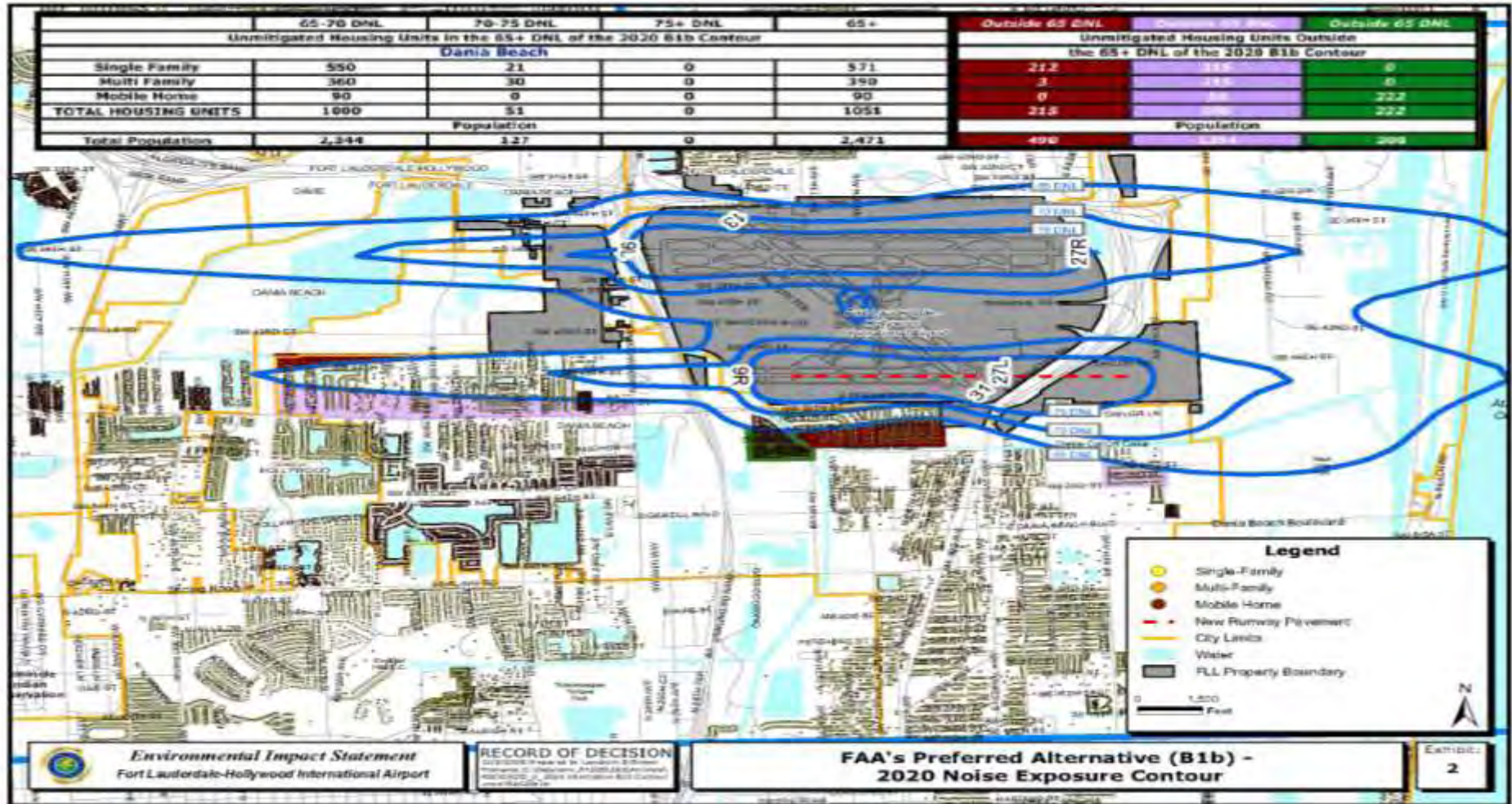
Based on Broward County's Proposed Noise Mitigation Principles² as determined eligible for federal funding in the ROD, this Noise Mitigation Plan creates compatible land use within the 65+ DNL long-term/ultimate noise contour (2020). This Noise Mitigation Plan establishes three voluntary programs: a Residential Sound Insulation Program, a Sales Assistance Program, and a Mobile Home Park Acquisition Program.

² Broward County issued a list of seven recommended noise mitigation principles to the FAA for consideration as part of the Final Environmental Impact Statement (FEIS), (See Appendix A)



Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project

Figure 1
FAA Approved Noise Exposure Contour (2020)



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Summary

The FAA issued a ROD in December 2008 for the Expansion of Runway 9R/27L. The ROD details the environmental impacts associated with the expansion of Runway 9R/27L and associated airfield improvements. Once the expansion project is completed, aircraft noise levels over residential areas located within the City of Dania Beach to the west and south of the airport are predicted to increase. These noise impacts will be mitigated by the following three voluntary programs:

Noise Mitigation Plan

- Voluntary Participation
- 2,073 Impacted Residential Units
- Estimated Cost - \$236 Million
 - Sound Insulation - \$116 Million
 - Sales Assistance - \$56 Million
 - Mobile Home Acquisition - \$64 Million
- Substantial Completion By Runway Becoming Operational

- Voluntary Sound Insulation of Single-Family and Multi-Family Units, located within the 65+ DNL 2020 Ultimate Noise Contour and Adjacent Areas
- Voluntary Acquisition of Mobile Home Parks and Mobile Home Units and Relocation of Residents Located within the 65+ DNL 2020 Ultimate Noise Contour
- Voluntary Sales Assistance for Single-Family and 2 Unit residences located within the 65+ DNL Noise Contour Previously Sound Insulated or meet FAA Interior Noise Level Goals

The priority of the Plan is to provide noise mitigation to the most noise-impacted residential units and to maintain the integrity of the neighborhoods. This approach will be accomplished by giving priority to properties in the highest noise contours and continuing outward to the rest of the eligible properties located within the 65+ DNL noise contour prior to the opening of Runway 9R/27L.

A Pilot Program available to up to 50 residential units located within the 70+ DNL noise contour was developed to assess the efficacy of certain sound insulation measures given the climate, location, construction techniques, and type of building stock in the area. The purpose of the Pilot Program is to provide a preliminary assessment of the residential units so that construction processing, methods, and techniques can be developed that would work more efficiently and cost effectively, thus maximizing the mitigation funds. The Pilot Program began in early 2010.

The Voluntary Residential Sound Insulation Program (Sound Insulation Program) detailed in this Plan will follow the implementation of the Pilot Program. The Pilot Program is an assessment tool; the County is undertaking to refine the program policies, products and implementation techniques. This Sound Insulation Program will be offered to an estimated 961 single- and multi- family residential units located within the 65+ DNL noise contour as well as properties located in the adjacent neighborhoods within the noise impact areas described in the ROD. Properties will be prioritized by noise level, beginning with the highest noise contour and working outwards. This strategy will help to stabilize the neighborhood and community

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

residential units. The estimated cost of the Voluntary Residential Sound Insulation Program is \$116 million including the Pilot Program.

The Voluntary Mobile Home Park Acquisition Program will be commenced shortly after implementation of the Sound Insulation Program. Sound insulation of mobile home units is not feasible; therefore the ROD recommends acquisition of mobile home parks and mobile home units. The ROD identifies two mobile home parks located within the noise impact area: Marshalls Everglade Mobile Home Park and Ocean Waterway Mobile Home Park. Should either of the Mobile Home Park Owners decide not to sell the underlying land to the County, the Mobile Home Park Acquisition Program will be closed for such property.

Marshalls Everglade Mobile Home Park is owned by an individual who leases 98 lots to mobile home unit owners. This park is located west of the airport, primarily within the 65+ DNL noise contour. If the park owner is interested in selling the mobile home park land, the County will acquire the park land followed by acquisition of the individual mobile home units and relocation of the residents. Acquisition of Marshalls Everglade Mobile Home Park is estimated to cost approximately \$13 million. If the park owner does not wish to sell, there will not be any acquisition of the mobile home park, or the mobile home units or any relocation of the residents.

Ocean Waterway Mobile Home Park is owned as a cooperative by the 269 mobile home unit owners. This park is located south of the airport primarily outside the 65+ DNL noise contour. If the cooperative is interested in selling the mobile home park, the County will acquire the park land followed by acquisition of the individual mobile home units and relocation of the residents. Acquisition of Ocean Waterway Mobile Home Park is estimated to cost approximately \$51 million. If the cooperative does not wish to sell, there will not be any acquisition of the mobile home park, or mobile home units or relocation of the residents.

If the County is able to acquire the mobile home parks through voluntary acquisition, the County will coordinate with the City of Dania Beach to rezone the land to a compatible use. The land will be sold on the open market and the proceeds will be available for use pursuant to this Noise Mitigation Plan. The total estimated cost for Voluntary Mobile Home Park Acquisition Program is \$64 million.

In 2012, the County will begin a Voluntary Sales Assistance Program for single-family and 2-unit residences located within the 65+ DNL noise contour which have been previously sound insulated or meet the FAA's sound insulation interior noise level goals. Buildings which are comprised of three or more residential units are not eligible for this program. Single family homes, condominium units, townhomes, and 2-unit residences are eligible for the program. Such properties will be eligible whether or not they are owner-occupied and voluntary sales assistance will be made available one year after an eligible property is sound-insulated or the County establishes the property meets FAA's interior noise level goals.

Voluntary Sales Assistance is designed to help a homeowner sell their home on the open market. The County will provide a cost differential taking into consideration the property's appraised value and the property's purchase price on the open market. Sales assistance will not be provided to homeowners without first requiring sound insulation or ensuring the existing interior noise levels meet the FAA guidelines, because the property would not meet the goal of maintaining neighborhood cohesion or providing mitigation benefits to the most impacted



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

properties prior to sound insulation. The total estimated cost for the Voluntary Sales Assistance Program is \$56 million.

It is noted that the Sales Assistance program described is not typical nationwide and the County's Noise Mitigation Plan exceeds the standards set by the majority of other airports in the United States by offering sales assistance as well as sound insulation.

The total budget for the noise mitigation programs in this County-adopted Noise Mitigation Plan is \$236 million which presumes 100 percent participation by eligible persons for all of the included programs of Voluntary Sound Insulation, Voluntary Acquisition of Mobile Home Parks and Voluntary Sales Assistance. Anticipated costs include \$116 million for the Sound Insulation Program, including the Pilot Program, \$56 million for the Sales Assistance Program, and \$64 million for the acquisition of the two mobile home parks property, mobile home units and relocation of residents. The County has fully funded the noise mitigation programs described by this Plan. A Noise Mitigation Bank has been established with \$35 million in Passenger Facility Charge (PFC) funds. The FAA will contribute up to 80 percent of the estimated costs through Airport Improvement Program (AIP) funds. The County will contribute 20 percent of the estimated costs through the Airport's Noise Mitigation Bank comprised of PFC funds. Based on the \$35 million Noise Mitigation Bank, the FAA will provide 80 percent matching funds of \$140 million with a resulting total of \$175 million.

Tables 1 and 2, include an analysis of all potential programs and their anticipated costs, in order to allow an evaluation of potential costs versus the utilization of more efficient and cost effective strategies. With the use of the programs established by this County-adopted Noise Mitigation Plan, the County will be able to maximize the utility of the noise mitigation funding. This is further highlighted graphically in Figure 2. The Noise Mitigation Plan includes a Voluntary Sales Assistance Program rather than a Purchase Assurance Program because if purchase assurance were implemented, a significant amount of time and money expended in administrative costs, property maintenance and other related costs would fail to utilize the Noise Mitigation funds for the benefit of the community.

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Table 1
Noise Mitigation Plan Programs
Estimated Program Costs Per Mitigation Program Based on 100% Participation

Unit Type	Number of Units	Sound Insulation ³	Sales Assistance ⁴	Mobile Home Park Acquisition	Total
Single-Family Inside the 65+ DNL	571	\$46,393,750	\$46,393,750	\$0	\$92,787,500
Single-Family Outside the 65+ DNL	527	\$42,818,750	\$0	\$0	\$42,818,750
Multi-Family Inside the 65+ DNL (2 units)	286	\$12,512,500	\$10,010,000		\$22,522,500
Multi-Family Inside the 65+ DNL (3+ units)	104	\$4,550,000	\$0	\$0	\$4,550,000
Multi-Family Outside the 65+ DNL	218	\$9,537,500	\$0	\$0	\$9,537,500
Voluntary Acquisition of Marshalls Everglade Mobile Home Park, Mobile Homes Units and Relocation of Residents	98	\$0	\$0	\$12,250,000	\$12,250,000
Purchase Marshalls Mobile Home Park Land	0	\$0	\$0	\$1,316,020	\$1,316,020
Voluntary Acquisition of Ocean Waterway Mobile Home Park Land and Mobile Home Units and relocation of residents	269			\$50,605,625 ⁵	\$50,605,625
Total	2,073	\$115,812,500	\$56,403,750	\$64,171,645	\$236,387,895

³ FEIS estimated costs are \$81,250 for a single family unit which includes \$65,000 direct costs and \$16,250 for administrative costs. A multi-family unit costs \$43,750 which include \$35,000 direct costs and \$8,750 administrative costs. The total budgeted amount for sound insulation includes the Pilot Program, as well as the large scale Sound Insulation Program.

⁴ Sales assistance would be offered to single-family and 2-unit residences that are located within the 65+ DNL, including owner and non-owner occupied residences. The properties comprised of three or more units or are located in adjacent areas are not eligible for this program. The program costs are estimated by computing 20% of the average Full Market Value (FMV) of \$325,000 per single-family home for a maximum amount of \$65,000 per home and average FMV of \$140,000 per multi-family unit for a maximum amount of \$28,000 per unit. There are 571 single-family and 286 two unit homes eligible for this program. The FEIS also estimated an additional 25% for administrative costs.

⁵ FEIS estimated costs for the acquisition of Ocean Waterway Mobile Home Park include \$150,500 for purchase of each mobile home unit with the underlying land (269 units) and \$40,625 administrative costs. The FEIS estimates the administrative costs are 25% of the unit cost.



