Appendix C

FINAL EIS – ERRATA DOCUMENTS

Since the Final EIS was published in June 2008, errors have been identified and corrected. This appendix contains the corrected pages of text, tables, and exhibits from the Final EIS.

- *Executive Summary* – corrections to Exhibit ES-9, *2020 Alternative B1b Noise Exposure Contour*

- Chapter Five, *Affected Environment* – corrections to the text on Page 5c-6

- Chapter Eight, *FAA's Preferred Alternative* – corrections to Exhibit 8-4, *FAA's Preferred Alternative Noise Exposure Contour*

- Chapter Eight, *FAA's Preferred Alternative* – corrections to Exhibit 8-5, *FAA's Preferred Alternative – west of FLL*

- Chapter Eight, *FAA's Preferred Alternative* – corrections to Exhibit 8-6, *FAA's Preferred Alternative – south of FLL*

- Chapter Eight, *FAA's Preferred Alternative* – corrections to Table 8-11, *Summary of the Estimated Cost for Land Use Mitigation Inside and Outside the 65 DNL Noise Contour*

- Appendix E *Airfield Planning, Design, & Constructability Review* – corrections to Table E.1.8, *Tenant Facility Relocation Summary (acres)*

- Chapter Six, *Environmental Consequences* – corrections to Table 6.B-12 Maximum Criteria Pollutant Design Concentrations and Table 6.B-13 Impact of Criteria Pollutant Concentrations

- Appendix E *Airfield Planning, Design, & Constructability Review* – corrections to Exhibit E.1-15, *Potential Tenant Relocation Siting Area – Alternative C1*

- Appendix F *Net Benefits Analysis* corrections to Section F.6.4 *Alternative B4 Sensitivity Analysis*

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	65-70 DNL	70-75 DNL	75+ DNL	65+
Unmitigated Housing Units in the 65+ DNL of the 2020 B1b Contour				
Dania Beach				
Single Family	550	21	0	571
Multi Family	360	30	0	390
Mobile Home	90	0	0	90
TOTAL HOUSING UNITS	1000	51	0	1051
Population				
Total Population	2,344	127	0	2,471

Outside 65 DNL	Outside 65 DNL	Outside 65 DNL
Unmitigated Housing Units Outside		
the 65+ DNL of the 2020 B1b Contour		
212	315	0
3	215	0
0	58	222
215	586	222
Population		
490	1394	300

65 DNL
70 DNL
75 DNL

Legend

- Single-Family
- Multi-Family
- Mobile Home
- New Runway Pavement
- City Limits
- Water
- FLL Property Boundary

0 1,500 Feet

NOTE: ES-9 and 8-4 are the same exhibit

N

Environmental Impact Statement
Fort Lauderdale-Hollywood International Airport

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Filename:C:\Data\env_fll\GIS\GIS\ArcView\MXDs\ES-9_2020 Alternative B1b Contour .mxd fll2020b1b

FAA's Preferred Alternative Noise Exposure Contour

Exhibit: **ES-9**

ADDENDUM – CHAPTER FIVE AFFECTED ENVIRONMENT

SECTION 5.C.1 – NOISE

Page 5.C-6

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Table 5.C.1-1
TYPICAL PERCENTAGE OF PERSONS HIGHLY DISTURBED BY AIRCRAFT NOISE BY TYPE OF ACTIVITY

ACTIVITY TYPE	PERCENT ANNOYED
TV/Radio Reception	20.6
Conversation	14.5
Telephone	13.8
Relaxing Outside	12.5
Relaxing Inside	10.7
Listening to Records/Tapes	9.1
Sleep	7.7
Reading	3.3
Eating	3.5
Other	1.3

Source: Information on *Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, United States Environmental Protection Agency: Office of Noise Abatement and Control, March 1974.

The USEPA's Levels Document identified noise levels for protection from hearing loss. The outdoor DNL of 55 dB is identified as that level which, if not exceeded, will protect the public health and welfare with an adequate margin of safety. This is based on the following factors: (1) The identified protective level indoors (to preclude speech interference) is DNL 45 dB; (2) Assuming an attenuation outdoors-to-indoors of 15 dB (which is an average amount of sound attenuation that assumes partly-open windows), the corresponding outdoor level is DNL 60 dB; and (3) A "margin of safety" of 5 dB is applied to the outdoor identified level to account for other adverse effects on activity interference and annoyance as well as for the most sensitive fraction of the population. (USEPA 1974)

Social surveys show that interference with sleep is noted as a contributor to annoyance for nearly eight percent of the population surveyed. Physiological studies show that sleep interference can exist without a person being consciously awakened. Numerous studies on sleep interference have been conducted, with varying conclusions as to the effect of noise on sleep.