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Source: Fort Lauderdale Hollywood International Airport, FEIS, FAA, Prepared by Landrum & Brown, June 2008

Table 2
Voluntary Purchase Assurance Program - NOT RECOMMENDED
Estimated Program Costs Per Program Based on 100% Participation

Unit Type	Number of Units	Sound Insulation	Purchase Assurance ⁶	Total
Voluntary Acquisition of Single-family residences previously insulated, located in the 65+ DNL	571	\$46,393,750	\$122,836,375	\$169,230,125
Voluntary Acquisition of 2-Unit residences previously insulated, located in the 65+ DNL	286	\$12,512,500	\$16,731,000	\$39,253,500
Total	857	\$58,906,250	\$139,567,375	\$208,483,625

Source: Fort Lauderdale Hollywood International Airport, FEIS, FAA, Prepared by Landrum & Brown, June 2008

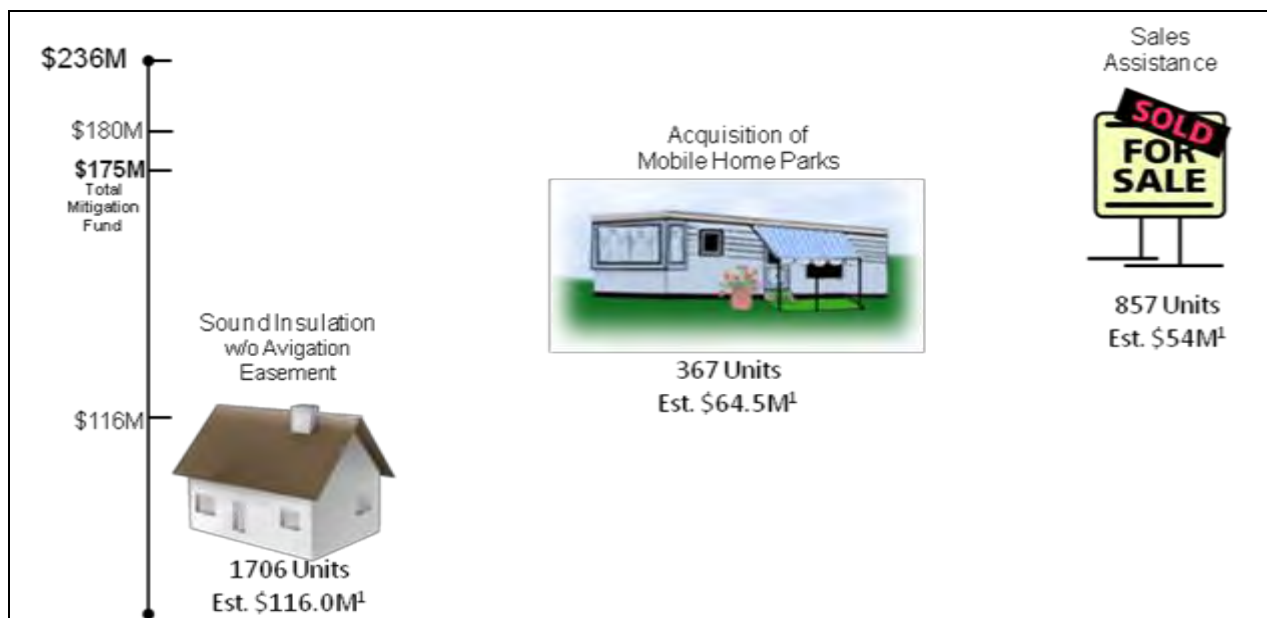
⁶ The estimated costs for the Purchase Assurance Program include an average cost per single-family home of \$215,125 which includes purchase of the property for \$325,635, \$12,000 for property management and maintenance, \$40,625 in administrative costs and an estimated net loss of \$162,500 for each property. The average cost per duplex unit is \$58,500 which includes the purchase of the property for \$70,000, \$6,000 per unit for property management and maintenance, \$17,500 in administrative costs and an estimated net loss of \$35,000 for each unit.



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

The County-adopted noise mitigation strategies outlined in Figure 2, below, follow a sequential order to first stabilize and maintain the neighborhood before property transactions occur. This is achieved by offering sound insulation first, before sales assistance is provided. This allows homeowners to experience the benefits of sound insulation prior to making a decision to sell their home. Furthermore, this sequence of noise mitigation strategies is the most efficient utilization of noise mitigation funds.

Figure 2
Noise Mitigation Plan
Estimated Costs by Program Type



Source: The Urban Group, Inc.

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Voluntary Sound Insulation of Single- and Multi-Family Units

Overview - Voluntary Sound Insulation

A Voluntary Residential Sound Insulation Program (Sound Insulation Program) will be offered to all eligible residential properties located within the 65+ DNL contour, plus adjacent areas identified in the ROD. These properties, located within the City of Dania Beach, are to the west and south of the airport.

The Sound Insulation Program will apply acoustical treatments designed to reduce aircraft noise to a home. The treatments include, but are not limited to, upgrading windows, doors and ventilation systems to achieve an interior noise level of 45 DNL. This large-scale program will incorporate the assessment results of the Early Action Voluntary Residential Pilot Program (Pilot Program).

**Voluntary
Sound Insulation Program**

- 1,706 Impacted Residential Units
- Acoustical & Hurricane Rated Products
- Average Cost Per Unit:
 - Single Family - \$81,250
 - Multi-Family - \$43,750
- Ensures Neighborhood Cohesion
- Anticipate 400 Homes Per Year
- FEIS Estimated Program Cost - \$116 Million

The Sound Insulation Program will follow FAA guidelines⁷ to ensure the program installs the proper treatments and achieves the necessary noise reduction. There are approximately 1,706 single-family and multi-family residences that would be eligible for this program. Table 3 identifies the number and type of homes by noise contour band.

Table 3
Sound Insulation Program
Housing Units, by Type, Located in the 65+ DNL with Adjacent Areas⁸

Unit Type	65-70 DNL	70-75 DNL	Natural Boundaries	Total
Single-family	550	21	527	1,098
Multi-family	360	30	218	608
Total	910	51	745	1,706

Source: FAA FEIS, Landrum & Brown, June 2008

⁷ FAA Order 5100.39A, appendix 6, NPIAS-ACIP

⁸ Based on 2020 Long Term/Ulimate Noise Contour



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Early Action Voluntary Residential Sound Insulation Program (Pilot Program)

As an assessment tool, the County is undertaking a Pilot Program to refine the program policies, products and implementation techniques. The Pilot Program offers sound insulation treatments to a maximum of 50 residential units. Initially the Pilot Program was offered to units located within the 70+ DNL noise contour. Additional residences were allowed to participate in the Pilot Program when the goal of 50 participants was not met in the initial sign-up process.

The purpose of the Pilot Program assessment is to:

- Identify acoustical treatment recommendations, product alternatives, policies, and procedures that are appropriate for the housing units in the area around FLL.
- Provide an opportunity for noise impacted homeowners to experience the benefits of sound insulation in their neighborhood.
- Create an opportunity for the County to showcase homes that received sound insulation under the Pilot Program.
- Identify funding efficiencies.
- Refine management strategies.

Property owners in the Pilot Program enter into an agreement with the County for the design and installation of the acoustical products. The project is being overseen from a field office located in the City of Dania Beach. Each property owner has been assigned a homeowner liaison who will assist them through the design and construction process and necessary document administration.

Pilot Program participants are eligible to participate in additional noise mitigation programs as established by the Commission.

Objective –Voluntary Sound Insulation

The purpose of this program is to mitigate estimated noise exposure attributable to the proposed runway improvements at FLL in an environmentally sensitive manner while preserving the airport’s vital economic role and neighborhoods. The program will provide relief from aircraft noise for residents by upgrading interior living areas. The noise reduction is achieved by replacing windows, doors and ventilation systems with acoustically rated products.

As designated by the FAA ROD, the properties located within the 65+ DNL noise contour and adjacent designated areas which were expanded beyond typical federal standard, will be eligible for this program. To ensure community cohesion, the project area was determined by using natural boundaries and neighborhood blocks so that each neighborhood area as a whole will be eligible for this program.

Figure 3
Voluntary Sound Insulation Program
How Noise Enters a Home



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Project Area - Voluntary Sound Insulation

The Sound Insulation Program project area, as defined in the ROD, is two geographic areas comprised of three distinct neighborhoods located to the west and south of the airport. These areas are defined as:

Noise Impact Area 1 - West:

Noise Impact Area 1 is located west of I-95, lying between Griffin Road on the south and the Dania Cut off Canal on the north, SW 36th Avenue on the west and SW 21st Avenue on the east. The majority of properties in this area are located within the 65+ DNL noise contour. This area contains a total of 1,148 residential units with 661 units located within the 65+ DNL contour, thus 487 additional units are outside the typical federally funded Noise Impact Area (Figure 4). Table 4, details the housing units in this area.

Figure 4⁹
Voluntary Sound Insulation Program
Noise Impact Area 1

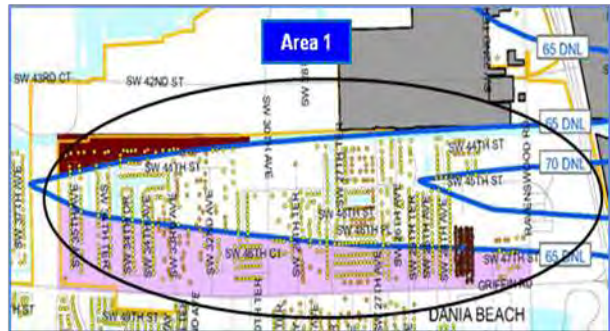


Table 4
Voluntary Sound Insulation Program
Housing Units Located in Noise Impact Area 1⁹

Type of Unit	65+ DNL	Natural Boundaries	Total
Single-Family	401	269	670
Multi-Family	260	218	478
Total	661	487	1,148

Source: FAA FEIS, Landrum & Brown, June 2008

Noise Impact Area 2 - South:

As shown in Figure 5, the majority of properties in Noise Impact Areas 2 and 3 are located within the 65+ DNL noise contour. This area contains a total of 558 residential units with 300 located within the 65+ DNL contour. Table 5 details the housing units in this area.

Noise Impact Area 2 is located east of I-95 and south of the airport, lying between New & Old Griffin Roads and west of Federal Highway (US-1) in the neighborhood, commonly referred to as Melaleuca Gardens. (Figure 5)

⁹ Based on 2020 Long Term/Ulimate Noise Contour

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Noise Impact Area 3 - Southeast:

Figure 5⁹
Voluntary Sound Insulation Program
Noise Impact Areas 2 and 3

Noise Impact Area 3 is located east of Federal Highway (US-1), between NE 5th Avenue and Gulfstream Road and south of the Dania Cut-off Canal. The majority of properties in this area are located within the 65+ DNL noise contour. (Figure 5)

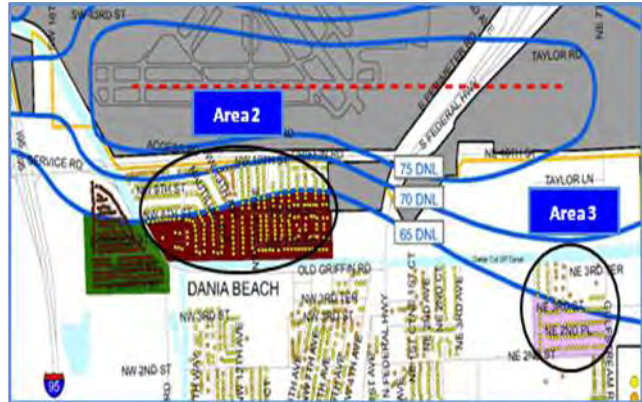


Table 5
Voluntary Sound Insulation Program
Housing Units Located in Noise Impact Areas 2 and 3
Based on 2020 Long Term/Ulimate Noise Contour⁹

Unit Type	65+ DNL	Natural Boundaries	Total
Single-Family	170	258	428
Multi-Family	130	0	130
Total	300	258	558

Source: FAA FEIS, Landrum & Brown, June 2008

Project Schedule - Voluntary Sound Insulation

There are an estimated 1,706 residential units that are eligible for sound insulation beginning in 2011 under this program. It is an assumption that this part of the project will begin in 2011.

The Sound Insulation Program will include:

- Properties located within 65+ DNL noise contour
- Properties located within natural boundaries adjacent to the 65+ DNL Noise Contour

The homes in the most impacted noise contour will first be offered participation in the program. Additional homes will be offered participation moving outward to the next level DNL, utilizing 1 dB noise contours as the measure.

The Voluntary Sound Insulation Program is structured so that the County will substantially complete the sound insulation of all eligible structures located within the 65+ DNL contour by the time Runway 9R/27L becomes operational. It is anticipated that approximately 400 units a

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

year will be insulated at an estimated annual construction cost of \$27 million. The County will retain a consulting firm that specializes in sound insulation programs, which will provide the expertise to achieve this goal.

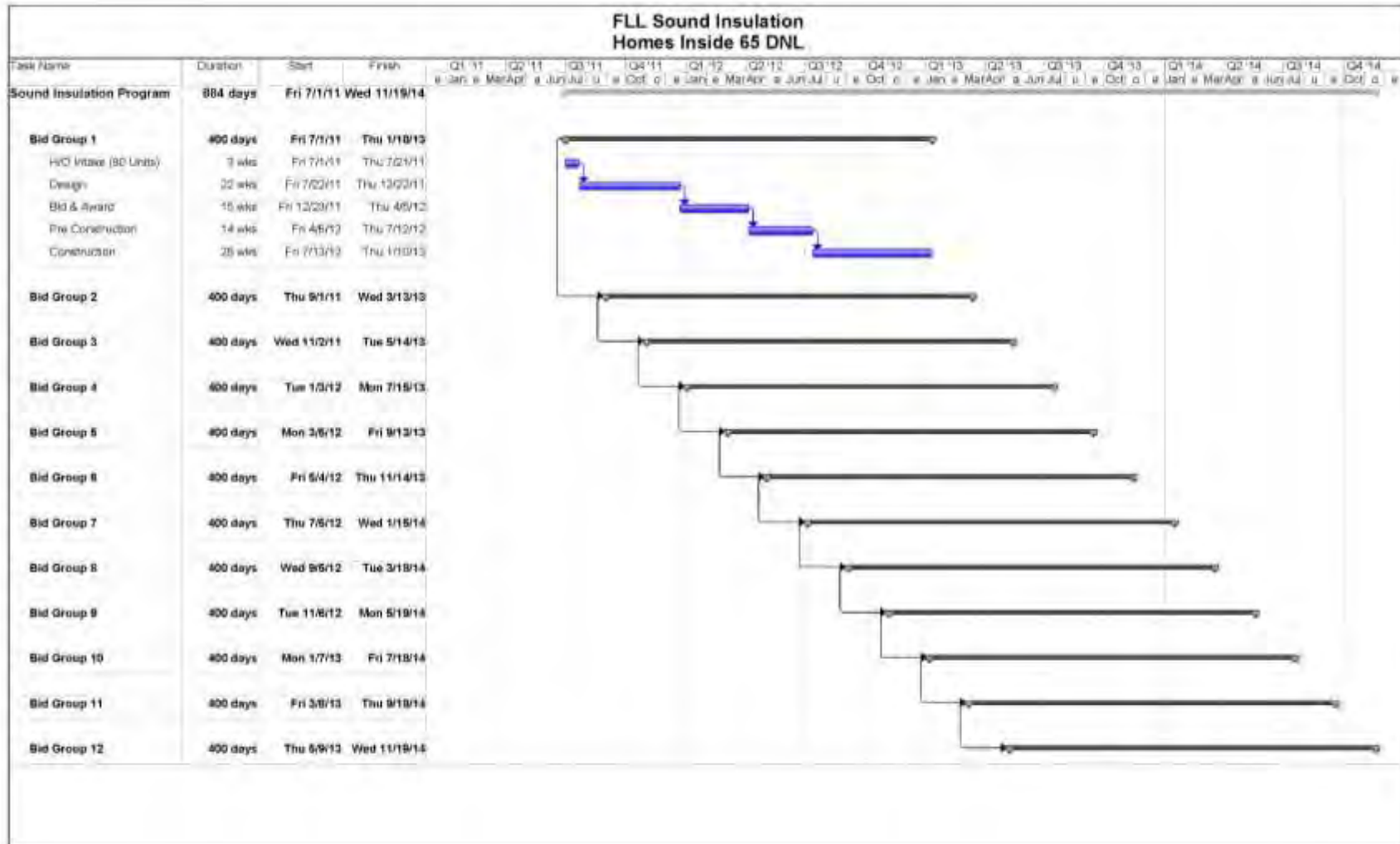
The County will continue to insulate the remaining units located in the designated adjacent noise impact areas outside the 65+ DNL noise contour after Runway 9R/27L becomes operational.

The project schedule (assuming full participation) and assuming no unforeseen delays, for the Sound Insulation Program is shown in Figure 6, "FLL Sound Insulation Homes in 65 DNL" and Figure 7, "FLL Sound Insulation Homes Outside of 65 DNL."

Homes are prioritized based on proximity to the centerline of Runway 9R/27L, location of property in relation to the 65+ DNL noise contour, and to the extent possible, selection of a full block of homes in the same construction package. The process of installing insulating products into a home takes approximately 18 months from the time the homeowner is contacted by the County's representative to participate until construction is finished on the home. The estimated length of time for this process is a function of the total number of participants in a construction package and the County bidding process. The assumption is that this will start in 2011 barring any unforeseen delays.

Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project

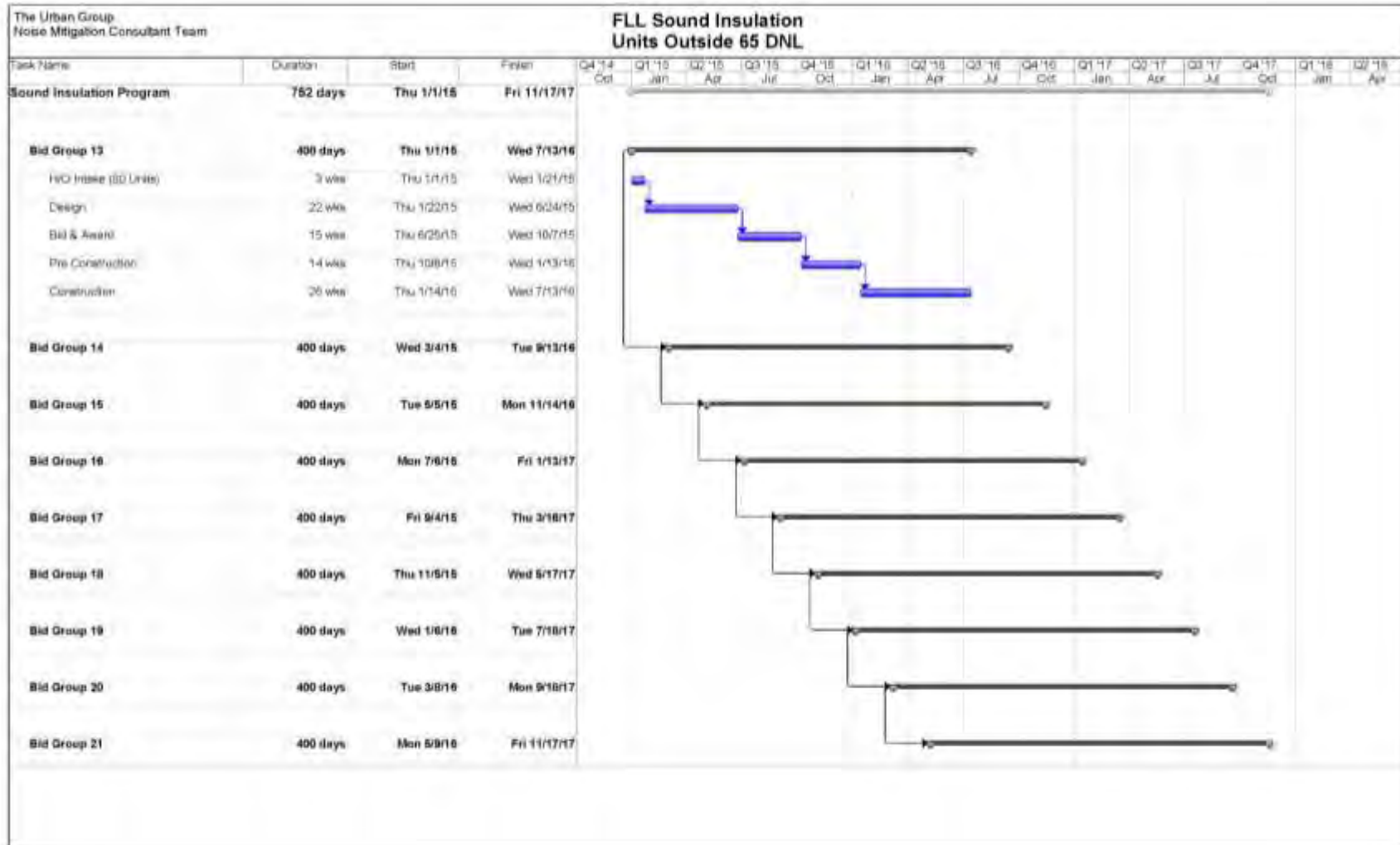
Figure 6¹⁰



¹⁰ It is estimated there would be 5 bid groups of 80 units for a total of 400 units annually.

Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project

Figure 7¹¹



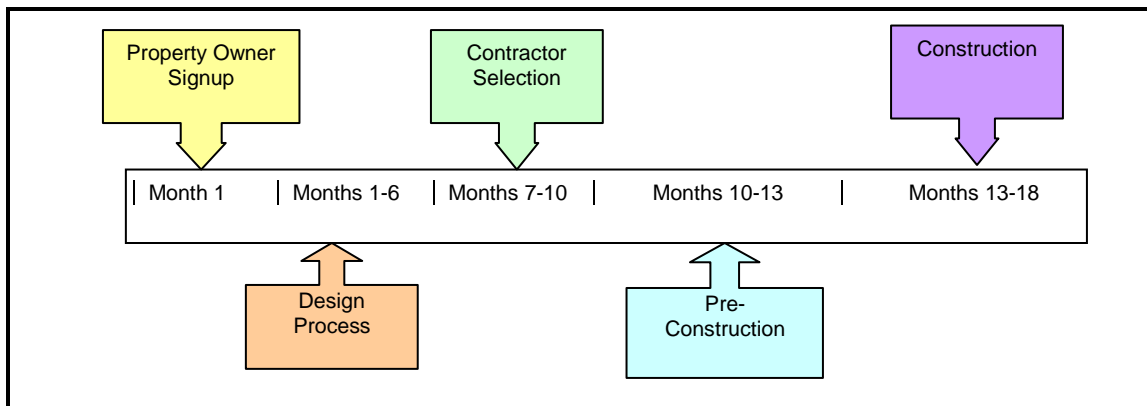
¹¹ It is estimated there would be 5 bid groups of 80 units for a total of 400 units annually.



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Figure 8 depicts the sound insulation phases and timeline. Once a property owner agrees to participate in the Sound Insulation Program, the County's consultant team will assess the home and develop a recommended construction plan, including products (doors, windows) and materials. During the design process the property owner will select from the variety of available products, including the style and finish of doors and windows to be used as replacements. Upon completion of the design process, the County will prepare a construction package comprised of approximately 80 homes for bid by Broward County Purchasing Division¹². After award of the construction contract, the pre-construction phase begins with the contractor ordering the required products and mobilizing the construction crew. Upon receipt of the products, the property will be scheduled for construction. The occupant remains in their home during the construction phase, which will reach substantial completion within ten (10) business days. The contractor will ensure the home is broom swept and secured at the end of each day.

Figure 8
Voluntary Sound Insulation Program
Phases and Timeline



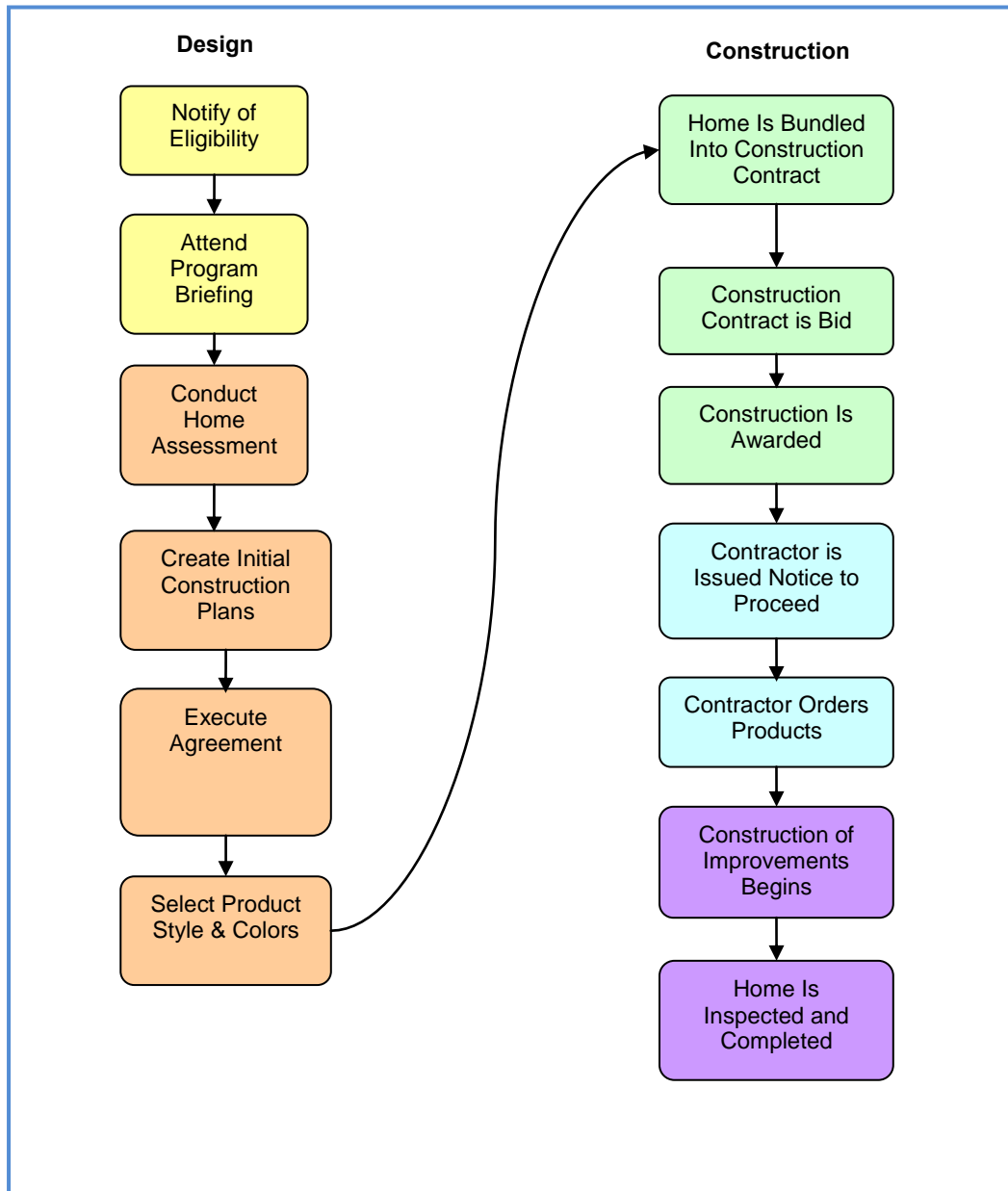
Source: The Urban Group

¹² Based on participation and total number per year.

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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Figure 9 depicts the major milestones that are achieved during each phase of the sound insulation process.

Figure 9
Voluntary Sound Insulation Program
Major Milestones



Source: The Urban Group

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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Project Eligibility – Voluntary Sound Insulation

To be eligible for the Voluntary Sound Insulation Program, a property owner must:

- Own a legally permitted residential structure located within the project boundaries.
- Ensure the structure is free of major building code violations.
- Enter into a Homeowner Participation Agreement with the County.

Estimated Costs and Benefits – Voluntary Sound Insulation

There are 1,706 housing units eligible for participation in the Sound Insulation Program. Approximately 961 units are located within the 65+ DNL and 745 units are located in adjacent designated areas outside the 65+ DNL, which are not typically eligible in the federal program. The estimated average cost to sound insulate is \$81,250 per single-family unit and \$43,750 per multi-family unit¹³. (Table 6)

Table 6
Voluntary Sound Insulation Program
Estimated Average Sound Insulation Costs, By Location and Housing Type

Unit Type	Number of Units	Estimated Unit Cost ¹⁴	Estimated Total
Located Within 65+ DNL			
Single-Family	571	\$81,250	\$46,393,750
Multi-Family	390	\$43,750	\$17,062,500
		Subtotal	\$63,456,250
Properties Located Within Natural Boundaries			
Single-Family	527	\$81,250	\$42,818,750
Multi-Family	218	\$43,750	\$9,537,500
		Subtotal	\$52,356,250
Total Estimated Program Costs			\$115,812,500

Source: FAA FEIS, Landrum & Brown, June 2008

Funding Sources – Voluntary Sound Insulation

The FAA and the Noise Mitigation Bank will provide funding for this program as depicted in Table 7. The FAA will contribute 80 percent of the estimated project costs from AIP funds and the County will contribute 20 percent of the estimated project costs from Passenger Facility Charges. There is no monetary cost to the local municipalities and individual property owners for sound insulation. Property owners may incur expenses such as attorney’s fees to review the Homeowner Participation Agreement, replacement of window coverings or repairing code

¹³ The estimated cost per unit provides an order of magnitude cost estimate for program planning. A more refined cost estimate would be completed once the Pilot Program has been completed. Per unit costs for single family units include estimated direct costs of \$65,000, plus estimated administrative costs of \$16,250. Per unit costs for multi-family units include estimated direct costs of \$35,000, plus estimated administrative costs of \$8,750.

¹⁴ See Footnote 13.



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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

issues or other work which would be identified by the consultant team at the time of the design assessment visit. Property owners will be advised of these costs by the consultant team prior to any decision by a homeowner to sign the Homeowner Participation Agreement.

Table 7
Voluntary Sound Insulation Program
Estimated Average Sound Insulation Program Costs, By Funding Source

Funding Source	% of Contribution	Estimated Funding
FAA	80%	\$92,650,000
COUNTY	20%	\$23,162,500
Total	100%	\$115,812,500

Source: FAA FEIS, Landrum & Brown, June 2008

It is anticipated that 400 units will be insulated annually by issuing five construction contracts of 80 units each. The average cost per construction contract is estimated to be \$5.4 million for an annual cost of \$27 million.

Voluntary Acquisition of Mobile Home Parks, Mobile Home Units and Relocation of Residents

Overview - Voluntary MHP Acquisition Program

A Voluntary Mobile Home Park Acquisition Program will provide for the purchase of Marshalls Everglade Mobile Home Park land (MHP) and all mobile home units and Ocean Waterway MHP land and all mobile home units.