One study concludes that, with adjustments for comparable measures of noise, it can be expected that approximately 30 percent of the population could be aroused or awakened if [redacted] levels reached 80 to 95 dB, depending on window configuration (open or closed) and quality of the residential construction.[3]

The degree to which noise interferes with indoor speech depends not only on physical factors such as noise levels, distance between the speaker and listener, and room acoustics, but also on non-physical factors such as the speaker's enunciation and the listener's interest in, and familiarity with the topic. The effects of noise interference on normally voiced speech indoors are graphically depicted on Exhibit 5.C.1-2, Impacts on Speech Communication. The highest steady noise that allows normal conversation throughout an average room with 100 percent

[3] *Noise and Sleep*, Journal of the Acoustical Society of America, Lukas, Volume 58, Number 6, December 1975.

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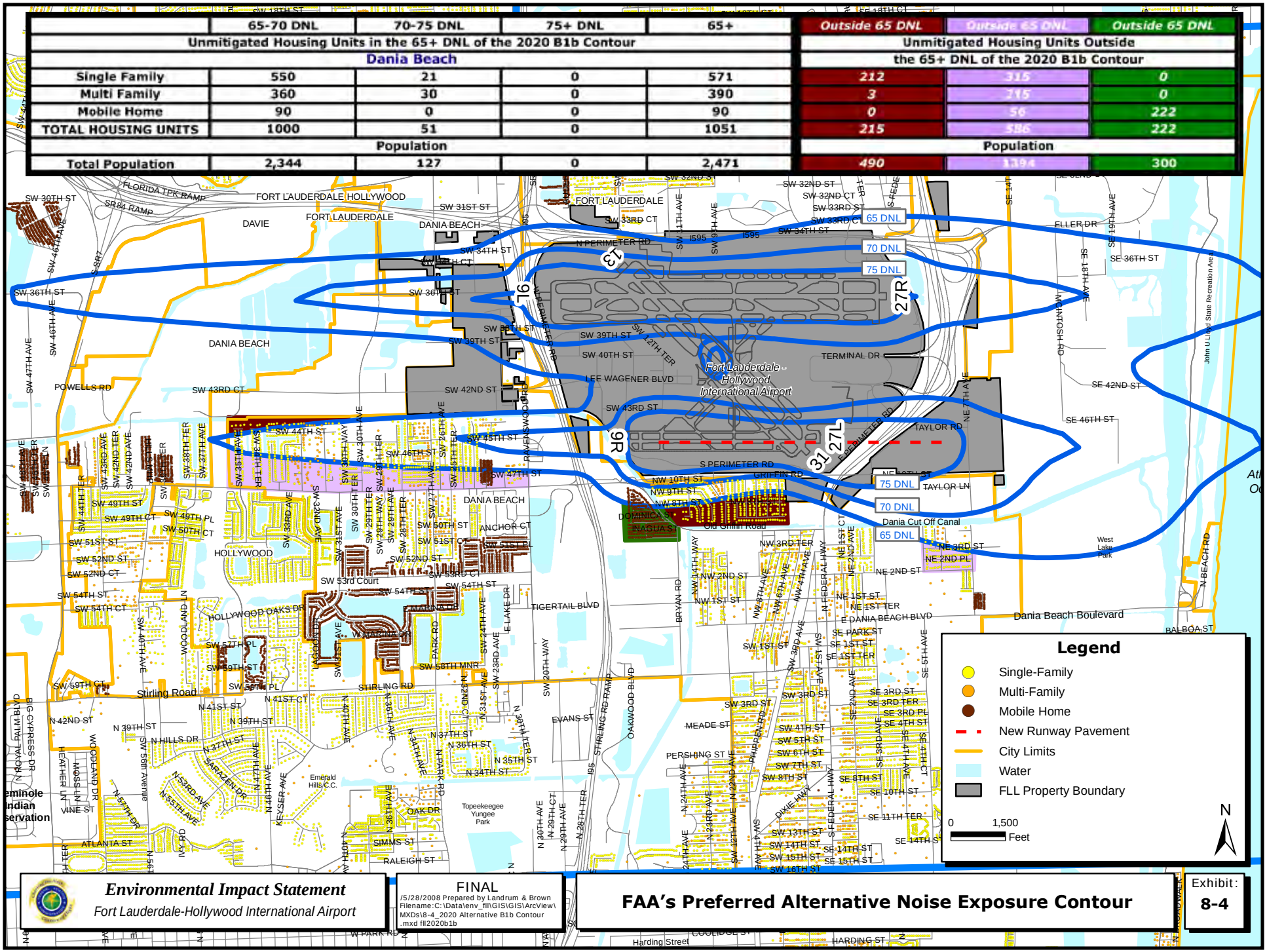
	65-70 DNL	70-75 DNL	75+ DNL	65+	Outside 65 DNL	Outside 65 DNL	Outside 65 DNL
Unmitigated Housing Units in the 65+ DNL of the 2020 B1b Contour					Unmitigated Housing Units Outside		
Dania Beach					the 65+ DNL of the 2020 B1b Contour		
Single Family	550	21	0	571	212	315	0
Multi Family	360	30	0	390	3	215	0
Mobile Home	90	0	0	90	0	56	222
TOTAL HOUSING UNITS	1000	51	0	1051	215	586	222
Population					Population		
Total Population	2,344	127	0	2,471	490	1394	300