The Voluntary MHP Acquisition Program will follow the Uniform Relocation Assistance and Real Property Acquisitions Policies Act (URA). The URA requires that eligible mobile home unit owners receive Fair Market Value (FMV) for their property and residents would receive relocation benefits and replacement housing advisory services to ensure the residents remain financially neutral.

**Voluntary
Mobile Home Acquisition Program**

- Ineligible For Sound Insulation
- Marshalls Everglade MHP is a Lease Lot Community
 - Eligible Lots - 98
 - Estimated Cost - \$13 Million
- Ocean Waterway MHP is a Cooperative Ownership
 - Eligible Lots – 269
 - Estimated Cost - \$51 Million
- FEIS Estimated Program Cost – \$64 Million
- Residents Would Be Relocated In Accordance with the Federal Uniform Relocation Act

The process of acquiring a MHP involves several steps. Initially, BCAD with the assistance of the County's consultant team will determine whether the owner(s) are interested in the sale of the park land. If so, then the County will purchase the land for FMV based on appraisals in accordance with federal requirements. Following acquisition of the MHP land, the individual mobile home unit owners will be required to move their mobile homes units to another park or relocate to other suitable housing. The residents will be eligible for relocation benefits under the URA because there is no feasible way for a mobile home to be sound insulated to become a compatible land use. Since this Mobile Home Park Acquisition Program is voluntary, should the MHP owner(s) decline to sell the underlying land, BCAD will close the program.

Objective - Voluntary MHP Acquisition Program

The purpose of the Mobile Home Park Acquisition Program is to mitigate the property to a more compatible land use. It is not feasible or cost-effective to sound insulate a mobile home unit. Therefore, acquisition and resident relocation is the best alternative. Under this voluntary acquisition program, after acquisition of the mobile home park land, the County will work with the City of Dania Beach to rezone the underlying land to an airport compatible use so it continues to be a tax generating property.

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

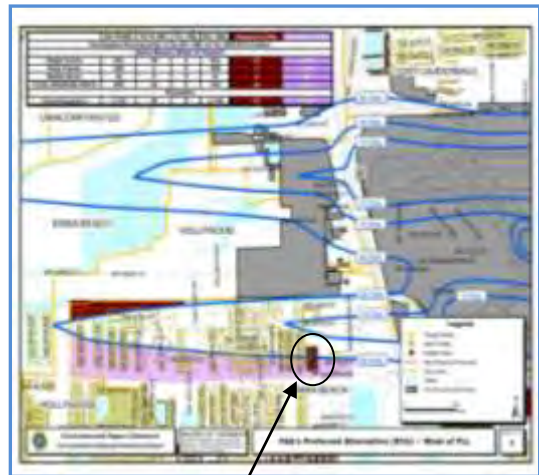
Project Area – Voluntary MHP Acquisition Program

The Mobile Home Park Acquisition Program project area, as defined in the ROD, is comprised of two mobile home parks. One park is located to the west and the other to the south of the airport. These areas are defined as:

Marshalls Everglade Mobile Home Park

Figure 10 depicts this mobile home park which is located west of the airport, east of SW 24th Avenue, west of Ravenswood Road and north of Griffin Rd. It is owned by a single entity and the lots are leased to tenants who own their mobile home units. Approximately half of the property is located within the 65+ DNL noise contour. This area contains a total of 98 mobile home units with 42 unit lots located within the 65+ DNL contour. The estimated cost is \$13 million.

Figure 10
Voluntary MHP Acquisition Program



Marshalls Everglade Mobile Home Park

FAA Record of Decision – Dec. 2008

Ocean Waterway Mobile Home Park

Figure 11 depicts this mobile home park which is located south of the airport between the Dania Cut-Off Canal and I-95. The northern edge of the park is located within the 65+ DNL contour. This park is a cooperative form of ownership by which 269 owners hold an equity share in the real estate and are assessed monthly maintenance and property management fees. A majority (222) of the 269 unit lots are located outside the 65+ DNL contour. The estimated cost to acquire this park is \$51 million.

Figure 11
Voluntary MHP Acquisition Program



Ocean Waterway Mobile Home Park

FAA Record of Decision – Dec. 2008

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Project Schedule - Voluntary MHP Acquisition Program

The voluntary acquisition of Marshalls Everglade MHP is scheduled to begin in 2011. The County's representative will contact the MHP land owner to determine whether there is an interest in selling the property. If the owner is willing to sell, and once the park has been acquired, the mobile home units and residents will be required to relocate and individual mobile home unit owners will then be contacted to appraise and purchase the mobile home units and to calculate relocation benefits for the residents. It is anticipated the acquisition of the park will take 10-12 months. The acquisition of the units and relocation of the residents is expected to take an additional two years.

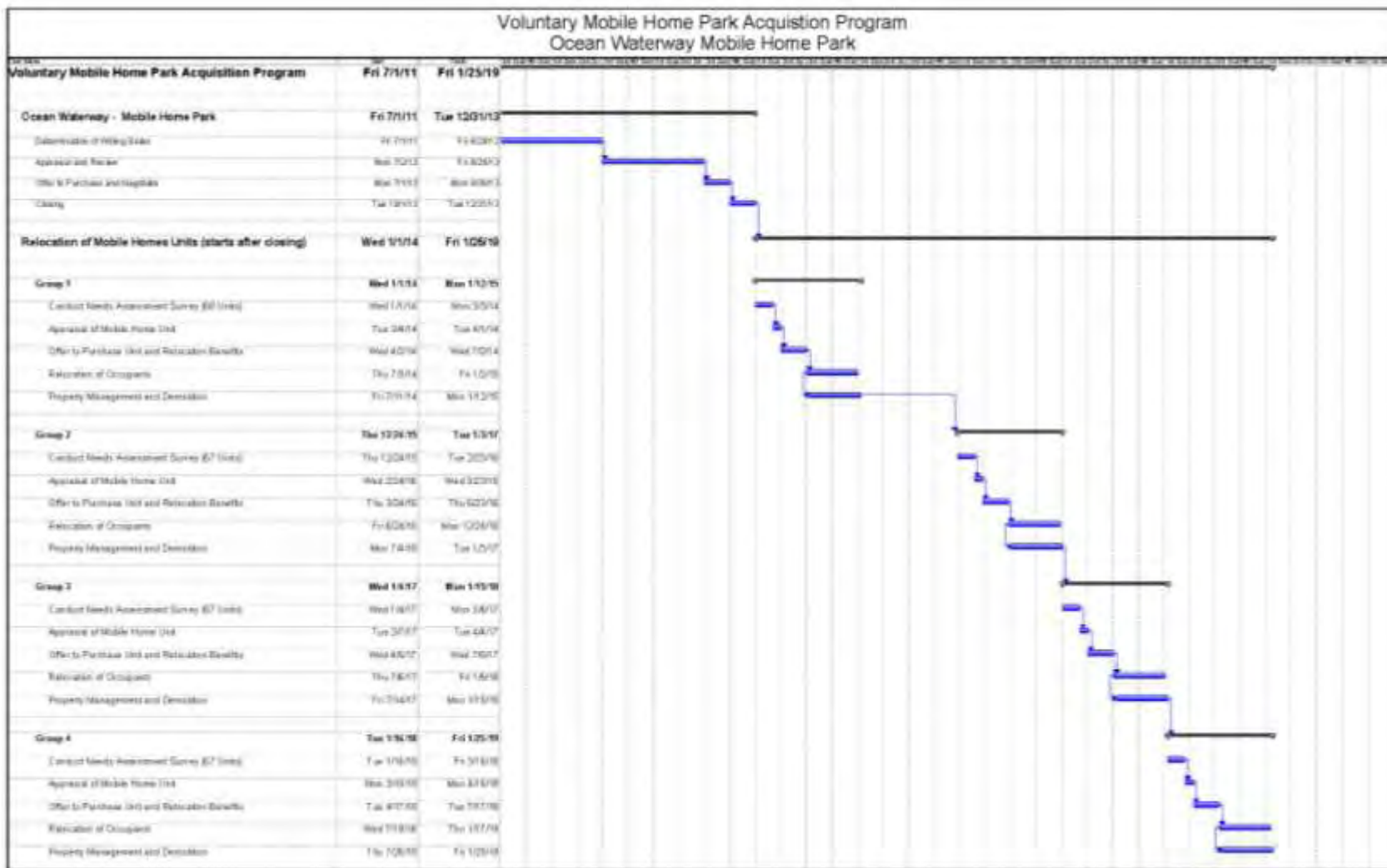
Since this Mobile Home Park Acquisition Program is voluntary, should the owner of the Marshalls Everglade MHP land decline to sell, BCAD will close the program.

The voluntary acquisition of Ocean Waterway MHP is scheduled to begin in 2011. The County's representative will contact the MHP governing board in 2011 to determine whether there is an interest in selling the property. If the owners of the cooperative are willing to sell, the County will begin purchasing the land and the mobile home units. Based on the complex nature of the park, it is not anticipated that this MHP will be acquired prior to runway commissioning. The residents will be required to relocate. After purchasing the underlying land from the cooperative, individual mobile home unit owners will be contacted to appraise and purchase the mobile home units and to calculate relocation benefits for the residents. It is anticipated the acquisition of the park will take one to three years. The acquisition of the units and relocation of the residents could take an additional four years.

Since this Mobile Home Park Acquisition Program is voluntary, should the cooperative owners of the Oceans Waterway MHP land decline to sell, BCAD will close the program.

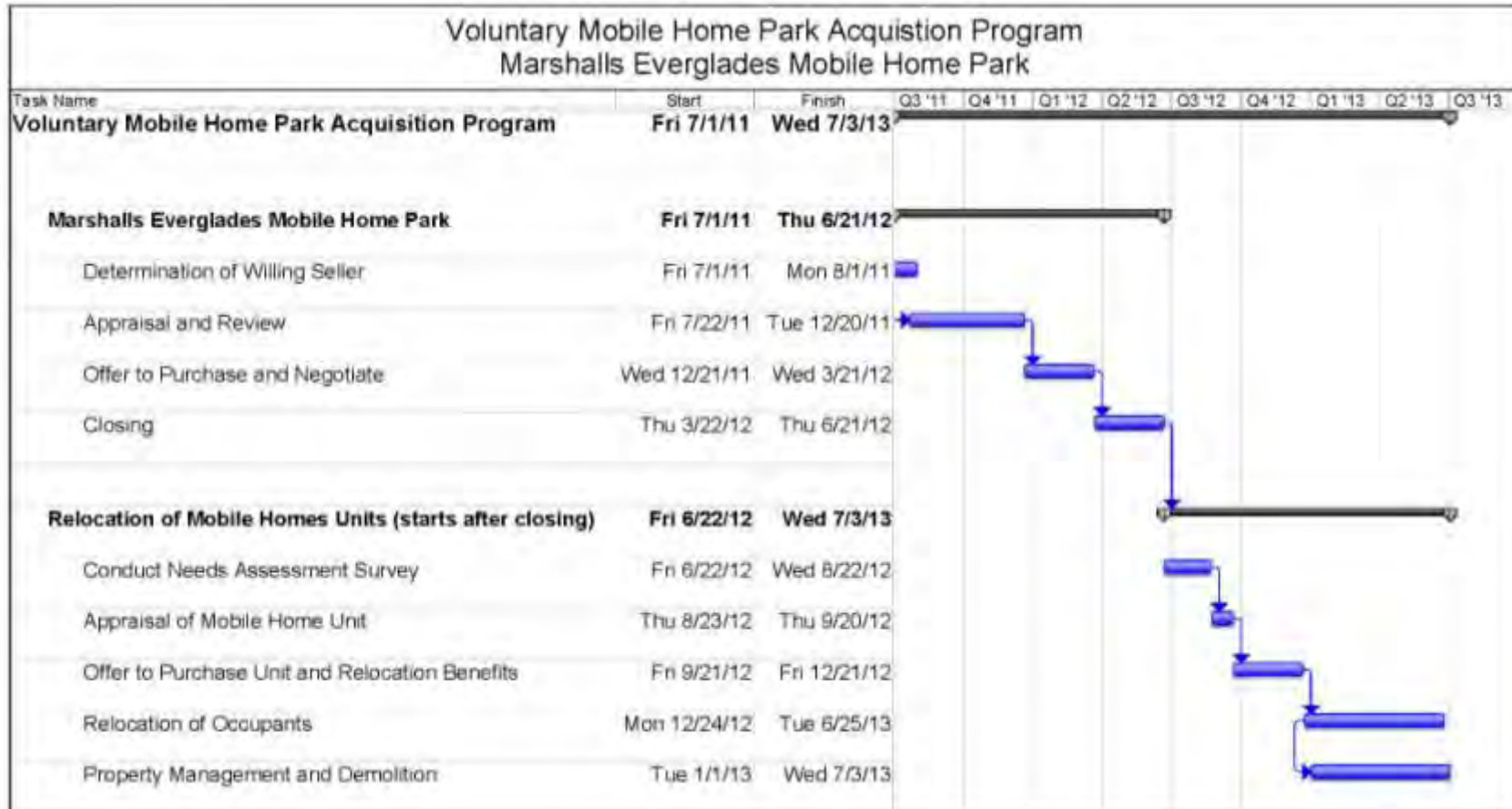
A proposed schedule for the acquisition of the Marshalls Everglade MHP is shown Figure 12 and a proposed schedule for the acquisition of Ocean Waterway MHP is shown in

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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project



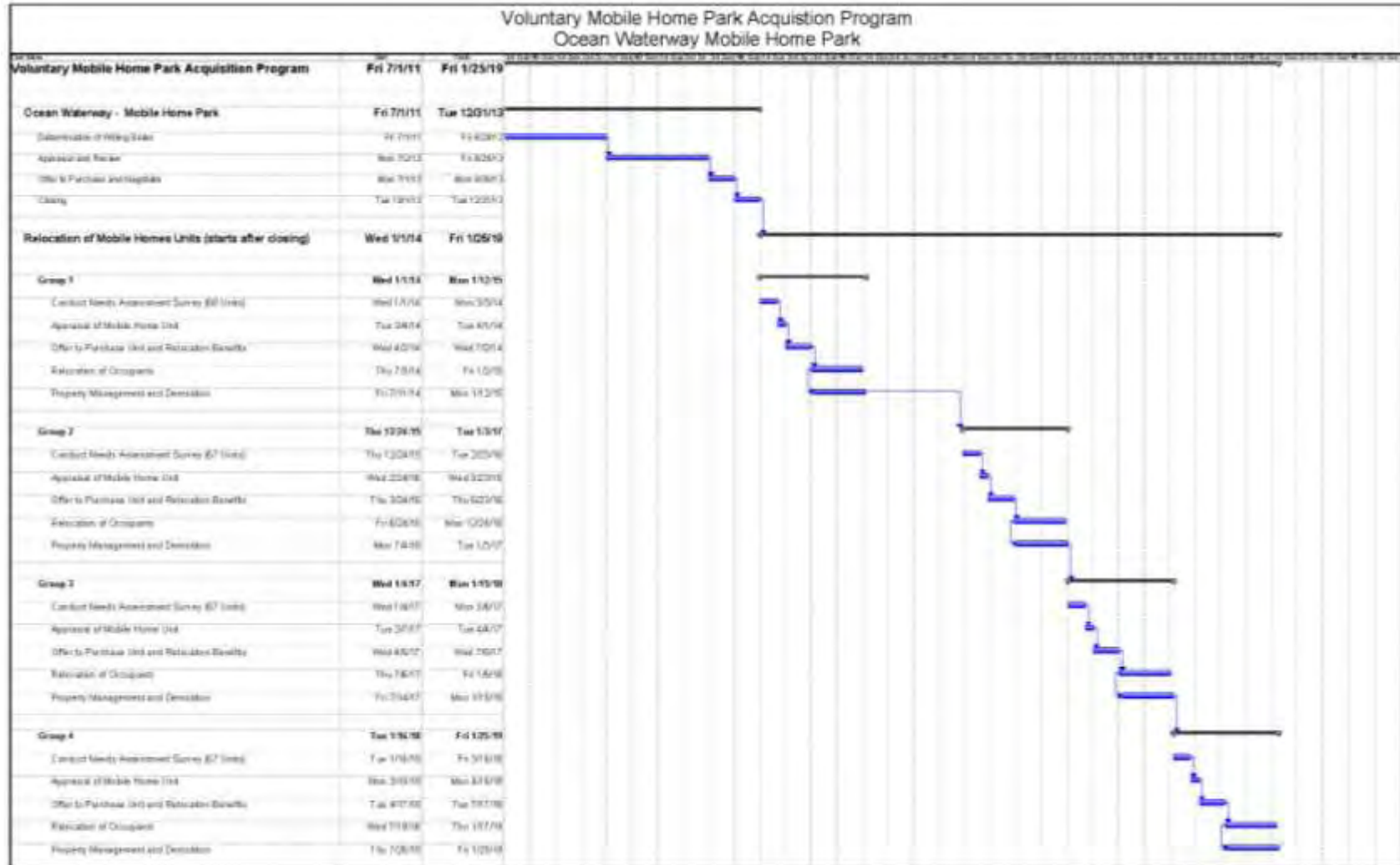
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Runway 9R/27L Project

Figure 12



Noise Mitigation Plan
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Figure 13

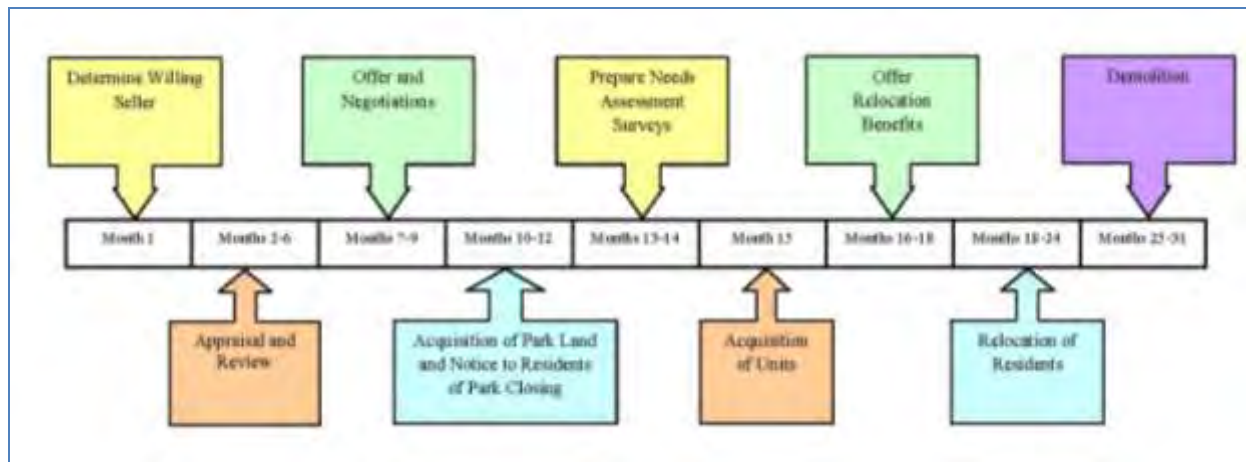


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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Figure 14 depicts the Marshalls Everglade MHP acquisition phases and timeline. The process of acquiring the Marshalls Everglade MHP land is estimated to take approximately 10-12 months from the time the owner is contacted by the County's representative until the sale is finalized.

Once the owner has sold the park land, the County will begin the process of acquiring the mobile home units and relocating the residents and clearing of the park. This program will meet the requirements of Florida Statutes, Chapter 723, closing and relocation of unit owners of a mobile home park. Listed below are the phases and the estimated timeframes for a typical relocation.

Figure 14
Voluntary Mobile Home Park Acquisition Program
Marshall Everglade MHP
Acquisition of Land and Mobile Home Units and Relocation of Residents
Phases and Timeframe

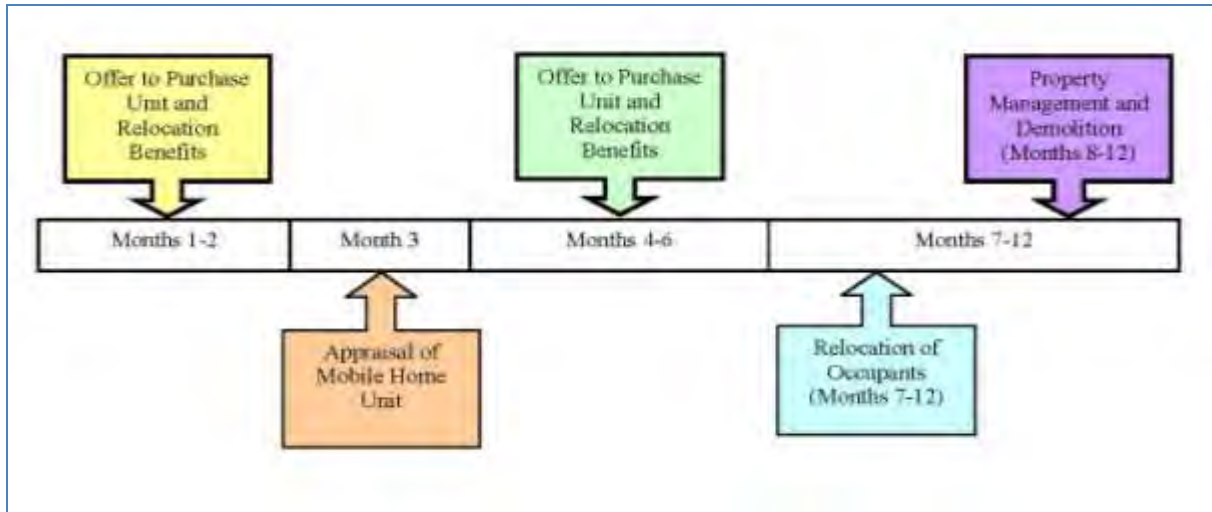


Source: The Urban Group, Inc.

Figure 15 depicts the Ocean Waterway MHP acquisition phases and timeline of the individual units. After purchasing the underlying land from the cooperative, the County will begin contacting individual mobile home unit owners to appraise and purchase the mobile home units and to calculate relocation benefits for the residents. It is anticipated the acquisition of the park would take one to three years. The acquisition of the 269 units and relocation of the residents could take an additional four years. The program will be divided into the purchase of the park land and four groups of 67 units. The program schedule depicted in Figure 15 shows the acquisition and relocation of the residents for a group of 67 units.

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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project

Figure 15
Voluntary Mobile Home Park Acquisition Program
Ocean Waterway
Acquisition of Land and Mobile Home Units and Relocation of Residents
Phases and Timeframe per Group

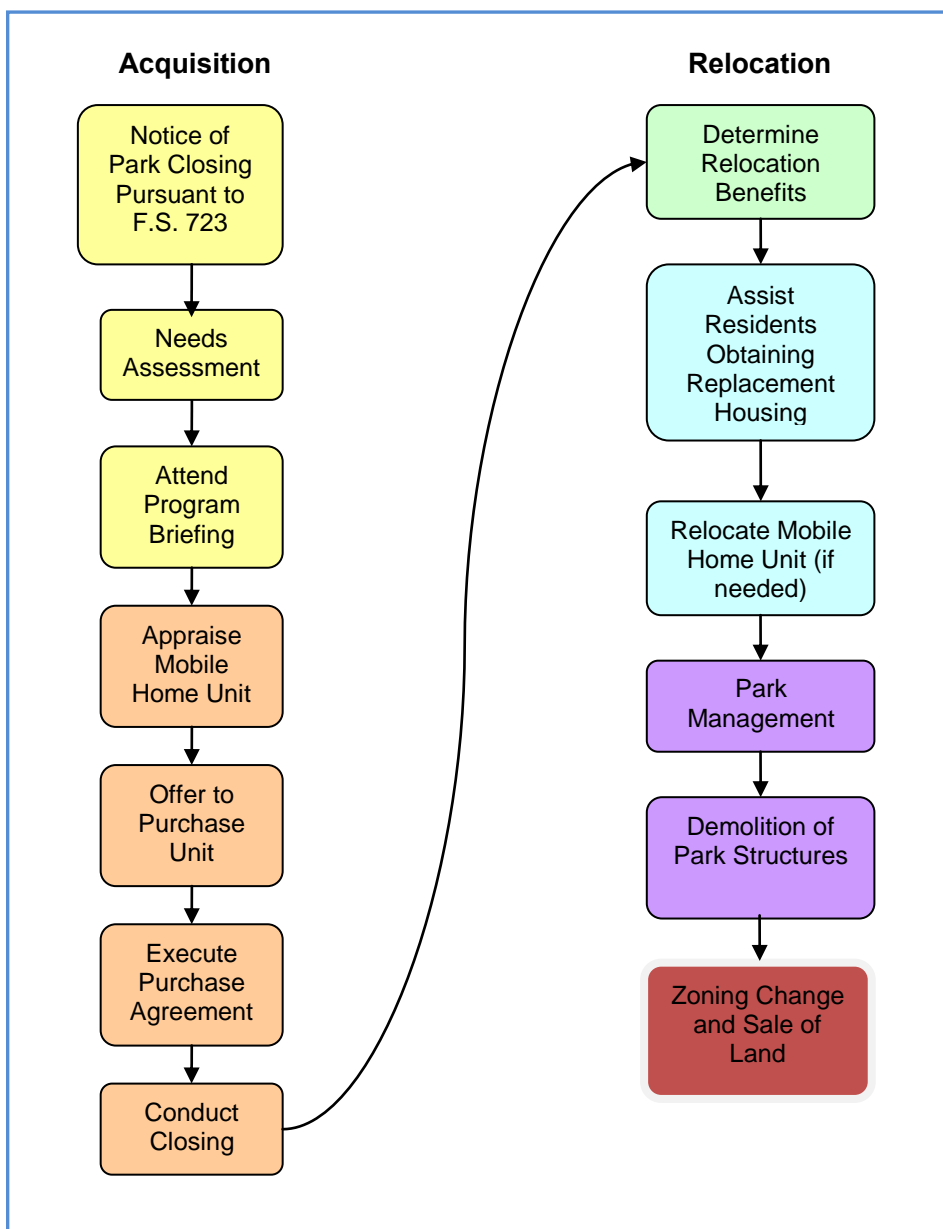


Source: The Urban Group, Inc.

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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Figure 16 depicts the major milestones that are achieved during each phase of the mobile home park and unit acquisition process.

Figure 16
Mobile Home Park Acquisition Program
Acquisition of Mobile Home Units and Tenant Relocation Flow Chart



Source: The Urban Group, Inc.

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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Project Eligibility – Voluntary MHP Acquisition Program

The Voluntary MHP Acquisition Program will meet the requirements the URA and Florida Statutes, Chapter 723, closing and relocation of unit owners of a mobile home park and will provide benefits to three specific residential groups:

- Mobile Home Park Owner
- Mobile Home Unit Owner
- Eligible Resident Of A Mobile Home

The Voluntary MHP Acquisition Program will only be offered to mobile home unit owners and residents if the park owner agrees to sell the park land to the County.

Listed below are the eligibility criteria for the various types of residents.

Owner Occupied Mobile Home Unit Owners - greater than 180 days will be eligible to receive the following benefits:

- Fair Market Value for the mobile home unit.
- Replacement Housing Payment: A cost differential based on the difference between the price paid by the County for the mobile home and the cost to purchase a comparable replacement dwelling.
- Rental Supplement: A cost differential based on the difference between rent and utilities at the displaced site and the rent and utilities at a comparable replacement site, or the difference between 30% of household income and the cost of rent and utilities at the replacement site.
- Moving & Closing Costs.

Owner Occupied Mobile Home Unit Owners - less than 180 days, but greater than 90 days will be eligible to receive the following benefits:

- Fair Market Value for the mobile home unit or
- Rental Supplement: A cost differential based on the difference between rent and utilities at the displaced site and the rent and utilities at a comparable replacement site, or the difference between 30% of household income and the cost of rent and utilities at the replacement site.
- Moving & Closing Costs.

Tenant of Mobile Home Unit – will be eligible to receive the following benefits:

- Rental Supplement: A cost differential based on the difference between rent and utilities at the displaced site and the rent and utilities at a comparable replacement site, or the difference between 30% of household income and the cost of rent and utilities at the replacement site.
- Moving Costs.



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Estimated Costs and Benefits - Voluntary MHP Acquisition Program

Estimated costs to acquire and provide relocation assistance to the two mobile home parks is \$64.5 million and is depicted in Table 8.

Table 8
Mobile Home Park Acquisition Program
Estimated Costs

Incompatible Land Use	Estimated Total
Marshalls Everglade Mobile Home Park	
Mobile Home Units ¹⁵	\$12,250,000
Land ¹⁶	\$1,316,020
Subtotal – Marshalls Everglade MHP	\$13,566,020
Ocean Waterway Mobile Home Park	
Land and Mobile Home Units ¹⁷	\$50,605,625
Subtotal – Ocean Waterway MHP	\$50,605,625
Grand Total- Mobile Home Units and Land	\$64,171,645

Source: FAA FEIS, Landrum & Brown, June 2008

Because these units cannot be sound insulated, the MHP Acquisition Program will allow residents living in a high impact noise area to relocate to a more compatible area, with relocation benefits paid to the mobile home unit owners and/or residents. Once the land is sold, the county will petition to rezone to a compatible land use and the City of Dania Beach will continue to gain tax revenue from the property.

Funding Sources - Voluntary MHP Acquisition Program

The FAA and the Noise Mitigation Bank will provide funding for this program. The FAA will contribute 80 percent of the estimated project costs from AIP funds and the County will contribute 20 percent of the estimated project costs from Passenger Facility Charges. (Table 9) There is no monetary cost to the local municipalities and individual property owners for this program. The FAA’s stated goal for acquisition programs is for the mobile home unit owners to be financially neutral, with no increased costs or financial gain.