Environmental Impact Statement
Fort Lauderdale-Hollywood International Airport

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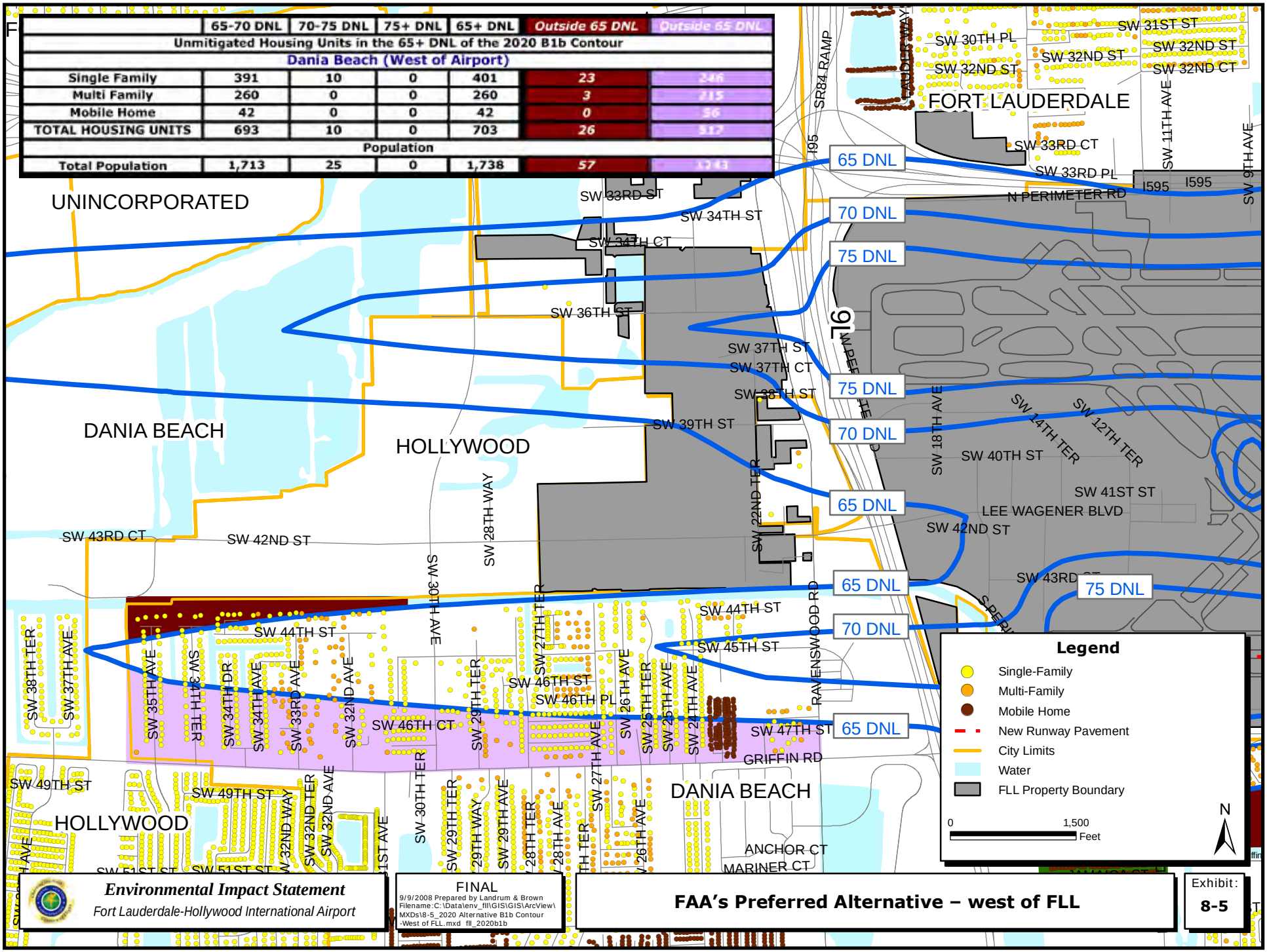
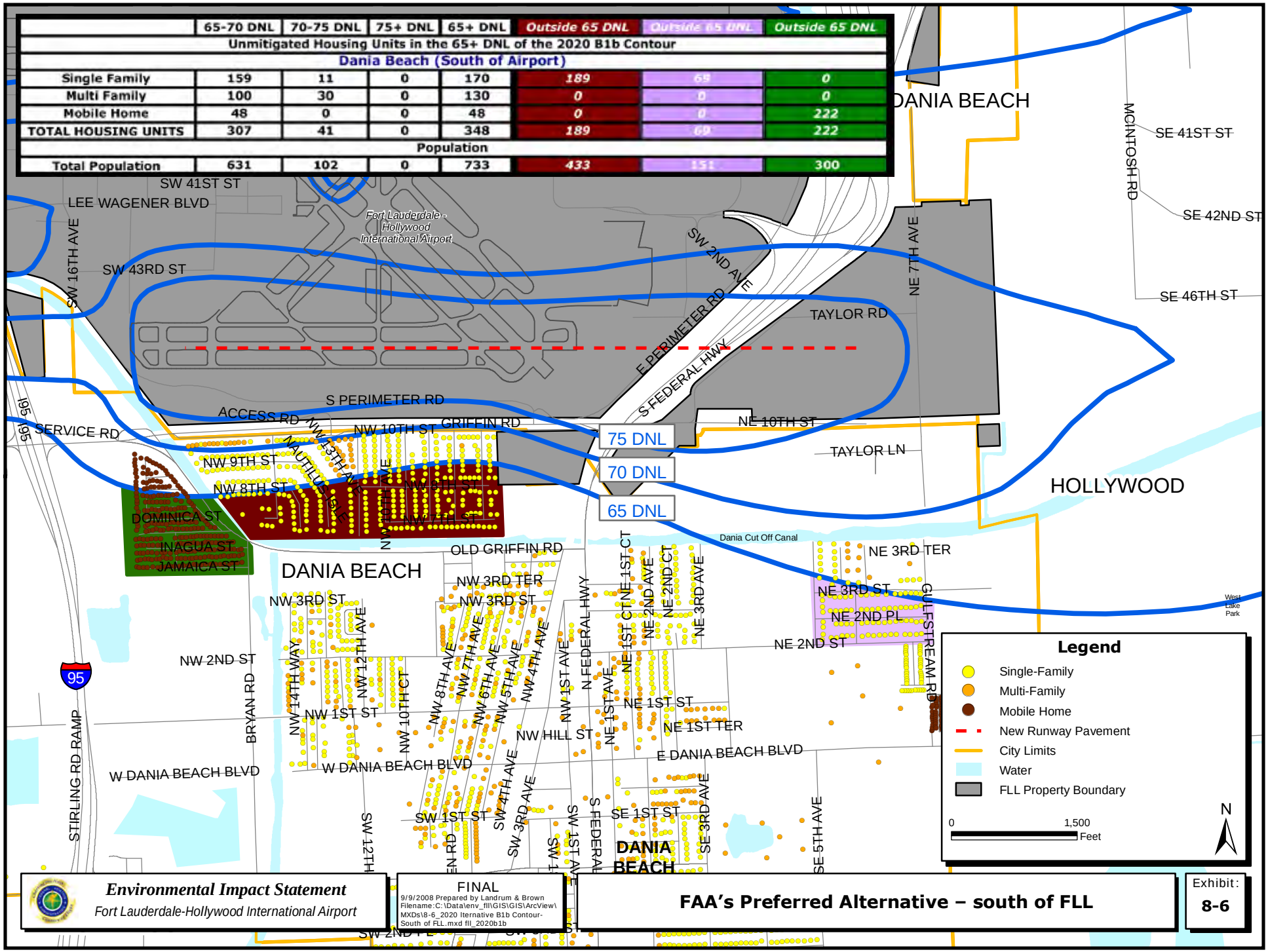
Filename:C:\Data\env_fll\GIS\GIS\ArcView\MXDs\8-4_2020 Alternative B1b Contour .mxd fll2020b1b