¹⁵ FEIS estimated costs are \$100,000 for the acquisition, relocation, and demolition of the mobile home units, relocation of the residents and clearing of MHP plus \$25,000 administrative costs.

¹⁶ This is an estimated cost of acquiring the land without any administrative costs.

¹⁷ FEIS estimated costs are \$150,500 for the acquisition of the mobile home land and units, relocation and demolition of the mobile home units, relocation of residents and clearing of the MHP plus \$37,626 administrative costs.



Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project

Table 9
Mobile Home Park Acquisition Program
Estimated Costs, By Funding Source

	% of Contribution	Amount of Funding
FAA	80%	\$51,337,316
COUNTY	20%	\$12,834,329
Total	100%	\$64,171,645

Source: The Urban Group

Voluntary Sales Assistance Program for Previously Sound Insulated Residences

Description – Voluntary Sales Assistance Program

A Voluntary Sales Assistance Program for single-family and two-unit (duplex) residences located within the 65+ DNL noise contour will be implemented.

This program is designed to assist owners who desire to sell their home due to the noise impacts from the runway project. This program will be implemented one year after the completion of the Pilot Program as noted above. These properties are located within the City of Dania Beach to the west and south of the airport.

Voluntary Sales Assistance Program

- 857 Properties Eligible
- Located W/In 65+ DNL
- Owner Eligible One Year After Sound Insulation is Completed
- Ensures Fair Market Value
- Provides Closing Costs
- Homes Sold on Open Market
- County Does Not Own Property
- Property Tax Base Retained
- Estimated Program Cost - \$56 Million

This Voluntary Sales Assistance Program will be available to residences consisting of two units or less, that have been previously sound insulated or meet the FAA's sound insulation interior noise level goals and are located inside the 65+ DNL. Such properties will be eligible whether or not they are owner-occupied and voluntary sales assistance will be made available one year after an eligible property is sound-insulated or the County establishes the property meets FAA's interior noise level goals. Properties consisting of three or more units will not be eligible for this program. Priority will first be given to properties in the highest noise contours, and continue outward to the rest of the eligible properties located within the 65+ DNL. The Voluntary Sales Assistance Program will follow FAA guidelines¹⁸ to ensure the participating property owners receive the appropriate benefits. There are approximately 857 homes eligible for this program.

Objective – Voluntary Sales Assistance

Under a Voluntary Sales Assistance Program, the County will not acquire the property. The County will assist eligible homeowners with the sale of their property on the open real estate market for FMV as determined by an appraisal conducted in accordance with federal regulations regarding grant eligibility and the expenditure of aviation funds.

¹⁸ FAA Order 5100.38C, Section 881.b – Land Acquisition with Change to Land Use.

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

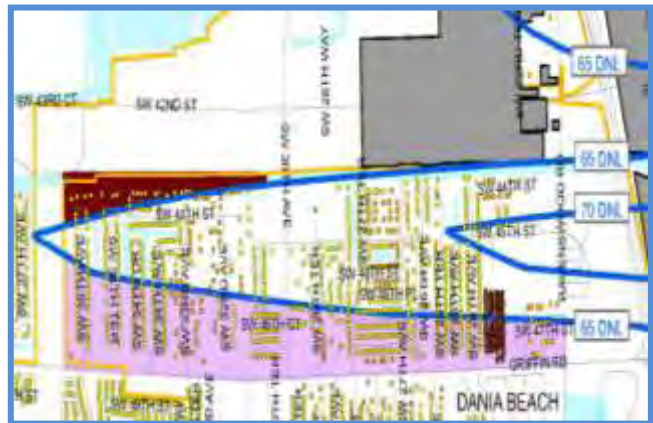
Project Area – Voluntary Sales Assistance

The Voluntary Sales Assistance Program project area is three geographic areas located to the west and south of the airport. The project area is the same as the Voluntary Sound Insulation Program boundaries but limited to owners of single family and 2 unit residences located in the 65+ DNL contour. Table 10 details the housing units in this area and are defined as:

Noise Impact Area 1 - West:

Noise Impact Area 1 is located west of I-95, lying between Griffin Road on the south and the Dania Cut off Canal on the north, SW 36th Avenue on the west and SW 21st Avenue on the east. The eligible properties in this area are located within the 65+ DNL noise contour. This area contains 570 eligible units. (Figure 17)

Figure 17
Voluntary Sales Assistance Program

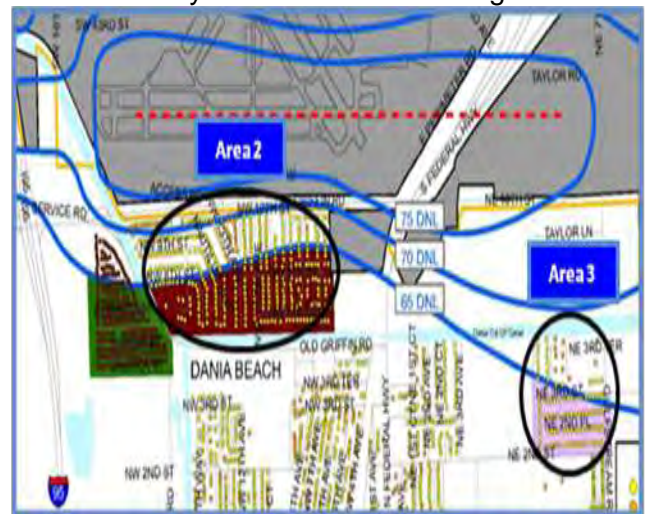


As shown in Figure 18, the eligible properties in Noise Impact Areas 2 and 3 are located within the 65+ DNL noise contour. This area contains a total of 287 eligible units.

Figure 18
Voluntary Sales Assistance Program

Noise Impact Area 2 – South

Noise Impact Area 2 is located east of I-95 and south of the airport, lying between New & Old Griffin Roads and west of Federal Highway (US-1) in the neighborhood, commonly referred to as Melaleuca Gardens (Figure 18).



Noise Impact Area 3 - Southeast:

Noise Impact Area 3 is located east of Federal Highway (US-1), between NE 5th Avenue and Gulfstream Road and south of the Dania Cut-off Canal. The eligible properties in this area are located within the 65+ DNL noise contour (Figure 18).

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Table 10
Voluntary Sales Assistance Program
Housing Units Located in the **65+ DNL** Noise Impact Area¹⁹

Noise Impact Area	Single-Family	2-Unit Residence	Total
Noise Impact Area 1 -West	401	169	570
Noise Impact Areas 2 and 3 -South	170	117	287
Total	571	286	857

Source: The Urban Group, 2010

Project Schedule - Voluntary Sales Assistance

Owners of single family and 2 unit residences within the 65+ DNL project area will be eligible for the Voluntary Sales Assistance Program one year after the homeowner has completed participation in the Sound Insulation Program. This will allow homeowners the opportunity to experience the benefits of the sound insulation and determine whether the homeowner believes the sound insulation has sufficiently mitigated the noise impacts. In addition to sound-insulated residences, single family and 2 unit residences within the 65+ DNL noise contour that meet the FAA's interior noise level goals will be eligible for Voluntary Sales Assistance.

The County's consultant team conducted a Market Absorption Study²⁰ of the noise impact project area to determine the rate at which homes can be expected to sell and Table 11 was developed based on the economic data found in this study (Appendix B).

The housing values in the noise impact area, as well as homes outside the noise impact area, extending throughout the region, would be impacted by an aggressive Voluntary Sales Assistance Program (potentially 857 housing units²¹). In effect, homes may be sold on the open market for prices less than the current FMV causing the overall housing market to adjust to the lower selling price. Based on the Market Absorption Study, and to protect the housing market, the Voluntary Sales Assistance Program would initially allow a maximum of 22 properties per year to participate. This may be adjusted going forward as the market changes.

¹⁹Estimated housing units are based on windshield survey data collected in October 2008.

²⁰Research conducted by Adrian Gonzalez & Assoc., Real Estate Appraisers on residential properties in three areas in proximity to the Fort Lauderdale-Hollywood International Airport, March 2010. (Appendix B)

²¹The number of single-family and two unit homes eligible for this program would be identified during the Sound Insulation Program.



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Table 11
Voluntary Sales Assistance Program
Estimated Homes Sales by Noise Impact Area, By Neighborhood

Area	Location	Average Annual Property Sales ²²
Noise Impact Area 1	West of FLL	9
Noise Impact Area 2	Between New & Old Griffin Road	11
Noise Impact Area 3	East of Federal Highway	2
Total		22

Source: Market Absorption Study prepared by Adrian Gonzalez & Assoc., March 2010.

BCAD will conduct updates to the Market Absorption Study during program implementation to determine the number of homes that can be sold without affecting the housing market in the region. Economic assumptions on supply and demand suggest that the seller’s market would be less competitive; as the number of homes listed for sale at any given time increases. Though the South Florida housing market historically has wide swings, to maintain a balance between market oversupply and demand from homeowners participating in the Sales Assistance Program, it is important that this program does not contribute to the surplus of homes for sale.

As noted, one year after participation in the Sound Insulation Program, eligible properties inside the 65+ DNL that have been previously sound insulated or meet the FAA’s sound insulation guidelines on interior noise levels will be eligible to participate in the Sales Assistance Program.

Implementation – Voluntary Sales Assistance

The property owner will be responsible for marketing and selling their home through a licensed real estate agent, including listing the property on the open market. The listing price of the home or 2 unit residence will be based on the FMV as established by a state licensed real estate appraiser following federal appraisal guidelines. The property owner will be reimbursed for eligible closing costs. If the property does not sell at FMV within a reasonable timeframe, the County will provide a cost differential based on the difference between the purchase price and the FMV. Property owners and tenants are not eligible for relocation benefits under FAA guidelines because there would not be a change to the underlying land use.

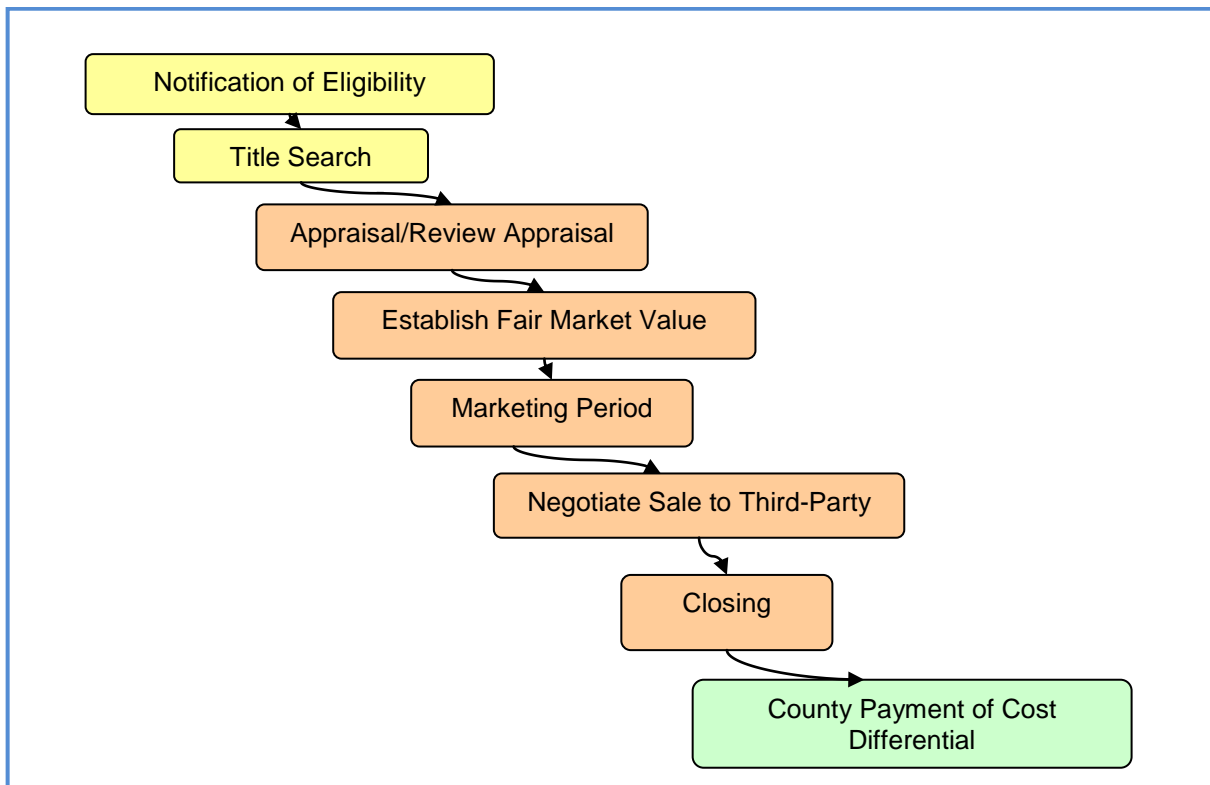
²² The average annual property sales as determined by the Absorption Study for calendar years 2009 and 2010.



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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project

Figure 19 depicts the major milestones that are achieved during each phase of the sales assistance process.

Figure 19
Voluntary Sales Assistance Program Flow Chart

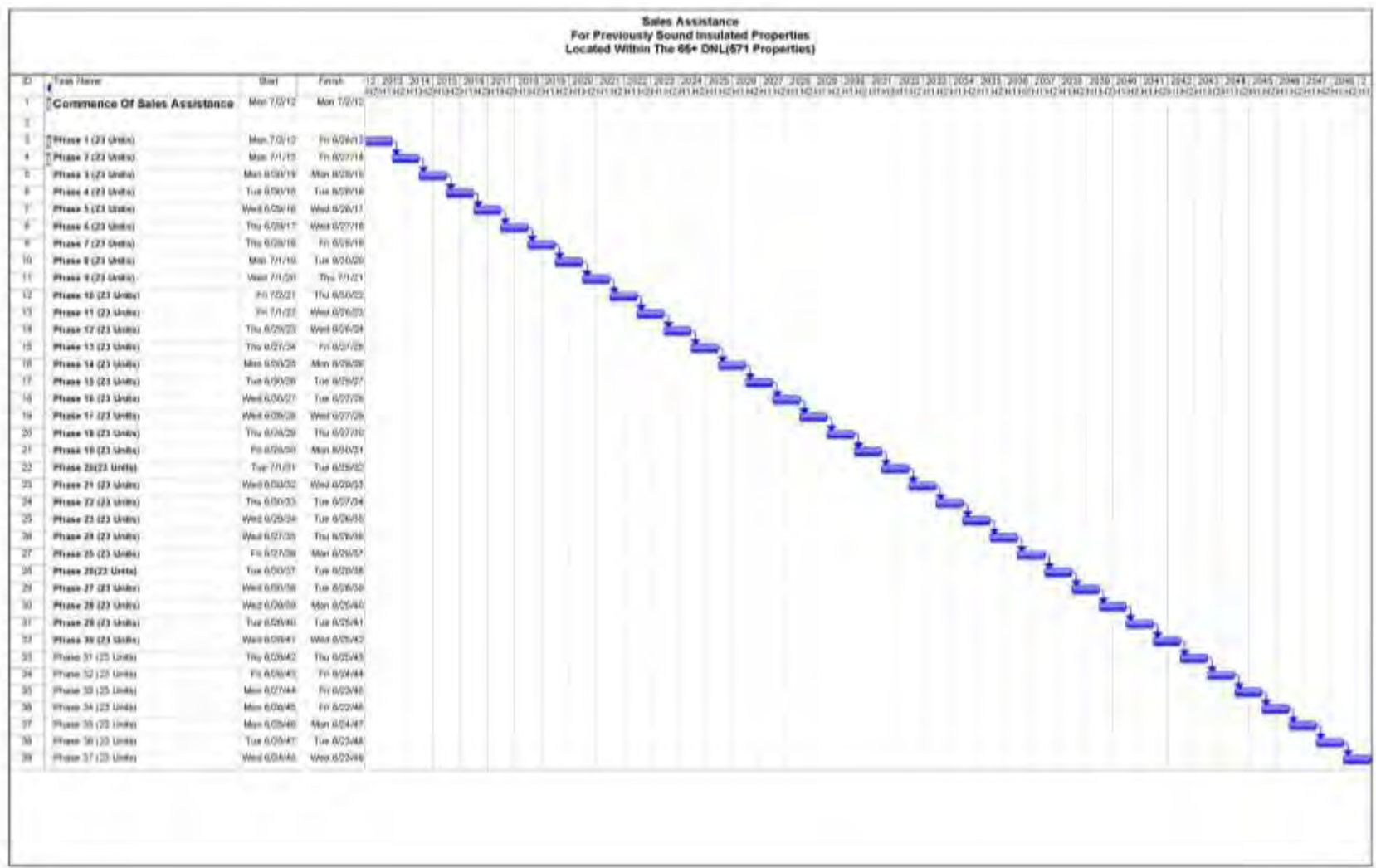


Source: The Urban Group, Inc.

Figure 20 depicts the Voluntary Sales Assistance phases and timeline. Current market conditions would allow up to 22 properties per year to be eligible for this program.

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Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project

Figure 20



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Project Eligibility – Voluntary Sales Assistance

To be eligible for the Voluntary Sales Assistance Program, a property owner must:

- Have title to a single-family or 2 unit (duplex) residence located within the 65+ DNL contour.
- Participate in the Voluntary Sound Insulation Program or meet the FAA’s sound insulation interior noise level goals.

Estimated Costs & Benefits – Voluntary Sales Assistance

There are an estimated 857 housing units eligible for participation in this program. The estimated average cost is \$81,250 per single-family home and \$35,000 per duplex unit.²³ A maximum of 22 properties per year will initially be eligible for participation in the program based on the market absorption study. The estimated budget for the Voluntary Sales Assistance Program is \$56 million as show in Table 12.

Table 12
Voluntary Sales Assistance Program
Estimated Average Cost by Housing Type

Type of Unit	Estimated Unit Cost	Number of Units	Total
Single-Family	\$81,250	571	\$46,393,750
Two Unit (Duplex)	\$35,000	286	\$10,010,000
Total	-	857	\$56,403,750

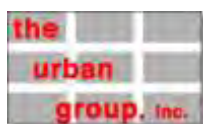
Source: The Urban Group, Inc.

The Voluntary Sales Assistance Program provides a level of assurance to a property owner that they will receive FMV for their property if they choose to relocate by providing a cost differential if the home sells for less than FMV. The City of Dania Beach will retain its residential neighborhoods and ad valorem tax base. The community will be stabilized by avoiding vacant properties.

Funding Sources – Voluntary Sales Assistance

Funding for the Voluntary Sales Assistance Program will be shared by the FAA and County. The federal funding formula provides that the FAA will contribute 80 percent of the project costs through AIP funds and the County will contribute 20 percent of the project costs through PFCs.

²³ The estimated the average price for single-family properties located in the Noise Impact Area is \$325,000. It is estimated that the County would contribute \$65,000 per home. Administrative costs are estimated at 25 percent or \$16,250 per home. Therefore, the total cost estimated per single-family home is \$65,000 + \$16,250 or \$81,250. The estimated the average price for a 2 unit residence located in the noise impact area is \$140,000 per unit. It is estimated that the County would contribute \$28,000 per unit. Administrative costs are estimated at 25 percent or \$7,000 per unit. Therefore, the total cost estimated per unit is \$28,000 + \$7,000 or \$35,000 per unit.



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

The County will utilize available noise mitigation funds after the completion of sound insulation in the 65+ DNL contour. There is no monetary cost to the local municipalities. Table 13 depicts the costs by funding source.

Table 13
Voluntary Sales Assistance Program
Estimated Costs, By Funding Source

Funding Source	% of Contribution	Estimated Cost
FAA	80%	\$45,123,000
COUNTY	20%	\$11,280,750
Total	100%	\$56,403,750

Source: FAA FEIS, Landrum & Brown, June 2008

Description - Voluntary Purchase Assurance (NOT RECOMMENDED BY BCAD)

The ROD also identified purchase assurance as another land use compatibility tool to assist residents to sell property. A Purchase Assurance Program requires the County to purchase the property from the owner, sound insulate the structure, and then sell the property on the open market. If this program were to be implemented, BCAD has recommended that the County place an avigation easement on the properties after the County acquires ownership. It is estimated that after taking possession of these properties, the County would be required to maintain them for a minimum of 18 months each while the property undergoes the sound insulation process and is placed on the open market for sale. Depending on how long it takes to sell the property, maintenance and protection costs could be excessive and would absorb funds that would not ultimately benefit the community as a whole.

BCAD does not recommend implementation of a Voluntary Purchase Assurance Program as a land use compatibility measure for the following reasons:

- The City of Dania Beach would lose ad valorem tax revenue during County ownership of property.
- The program does not provide the mitigation to the maximum number of residents prior to the runway becoming operational.
- Regional housing values would be negatively impacted by saturating the market with homes from the noise impacted areas.
- The FAA FEIS estimates resale value to be 50% of acquisition value, thereby further destabilizing the neighborhoods.
- The County obtains ownership of the property, which would result in costly maintenance to prevent deterioration including: lawn maintenance, securing from vandalism and theft, ensuring buildings remain mold-free, securing and maintaining swimming pools, providing routine inspections, which increases administrative costs to the project.
- County would attach an avigation easement upon purchase of the properties.
- The market absorption and foreclosure market may result in long term vacancies and destabilize the neighborhood and property values for remaining residents.
- The program does not assist the community as a whole and the excessive costs would detract funding from strategies such as Sound Insulation and Mobile Home Park

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

- Acquisition, which would provide the most expedient method of mitigating the homes prior to the runway commissioning.
- The County absorbs all the risk.

The voluntary purchase assurance program cost estimates in Table 14 assume there are 571 eligible single-family residences and 286 two unit properties (duplexes), which could be acquired by the County at FMV. A unit cost of \$365,625 per single-family home is estimated and \$157,500 per duplex unit is estimated.²⁴ Each single-family home would be sound insulated at an estimated average cost of \$81,250 per home with an additional \$12,000 per home in property management costs²⁵. Each duplex unit would be sound insulated at an estimated average cost of \$43,750 per duplex unit with \$6,000 per duplex unit in property management costs²⁶. This assumes the homes could be resold on the market at 50% of the acquisition value for a net loss of \$162,500 per single-family home and a net loss of \$70,000 per duplex unit. The total estimated cost for a voluntary purchase assurance program is \$208 million including sound insulation costs (Table 14). It is anticipated that funding would be provided by the FAA through AIP funds at an estimated cost of \$167 million (80%) and the County through PFC funds at an estimated cost of \$41 million (20%).

Table 14
Voluntary Purchase Assurance Program – **Not Recommended**
Estimated Average Costs Properties
Located Within the 65+ DNL Contour

Type Unit	# of Units	Estimated Cost Per Unit					Total Estimated Cost
		Acquisition ²⁷	Net Loss	Property Mgmt ²⁸	Sound Insulation	Total	
Single-Family	571	\$365,625	(\$162,500)	\$12,000	\$81,250	\$296,375	\$169,230,125
Two Unit (Duplex)	286	\$157,500	(\$70,000)	\$6,000	\$43,750	\$137,250	\$39,253,500
Total	857						\$208,483,625

Source: FAA FEIS, Landrum & Brown, June 2008

²⁴ For each single-family home there would be an estimated \$325,000 direct costs and \$40,625 administrative costs for a total estimate of \$365,625. For each 2- unit duplex there would be an estimate \$140,000 direct costs per unit and \$17,500 administrative costs per unit for a total estimate of \$157,500 per unit.

²⁵ For each home there would be an estimated \$65,000 direct costs and \$16,250 administrative costs for a total cost estimate of \$81,250 per home.

²⁶ For each duplex unit there would be an estimated \$35,000 direct costs and \$8,750 administrative costs for a total cost estimate of \$43,750 per duplex unit.

²⁷ The amount includes a 25% administrative cost on the sale price of the property.

²⁸ Costs based on The Urban Group property maintenance costs for the City of Pompano Beach Neighborhood Stabilization Program.



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Conclusion

The Noise Mitigation Plan is designed to conform to the recommendations listed in the ROD for the expansion of Runway 9R/27L. Its objective is to substantially achieve land use compatibility within the 65+ DNL long term/ultimate noise contour (2020) by the time Runway 9R/27L becomes operational in 2014 and to provide strategies that maintain the community cohesion and integrity of the neighborhoods.

This Plan includes the implementation of three noise mitigation measures:

- Voluntary residential sound insulation (both within the 65+ DNL contour and in adjacent areas outside the 65+ DNL),
- Voluntary acquisition of the Marshalls Everglade Mobile Home Park and Ocean Waterway Mobile Home Park, and
- Voluntary sales assistance for single family and 2 unit residences located within the 65+DNL noise contour that have been previously insulated or meet the FAA's sound insulation guidelines for interior noise levels

The Voluntary Sound Insulation Program will reduce aircraft noise inside a home by upgrading windows, doors and ventilation systems. To be eligible, homeowners must execute a Homeowner Participation Agreement. The County will provide all materials and labor, valued at an estimated \$81,250.00 per unit.

The Mobile Home Park Acquisition Program will seek to voluntarily acquire the Marshalls Everglade Mobile Home Park and the Ocean Waterway Mobile Home Park. This program will involve the voluntary acquisition of the mobile home park land followed by the acquisition of the individual mobile home units and relocation of the tenants. The County will then coordinate with the City of Dania Beach to rezone the land. The land will be sold on the open market to provide a compatible land use and the proceeds will be available for use pursuant to this Noise Mitigation Plan.

The Voluntary Sales Assistance Program will begin one year after the completion of the Voluntary Sound Insulation Pilot Program. Each participating owner will be responsible for marketing and selling their property. The listing price of the property will be based on the Fair Market Value as established by a state certified real estate appraiser following federal appraisal guidelines. The County will provide a cost differential taking into consideration the property's appraised value and the property's purchase price on the open market, as well as reimburse the owner's eligible costs of the closing. This program will be available to single-family and duplex (two unit) residences located within the 65+ DNL noise contour that have been previously sound insulated or meet the FAA's interior noise levels for sound insulation programs. Such properties will be eligible whether or not they are owner-occupied. To protect the area's housing market, a maximum of 22 homes per year will be eligible for participation in this program²⁹.

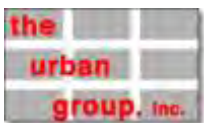
The estimated total cost for the noise mitigation programs in this Noise Mitigation Plan is \$236 million which presumes 100 percent participation by eligible persons for all programs. Anticipated costs include \$116 million for the Voluntary Sound Insulation Program, \$56 million for the Voluntary Sales Assistance Program and \$64 million for the Voluntary Mobile Home

²⁹ Based on Market Conditions

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

Park Acquisition Program. The County will fully fund the noise mitigation programs described in this Noise Mitigation Plan. The County has set aside \$35 million in a Noise Mitigation Bank with funds raised through Passenger Facility Charges. The FAA will provide up to 80 percent of the estimated costs through Airport Improvement Program (AIP) funds and the County will provide 20 percent matching funds.

Appendix A: Broward County Mitigation Principles





AVIATION DEPARTMENT - Fort Lauderdale/Hollywood International Airport
100 Aviation Boulevard • Fort Lauderdale, Florida 33315 • 954-359-6100

November 9, 2007

Ms. Virginia Lane
Federal Aviation Administration (FAA) - Orlando District Office
5950 Hazeltine National Drive
Orlando, FL 32822-5024

Re: Broward County Proposed Noise Mitigation Principles

Ms. Lane:


Pursuant to the FAA's request, this letter represents the Broward County Aviation Department's (BCAD) submission of the Noise Mitigation Principles that are proposed for inclusion in the FAA's Environmental Impact Statement (EIS) and Record of Decision (ROD) associated with development and extension of the preferred runway alternative and other associated projects at the Fort Lauderdale-Hollywood International Airport (FLL). Below is an outline of the seven (7) noise mitigation principles the County is recommending to be considered by the FAA regarding existing and forecasted conditions for FLL.

1. **Apply the long-term/ultimate unrestrained contour** - Apply mitigation principles and identify mitigation eligibility areas using the long-term/ultimate unrestrained contour of the Runway Alternative approved in the ROD.
2. **Establish mitigation areas based on neighborhoods** - Utilizing the contours of the approved project; establish areas eligible for mitigation with the objective of keeping neighborhoods intact by incorporating natural boundaries and neighborhood blocks.
3. **Voluntary acquisition of mobile home parks in the +65 DNL** - Relocation of residents and acquisition of the mobile home park/business. Convert the property to a compatible use. In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, provide relocation assistance for residents to either County developed affordable housing or other locations. Future use of the acquired property would be controlled by recorded restrictive covenants.
4. **Sound proofing and easement** - Soundproofing offered to all eligible single- and multi-family units; in addition compensation for outdoor impacts will be offered above Uniform Appraisal Standards for Federal Land Acquisitions at a valuation that will be determined at implementation of the program.
5. **Purchase assurance / sales guarantee** - For those that decline soundproofing, implement a purchase assurance program to acquire the property at Fair Market Value. Future use of the acquired property would be controlled by recorded restrictive covenants.
6. **Voluntary acquisition of existing residentially zoned vacant parcels** - Voluntarily acquire existing residentially-zoned, vacant parcels at Fair Market Value and coordinate with the local communities to change the zoning and land use plan to compatible use. Future use of the acquired property would be controlled by recorded restrictive covenants.
7. **Provide noise mitigation in excess of minimum federal guidelines.**

Virginia Lane
November 9, 2007
Page Two

Please feel free to contact BCAD staff with any questions or concerns regarding this matter at (954) 359-6181.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kent George", with a long horizontal line extending to the right.