FAA's Preferred Alternative Noise Exposure Contour

Exhibit: **8-4**


65-70 DNL | 70-75 DNL | 75+ DNL | 65+ DNL | Outside 65 DNL | Outside 65 DNL
Unmitigated Housing Units in the 65+ DNL of the 2020 B1b Contour
Dania Beach (West of Airport)
Single Family | 391 | 10 | 0 | 401 | 23 | 246
Multi Family | 260 | 0 | 0 | 260 | 3 | 215
Mobile Home | 42 | 0 | 0 | 42 | 0 | 56
TOTAL HOUSING UNITS | 693 | 10 | 0 | 703 | 26 | 517
Population
Total Population | 1,713 | 25 | 0 | 1,738 | 57 | 1243
UNINCORPORATED
DANIA BEACH
HOLLYWOOD
FORT LAUDERDALE
65 DNL
70 DNL
75 DNL
SW 33RD ST
SW 34TH ST
SW 34TH CT
SW 36TH ST
SW 37TH ST
SW 37TH CT
SW 38TH ST
SW 39TH ST
SW 40TH ST
SW 41ST ST
SW 42ND ST
SW 43RD CT
SW 44TH ST
SW 45TH ST
SW 46TH ST
SW 46TH PL
SW 46TH CT
SW 47TH ST
SW 49TH ST
SW 51ST ST
SW 30TH PL
SW 31ST ST
SW 32ND ST
SW 32ND CT
SW 33RD CT
SW 33RD PL
N PERIMETER RD
SR84 RAMP
I95
I595
SW 11TH AVE
SW 9TH AVE
SW 18TH AVE
SW 14TH TER
SW 12TH TER
SW 22ND TER
SW 28TH WAY
SW 30TH AVE
SW 27TH TER
SW 26TH AVE
SW 25TH TER
SW 25TH AVE
SW 24TH AVE
RAVENSWOOD RD
LEE WAGENER BLVD
GRIFFIN RD
ANCHOR CT
MARINER CT
SW 38TH TER
SW 37TH AVE
SW 35TH AVE
SW 34TH TER
SW 34TH DR
SW 34TH AVE
SW 33RD AVE
SW 32ND AVE
SW 32ND TER
SW 32ND WAY
SW 31ST AVE
SW 30TH TER
SW 29TH TER
SW 29TH WAY
SW 29TH AVE
SW 28TH TER
SW 28TH AVE
SW 27TH AVE
SW 26TH TER
Legend
Single-Family
Multi-Family
Mobile Home
New Runway Pavement
City Limits
Water
FLL Property Boundary
0
1,500
Feet
N
Environmental Impact Statement
Fort Lauderdale-Hollywood International Airport
FINAL
9/9/2008 Prepared by Landrum & Brown
Filename:C:\Data\env_fll\GIS\GIS\ArcView\MXDs\8-5_2020 Alternative B1b Contour -West of FLL.mxd fll_2020b1b
FAA's Preferred Alternative – west of FLL
Exhibit:
8-5


65-70 DNL | 70-75 DNL | 75+ DNL | 65+ DNL | Outside 65 DNL | Outside 65 DNL | Outside 65 DNL
Unmitigated Housing Units in the 65+ DNL of the 2020 B1b Contour
Dania Beach (South of Airport)
Single Family | 159 | 11 | 0 | 170 | 189 | 69 | 0
Multi Family | 100 | 30 | 0 | 130 | 0 | 0 | 0
Mobile Home | 48 | 0 | 0 | 48 | 0 | 0 | 222
TOTAL HOUSING UNITS | 307 | 41 | 0 | 348 | 189 | 69 | 222
Population
Total Population | 631 | 102 | 0 | 733 | 433 | 151 | 300
DANIA BEACH
SE 41ST ST
MCINTOSH RD
SE 42ND ST
SE 46TH ST
SW 41ST ST
LEE WAGENER BLVD
Fort Lauderdale - Hollywood International Airport
SW 16TH AVE
SW 43RD ST
SW 2ND AVE
NE 7TH AVE
TAYLOR RD
E PERIMETER RD
S FEDERAL HWY
S PERIMETER RD
ACCESS RD
NW 10TH ST
GRIFFIN RD
NE 10TH ST
I95
SERVICE RD
75 DNL
70 DNL
65 DNL
TAYLOR LN
HOLLYWOOD
NW 9TH ST
NW 8TH ST
DOMINICA ST
INAGUA ST
JAMAICA ST
NW 13TH AVE
NAUTILUS ISLE
NW 11TH AVE
NW 12TH ST
Dania Cut Off Canal
OLD GRIFFIN RD
DANIA BEACH
NW 3RD TER
NW 3RD ST
NE 3RD TER
NE 3RD ST
NE 2ND PL
NE 2ND ST
GULFSTREAM RD
West Lake Park
NW 2ND ST
NW 14TH WAY
NW 12TH AVE
NW 10TH CT
NW 8TH AVE
NW 7TH AVE
NW 6TH AVE
NW 5TH AVE
NW 4TH AVE
NW 1ST AVE
N FEDERAL HWY
NE 1ST CT
NE 2ND AVE
NE 2ND CT
NE 3RD AVE
NE 1ST AVE
NE 1ST ST
NE 1ST TER
NW 1ST ST
NW HILL ST
E DANIA BEACH BLVD
W DANIA BEACH BLVD
BRYAN RD
STIRLING RD RAMP
SW 1ST ST
SW 4TH AVE
SW 3RD AVE
SW 1ST AVE
S FEDERAL HWY
SE 1ST ST
SE 3RD AVE
SE 5TH AVE
DANIA BEACH
Legend
Single-Family
Multi-Family
Mobile Home
New Runway Pavement
City Limits
Water
FLL Property Boundary
0
1,500
Feet
N
Environmental Impact Statement
Fort Lauderdale-Hollywood International Airport
FINAL
9/9/2008 Prepared by Landrum & Brown
Filename:C:\Data\env_fll\GIS\GIS\ArcView\MXDs\8-6_2020 Iternative B1b Contour-South of FLL.mxd fll_2020b1b
FAA's Preferred Alternative – south of FLL
Exhibit:
8-6

ADDENDUM – CHAPTER EIGHT
TABLE 8-11

The estimated total cost of a voluntary acquisition program for eligible mobile home units and the individually owned parcels in the Ocean Waterway mobile home community is $41,763,750.

8.6.2.8 Total Estimated Cost of Land Use Mitigation Programs

Table 8-11, *Summary of the Estimated Cost for Land Use Mitigation Inside and Outside the 65 DNL Noise Contour*, provides a summary of all of the calculated cost estimates for the implementation of the recommended land use mitigation measures within the 65 DNL of the FAA's Preferred Alternative. This information is provided for planning, scheduling, and funding purposes.