Kent George
Director of Aviation

cc: Bertha Henry, Interim County Administrator
Zach Williams, Assistant County Administrator
Dick Brossard, Assistant County Administrator
Debbie Bowers, Assistant to the County Administrator
Yasmi Govin, Assistant County Attorney
Doug Webster, Assistant to the Department Director, Aviation Department
Marc Gambrell, Acting Director of Planning & Development, Aviation Department

Appendix B: National Noise Mitigation Plan Survey

The consultant team surveyed 187 airports nationwide and identified 32 active and 22 completed noise mitigation programs:

- Sound Insulation programs: 32 active
- Sales Assistance programs: 2 active
- Purchase Assurance programs: 1 active

Each airport's sales assistance or purchase assurance program is unique due to regional variables including real estate market conditions, stakeholder input and maintaining the local tax base.

The County's Noise Mitigation Plan which includes voluntary sound insulation, voluntary mobile home park and mobile home unit purchase and voluntary sales assistance exceeds the standards set by other airports in the United States by offering sales assistance in conjunction with sound insulation.

The following table details 54 airports that offer either sound insulation, sales assistance or purchase assurance.

**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

National Noise Mitigation Programs that Utilize Sound Insulation, Sales Assistance or Purchase Assurance

	Rank ¹	Airport	Total Units	Sound Insulation	Sales Assistance.	Purchase Assurance
Active Noise Mitigation Programs	1	Atlanta, GA, (ATL)	3,350	Yes	No	No
	2	Chicago, IL, (ORD)	11,000	Yes	No	No
	3	Los Angeles, CA (LAX)	8,000	Yes	No	No
	7	Las Vegas, NV (LAS)	1,130	Yes	Yes	No
	9	Phoenix, AZ (PHX)	1,700	Yes	No	No
	16	Minneapolis, MN (MSP)	8,500	Yes	No	No
	18	Philadelphia, PA (PHL)	600	Yes	No	No
	19	Boston, MA (BOS)	9,500	Yes	No	No
	27	San Diego, CA (SAN)	10,000	Yes	No	No
	29	Chicago, IL (MDW)	6,000	Yes	No	No
	30	St. Louis, MO (STL)	1,700	Yes	No	No
	45	San Antonio, TX (SAT)	1,924	Yes	No	No
	46	Indianapolis, IN (IND)	1,498	Yes	No	Yes
	51	Columbus, OH (CMH)	800	Yes	No	No
	54	Ontario, CA (ONT)	1,260	Yes	No	No
55	Hartford, CT (BDL)	638	Yes	No	No	

¹Source: The Jones Payne Group. The rank is based on annual enplanements



Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project

	Rank ¹	Airport	Total Units	Sound Insulation	Sales Assistance	Purchase Assurance
Active Noise Mitigation Programs	57	Buffalo, NY (BUF)	1,740	Yes	No	No
	59	Anchorage, AK (ANC)	969	Yes	No	No
	60	Burbank, CA (BUR)	1,520	Yes	No	No
	61	Reno, NV (RNO)	3,000	Yes	No	No
	63	Tucson, AZ (TUS)	1,600	Yes	No	No
	66	Louisville, KY (SDF)	1,200	Yes	No	No
	71	Tulsa, OK (TUL)	2,447	Yes	Yes	No
	75	Long Beach, CA (LGB)	27	Yes	No	No
	104	Fresno, CA (FAT)	2,500	Yes	No	No
	113	Gulfport, MA (GPT)	700	Yes	No	No
	115	Baton Rouge, LA (BTR)	1,391	Yes	Yes	No
	120	Allentown, PA (ABE)	914	Yes	No	No
	143	Monterey, CA (MRY)	578	Yes	No	No
	--	Westfield-Barnes, MA (BAF)	324	Yes	No	No
	--	Westover, MA (CEF)	2,500	Yes	No	No
--	Pease, NH (PSM)	30	Yes	No	No	

¹Source: The Jones Payne Group. The rank is based on annual enplanements



Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project

	Rank ¹	Airport	Total Units	Sound Insulation	Sales Assistance	Purchase Assurance
Completed Programs	4	Dallas-Fort Worth, TX (DFW)	1,564	Yes	No	Yes (1 unit)
	8	Houston, TX (IAH)	175	Yes	No	No
	10	San Francisco, CA (SFO)	15,000	Yes	No	No
	11	Orlando, FL (MCO)	24	Yes	No	No
	13	Detroit, MI (DTW)	2,400	Yes	No	No
	14	Charlotte, NC (CLT)	1,000	Yes	No	No
	23	Baltimore, MD (BWI)	902	Yes	Yes	No
	26	Tampa, FL (TPA)	25	Yes	No	No
	32	Cincinnati, OH (CVG)	530	Yes	No	No
	33	Oakland, CA (OAK)	750	Yes	No	No
	35	Cleveland, OH (CLE)	2,958	Yes	No	No
	38	San Jose, CA (SJC)	2,600	Yes	No	No
	40	Nashville, TN (BNA)	3,295	Yes	No	Yes
	42	Santa Ana, CA (SNA)	464	Yes	No	Yes
	44	Pittsburgh, PA (PIT)	359	Yes	No	No
	53	West Palm Beach, FL (PBI)	308	Yes	No	No
64	Manchester, NH (MHT)	1,238	Yes	No	No	



**Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project**

¹Source: The Jones Payne Group. The rank is based on annual enplanements

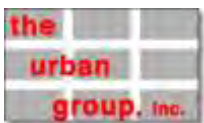
	Rank ¹	Airport	Total Units	Sound Insulation	Sales Assistance	Purchase Assurance
Completed Programs	38	San Jose, CA (SJC)	2,600	Yes	No	No
	40	Nashville, TN (BNA)	3,295	Yes	No	Yes
	42	Santa Ana, CA (SNA)	464	Yes	No	Yes
	44	Pittsburgh, PA (PIT)	359	Yes	No	No
	53	West Palm Beach, FL (PBI)	308	Yes	No	No
	64	Manchester, NH (MHT)	1,238	Yes	No	No
	81	Syracuse, NY (SYR)	470	Yes	No	No
	82	Greensboro, NC (GSO)	113	Yes	No	No
	93	Palm Springs, CA (PSP)	228	Yes	No	No
	125	Roanoke, VA (ROA)	102	Yes	No	Yes
	129	Shreveport, LA (SHV)	557	Yes	No	No

¹Source: The Jones Payne Group. The rank is based on annual enplanements



Noise Mitigation Plan
Fort Lauderdale-Hollywood International Airport
Runway 9R/27L Project

Appendix C: Market Absorption Study



ADRIAN GONZALEZ & ASSOCIATES, P.A.
REAL ESTATE APPRAISERS • CONSULTANTS • LICENSED BROKER

March 31, 2010

Mr. Howard W. Steinholz
 President
 The Urban Group, Inc.
 1424 South Andrews Avenue, Suite 200
 Fort Lauderdale, Florida 33316

**RE: Broward County Aviation Department Cost Estimating Consulting Services
 Updated Residential Absorption Analysis Task**

Dear Mr. Steinholz:

In accordance with your request, below is the scope of services for the above reference task:

- ◆ Research, review and analyze sales market data within the 3 designated areas of sales within a 16 month time period from November 2008 to March 2010.
- ◆ Sales will be subdivided into single family, condominiums (including townhouses) and multi-family.
- ◆ Establish a threshold of releasing additional residential units into the market place due to the project.
- ◆ Discuss the affects of foreclosures on this process
- ◆ Report the findings in a logical manner.

There are three neighborhood market areas identified in this analysis which primarily comprise of single family homes, duplexes, condominiums and apartment buildings. Each area's location will be described, with a synopsis of the market data findings of each particular area included on the following pages.

Area 1

Area 1 is described as being located west of I-95, lying between Griffin Road on the south and the Dania Cut-off Canal on the north, SW 36th Avenue on the west and SW 21st Avenue on the east.

Research of the Multiple Listing Service (MLS) this neighborhood yielded the following results for the 16 month time period from November 15, 2008 to March 15, 2010:

The total for single family houses was 32 listings which were either active (marketed), closed sales and pending sales. Below is a chart showing the number of listings.

Active Listings	Closed Listings	Pending Listings
15	12	5

March 31, 2010
Mr. Howard W. Steinholz
Page 2

The total for condo units was 8 listings which were either active (marketed), closed sales and pending sales. Below is a chart showing the number of active listings.

Active Listings	Closed Listings	Pending Listings
4	4	0

There were no multi-family building listings that were either active (marketed), closed sales or pending sales.

Absorption Rates for Area 1

Single Family Units

Based on MLS, there have been 12 closed sales over the past 16 months which indicates an absorption rate of .75 sales per month. Based on the number of active listings it will take about 20 months to sell the existing inventory in this area.

Condo Units

Based on MLS, there have been 4 closed sales over the past 16 months which indicates an absorption rate of .25 sales per month. Based on the number of active listings it will take about 16 months to sell the existing inventory in this area.

Foreclosures

There was one property listed as active single family home listed as REO (Real Estate Owned), four of the closed sales were REO and one pending. In the condo category, one active listing indicated it was an REO and three closed sales were REO.

Area 2

Area 2 is described as being located east of I-95 and south of the airport, lying between New & Old Griffin Roads and west of Federal Highway (US-1).

Research of the Multiple Listing Service (MLS) this neighborhood yielded the following results for the 16 month time period from November 15, 2008 to March 15, 2010:

The total for single family houses was 27 listings which were either active (marketed), closed sales and pending sales. Below is a chart showing the number of active listings.

Active Listings	Closed Listings	Pending Listings s
13	14	0

There are no condo units in this market area.

The total for multi-family units (mostly duplexes) was 1 listing is a pending sale. Below is a chart showing the number of listings.

Active Listings	Closed Listings	Pending Listings
0	0	1

March 31, 2010
Mr. Howard W. Steinholz
Page 3

Foreclosures

There were three properties listed as active single family homes listed as REO (Real Estate Owned) and one of the closed sales was an REO. There was none indicated in the multi-family category.

Absorption Rates for Area 2

Single Family Units

Based on MLS, there have been 14 closed sales over the past 16 months which indicates an absorption rate of .88 sales per month. Based on the number of active listings it will take about 15 months to sell the existing inventory in this area.

Condo Units

There are no condos located in this area.

Multi-family Units

Based on MLS, there have been no closed sales over the past 16 months. There is one pending listing. Since there are no records of sales within the past 16 months in this market area, an absorption rate cannot be determined for this classification.

Area 3

Area 3 is described as being located east of Federal Highway (US-1), between NE 5th Avenue and Gulfstream Road and south of the Dania Cut-off Canal.

Research of the Multiple Listing Service (MLS) this neighborhood yielded the following results for the 16 month time period from November 15, 2008 to March 15, 2010:

The total for single family houses was 4 listings which were either active (marketed), closed sales and pending sales. Below is a chart showing the number of active listings.

Active Listings	Closed Listings	Pending Listings
1	3	0

The total for condo units was 37 listings which were either active (marketed), closed sales and pending sales. Below is a chart showing the number of active listings.

Active Listings	Closed Listings	Pending Listings s
15	16	6

There are two apartment complexes located within the area and they have not sold and/or are on the market for sale based on MLS.

March 31, 2010
Mr. Howard W. Steinholz
Page 4

Foreclosures

There were no single family properties as REO (Real Estate Owned). In the condo category, two active listings indicated they were REO and eight closed sales were REO.

Absorption Rates for Area 3

Single Family Units

Based on MLS, there have been 3 closed sales over the past 16 months which indicates an absorption rate of .19 sales per month. Based on the number of active listings it will take about 5 months to sell the existing inventory in this area.

Condo Units

Based on MLS, there have been 16 closed sales over the past 16 months which indicates an absorption rate of 1.0 sale per month. Based on the number of active listings it will take about 15 months to sell the existing inventory in this area.

Multi-family Units

There are two apartment complexes located within this area. Neither has sold in recent years and MLS has no listings within the immediate area. Thus, an absorption rate for this area cannot be determined. Sales of these types of properties would have to have an expanded market area.

Effects of Foreclosures on the Market

Forecloses within a neighborhood may or may not affect values or marketability. It depends on the number of foreclosures, since purchasing a foreclosed property posed risks to a potential buyer. A foreclosed property takes longer to purchase and may have been neglected for a period of time. Foreclosed properties are typically purchased "as-is" Therefore, buyer may face potential additional maintenance costs that are not typically found in a typical dwelling for sale that has been occupied. If there's sufficient buyer demand and/or properties are fairly different from each other, having a foreclosure property added as a listing shouldn't affect the values or marketability of surrounding properties.

March 31, 2010
Mr. Howard W. Steinholz
Page 5

Conclusions

Based on the period analyzed current market conditions it appears that in all three neighborhood market areas the absorption rates for all types of units have increased.

Thus, based on this analysis, it is apparent that if more residential units were to be placed on the market at this time, the absorption rate would decline based on data analyzed. However, the real estate market is “elastic”, that it expands and contracts. Since we are currently in a down market, the expectation is that this will change in the future and the absorption rates will change with it. However, current economic trends indicate that this may not happen for least another year.

Another consideration regarding absorption is that fact that if houses are purchased, sound insulated and placed back on the market a “*submarket*” is created for these homes. This submarket in essence would create a lowering of asking prices by those existing listing owners marketing their properties for sale who haven’t relied on assistant from the county.

In addition, if the units placed back on the market have been modified/remodeled, these units may not have the same absorption rates as other units on the market which were not modified/remodeled in compliance with the noise mitigation program

We appreciate the opportunity to be of service to you. If you have any further questions, please do not hesitate to contact me at (954) 916-3400.

Respectfully submitted,
ADRIAN GONZALEZ & ASSOCIATES, P.A.



G. Adrian Gonzalez, Jr., ASA
President
State-Certified General Real Estate Appraiser
License Number RZ 1555
Enclosures



QUALIFYING ASSUMPTIONS AND LIMITING CONDITIONS

1. The purpose of this to estimate is to provide the client, **Broward County Aviation Department (BCAD)**, through **The Urban Group/Earth Tech (TUG/ET)**, an absorption analysis of residential units for three specific areas.
2. This assignment is provided for information and planning purposes only.
3. Resources used to provide this estimate include: *First American Real Estate Solutions*®, *Google Earth* aerial photography, Broward County Property Appraiser's Pages, the Multiple Listing Services, as well as other pertinent real estate information found in our files. Sales/listing dates range from 2008 to present.
4. Information furnished by others is assumed to be true, correct and reliable. A reasonable effort has been made to verify such information; however, the appraiser/consultant assumes no responsibility for its accuracy.
5. The appraiser/consultant, by reasons of this estimate, is not required to give testimony in court with reference to the any of the properties herein, nor is he obligated to appear before any governmental body, board or agent except those previously made.
6. Disclosure of the contents of this estimate is governed by the By-Laws and Regulations of the Professional Appraisal Organizations with which the appraisers are affiliated.
7. Employment in and compensation for making the estimate are in no manner contingent upon the indications of value reported.
8. Neither all, nor any part of the content of this estimate or copy thereof (including conclusions as to the estimated values, the identity of the providers, professional designations, reference to any professional organizations, or the firm with which the appraisers are connected); nor shall it be conveyed by anyone to the public through advertising, public relations, news, sales, or other media, without written consent and approval of the appraisers/consultants.
9. This report is prepared for the sole use of the Broward County Aviation Department and their consultant The Urban Group/Earth Tech (Aecom), for planning purposes.