The summary of the mitigation cost estimates include:

- Sound insulation – only
- Purchase Assurance/Sales Assistance – with Sound Insulation
- Voluntary Acquisition of Mobile Home Units and Property in the Ocean Waterway mobile home community (the underlying land use and zoning for the acquired property would be changed to a compatible use)
- Acquisition of Mobile Home Units and the Marshalls Everglade mobile home community (the underlying land use and zoning for the acquired property would be changed to a compatible use)

Table 8-11
SUMMARY OF THE ESTIMATED COST FOR LAND USE MITIGATION INSIDE AND OUTSIDE THE 65 DNL NOISE CONTOUR
Fort Lauderdale-Hollywood International Airport

SOUND INSULATION – ONLY

Incompatible Land Use		Estimated Cost Per Unit Sound Insulation	Number of Units	ESTIMATED TOTAL
Inside 65 DNL	Single-Family	$65,000	571	$37,115,000
	Multi-Family	$35,000	390	$13,650,000
	25 percent program and administrative cost**			$12,691,250
Subtotal – *Mitigation Inside 65 DNL*				**$63,456,250**
Outside 65 DNL	Single-Family	$65,000	527	$34,255,000
	Multi-Family	$35,000	218	$7,630,000
	25 percent program and administrative cost**			$10,471,250
Subtotal – *Mitigation Outside 65 DNL*				**$52,356,250**
GRAND TOTAL – SOUND INSULATION PROGRAM				**$115,812,500**

Table 8-11, *Continued*
SUMMARY OF THE ESTIMATED COST FOR LAND USE MITIGATION INSIDE AND OUTSIDE THE 65 DNL NOISE CONTOUR
Fort Lauderdale-Hollywood International Airport

ESTIMATED COST FOR PURCHASE ASSURANCE WITH SOUND INSULATION

This analysis assumes that the properties can be resold by Broward County for an estimated 50 percent of the original purchase price. This estimate is based on a per-unit cost of $325,000 for single-family and $140,000 for multi-family.

ESTIMATED		Estimated Cost Per Unit Purchase Assurance	Estimated Cost Per Unit Sound Insulation	Number of Units	ESTIMATED TOTAL
Inside 65 DNL	Single-Family	$325,000	$65,000	571	$129,902,500
	Multi-Family*	$140,000	$35,000	390	$40,950,000
	25 percent program and administrative cost**				$42,713,125
Subtotal – *Mitigation Inside 65 DNL*					**$213,565,625**
Outside 65 DNL	Single-Family	$325,000	$65,000	527	$119,892,500
	Multi-Family*	$140,000	$35,000	218	$22,890,000
	25 percent program and administrative cost**				$35,695,625
Subtotal – *Mitigation Outside 65 DNL*					**$178,478,125**
GRAND TOTAL – PURCHASE ASSURANCE					**$392,043,750**

ESTIMATED COST FOR SALES ASSISTANCE WITH SOUND INSULATION

This analysis assumes that the seller would receive at least 85 percent of the sale price for a property and Broward County would contribute the remaining 15 percent to assure the seller 100 percent of the asking price. This estimate is based on a per-unit cost of $325,000 for single-family and $140,000 for multi-family.

Incompatible Land Use		Estimated Cost Per Unit Sales Assistance	Estimated Cost Per Unit Sound Insulation	Number of Units	ESTIMATED TOTAL
Inside 65 DNL	Single-Family	$325,000	$65,000	571	$64,951,250
	Multi-Family*	$140,000	$35,000	390	$21,840,000
	25 percent program and administrative cost**				$21,697,813
Subtotal – *Mitigation Inside 65 DNL*					**$108,489,063**
Outside 65 DNL	Single-Family	$325,000	$65,000	527	$59,946,250
	Multi-Family*	$140,000	$35,000	218	$12,208,000
	25 percent program and administrative cost**				$18,038,563
Subtotal – *Mitigation Outside 65 DNL*					**$90,192,813**
GRAND TOTAL – SALES ASSISTANCE					**$198,681,875**

Table 8-11, *Continued*
SUMMARY OF THE ESTIMATED COST FOR LAND USE MITIGATION INSIDE AND OUTSIDE THE 65 DNL NOISE CONTOUR
Fort Lauderdale-Hollywood International Airport

VOLUNTARY ACQUISITION – MOBILE HOME UNITS AND PROPERTY

Incompatible Land Use		Estimated Cost Per Unit	Number of Units	ESTIMATED TOTAL
Inside 65 DNL	Mobile Home Unit on Leased Parcel *Marshalls Everglade*	$100,000	42	$4,200,000
	Mobile Home Unit and Land on Occupant-Owned Parcel *Ocean Waterway Co-Op*	$150,500	48	$7,224,000
	25 percent program and administrative cost**			$2,856,000
	Subtotal – *Mitigation Inside 65 DNL*			**$14,280,000**
Outside 65 DNL	Mobile Home Unit on Leased Parcel *Marshalls Everglade*	$100,000	56	$5,600,000
	Mobile Home Unit and Land on Occupant-Owned Parcel *Ocean Waterway Co-Op*	$150,500	222	$33,411,000
	25 percent program and administrative cost**			$9,752,750
	Subtotal – *Mitigation Outside 65 DNL*			**$48,763,750**
	Subtotal – *Purchase the Marshalls Everglade Mobile Home Park Property****			**$1,316,020**
GRAND TOTAL – MOBILE HOME UNITS AND PROPERTY				**$64,359,770**

Note: The potential mitigation areas outside of the 65 DNL noise contour only include contiguous residential neighborhoods/subdivisions.

The estimated cost per unit provides an order of magnitude cost estimate for program level comparisons. The actual program costs will be dependent on how Broward County defines the Purchase Assurance Program and the Sales Assistance Program pursuant to the mitigation recommendations in their current 14 CFR Part 150 Study Update. The costs presented in this EIS represent a 'worst case' scenario for planning purposes.

Purchase Assurance/Sales Assistance costs are based on information provided by Broward County Aviation Department (*Noise Mitigation Assistance Program*, prepared by The Urban Group, in association with Earth Tech and The Jones Payne Group. Version 2, 02/27/07). This information is provided for information and planning purposes only. It is not to be construed as an assessment of fair market value for the areas identified for potential mitigation in this EIS.

Participation in the Purchase Assurance/Sales Assistance Program recommended for this EIS would be voluntary on the part of all homeowners and property owners, therefore, no relocation assistance costs have been included in these estimates.

Sound Insulation Program costs are based on information provided by Broward County. The FAA assumes these costs were developed for Broward County based on the existing housing stock and other comparable FLL sound insulation programs. (Source: (Jacobs Consultancy PowerPoint Presentation made to the Broward County Board of County Commissioners at a Public Hearing on the 14 CFR Part 150 Noise Compatibility Study Update, March 14, 2007).

Table 8-11, *Continued*
SUMMARY OF THE ESTIMATED COST FOR LAND USE MITIGATION INSIDE AND OUTSIDE THE 65 DNL NOISE CONTOUR
Fort Lauderdale-Hollywood International Airport

VOLUNTARY ACQUISITION – MOBILE HOME UNITS AND PROPERTY

* The order of magnitude cost estimate calculated for multi-family units is based on the cost data provided in the Broward County Aviation Department, *Noise Mitigation Assistance Program*. The total purchase price of all rental apartment developments (in the County's study areas) produced a weighted average of $140,000 per unit for rental apartments.

** The estimated cost per unit and the 25 percent program and administrative costs are based on information provided by Broward County (Source: Jacobs Consultancy PowerPoint Presentation made to the Broward County Board of County Commissioners at a Public Hearing on the 14 CFR Part 150 Noise Compatibility Study Update, March 14, 2007).

*** Based on information from the Broward County Property Appraiser's Office (February 2008), the Marshalls Everglade Subdivision land is appraised at $1,316,020 for approximately 5.5 acres. Without a proper appraisal, the approximate value of this land on the open market is not known at this time. Therefore, the Property Appraiser's value is what is being used to estimate the possible mitigation program costs.

Source: Landrum & Brown, 2008 [REVISED: October 2008]

8.6.2.9 Federal Funding of Mitigation

As summarized in Section 8.6.2.1, *Broward County Proposed Noise Mitigation Principles*, the FAA reviewed Broward County's mitigation principles and determined that four of the proposed principles were appropriate for recommendation in the EIS to address the noise impacts to incompatible land use:

- Each of the mitigation measures will address a neighborhood/subdivision area as a whole to ensure, to the extent practicable, that community cohesion will be maintained
- Acquisition of mobile home units and the relocation of residents
- Sound insulation of eligible single-family and multi-family units
- Purchase guarantee/sales assistance (with sound insulation) for eligible single-family and multi-family units

Because the noise impacts to incompatible land uses inside the 65+ DNL are attributable to the implementation of the FAA's Preferred Alternative, the FAA would participate in the funding of this mitigation.

8.6.2.10 Implementation of FAA-Approved Mitigation Programs

To determine the priority for distributing funds, the FAA follows the planning guidance in FAA Order 5100.39A, *Airports Capital Improvement Plan (ACIP),* to systematically identify, prioritize, and assign funds to critical airport development and associated capital needs for the National Airspace System (NAS). The ACIP also serves as the basis for distributing grant funds under the Airport Improvement Program (AIP).

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Table E.1-8

Tenant Facility Relocation Summary (acres) [1/]

	Alternative							
	A	**B1**	**B1b / B1c**	**B4**	**B5**	**C1**	**D1**	**D2**
Total Tenant Displacements:								
Airside:								
Aifield Access Required by Aircraft [2/]	-	8.3	8.3	19.0	5.0	143.8 [3/]	152.1 [3/]	162.8 [3/]
AOA Access Required by Vehicles Only [3/]	-	2.1	2.1	2.1	2.1	11.8	11.8	11.8
Total Airside Facility Impacts	-	10.3	10.3	21.0	7.1	155.6	163.9	174.6
Non-Airside Facility Impacts	-	8.3	8.3	6.5	8.3	105.9	105.9	105.9
Total:	**-**	**18.6**	**18.6**	**27.6**	**15.4**	**261.5**	**269.8**	**280.5**
Existing Airport Property Potentially Available for Redevelopment:								
Airside:								
Aifield Accessisble by Aircraft	83.9	47.7	47.7	84.9	47.7	152.0	119.6	154.6
Aircraft Accessibility for Vehicles Only	-	-	-	-	-	30.4	30.4	30.4
Total Airside Property Available	83.9	47.7	47.7	84.9	47.7	182.4 [4/]	150.1 [4/]	185.0 [4/]
Non-Airside Property Available	151.0	105.5	105.5	141.7	66.6	151.0 [5/]	105.5 [5/]	141.7 [5/]
Total:	**234.9**	**153.2**	**153.2**	**226.6**	**114.2**	**333.4**	**255.6**	**326.7**
Surplus/Deficiency:								
Airside:								
Aifield Accessisble by Aircraft	83.9	39.4	39.4	65.9	42.6	8.2	**(32.4)**	**(8.2)**
Aircraft Accessibility for Vehicles Only	-	(2.1)	(2.1)	(2.1)	(2.1)	18.6	18.6	18.6
Airside	83.9	37.4	37.4	63.9	40.6	26.8	**(32.4)**	**(8.2)**
Non-Airside	151.0	97.3	97.3	135.1	58.3	45.1	**(0.3)**	35.8
Total:	**234.9**	**134.6**	**134.6**	**199.0**	**98.9**	**71.9**	**(32.8)**	**(8.2)**

[1/] The values contained herein provide consideration for both "Direct" and "Indirect" tenant facility impacts. "Direct" impacts are those tenant leasehold areas that would be directly impacted by the proposed airfield development, while "Indirect" impacts include tenant facilities that could be relocated or reconfigured to accommodate those tenants directly impacted by the proposed airfield development. To ensure consistency and an accurate estimate of the surplus/deficiency values, the acreages associated with property available for redevelopment for Alternatives C1, D1 and D2 have been increased to provide consideration for those tenants that could be relocated/reconfigured (Indirect impacts). These areas primarily include those tenant facilities that are located on the west side of the Airport, immediately north of Lee Wagner Boulevard.

[2/] Airside facilities that require airside access by aircraft include those identified as General Aviation (GA), Fixed Base Operator (FBO), and/or all-cargo.

[3/] Airside facilities that require airside access by vehicles only include those identified as Aircraft Rescue-Fire Fighting (ARFF) and belly cargo.

[4/] The net property available for facility relocation within the west (airside) area has been reduced by 10 acres to account for wet detention required for water quality purposes.

[5/] The net property available for facility relocation within the remote west (non-aiside) area has been reduced by 5 acres to account for wet detention required for water quality purposes.

Sources: BCAD Tenant Leasehold Map, November, 2004; The Corradino Group.

Prepared By: The Corradino Group

ADDENDUM – EXECUTIVE SUMMARY

SECTION ES.6.2 – AIRPORT NOISE

Page 5.C-6

ES.6.2 AIRPORT NOISE

For the project year 2012, the population and number of residential housing units located within the 65+ DNL contour would increase for all alternatives as compared to the No Action Alternative. No noise-sensitive public facilities would be affected by noise levels at or above 65 DNL. The areas of the 2012 noise contours for the build alternatives ranges from 4.7 to 5.6 square miles, as compared to the No Action Alternative, which is 5.0 square miles. Alternative C1 would cause a decrease in the size of the noise exposure area compared to the 2012 No Action Alternative. *(See* Section 6.C, *Airport Noise.*)

By 2020, the area of noise exposure would not change with implementation of Alternatives B1, B1b, B1c, and D1; would decrease with implementation of Alternatives B4, C1, and D2; and would increase with implementation of Alternative B5 in comparison to the 2020 No Action Alternative. One noise-sensitive public facility would be impacted by noise levels at or above 65 DNL in 2020.

The supplemental Federal Interagency Committee on Noise (FICON) screening analysis conducted for each runway development alternative *(See* Section 6.C.1.1.9, *Significant Noise Analysis*) concluded that both a 1.5 dB increase and a 3 dB increase in noise would occur within the 65+ DNL noise contour for each of the runway development alternatives as compared to the 2012 No Action Alternative.

The noise screening analysis of potential impacts associated with all projected arrival and departure operations for 2012 between the altitudes of 3,000 feet and 10,000 feet Above Ground Level (AGL) *(See* Section 6.C.1.1.9, *Significant Noise Analysis*) indicates that none of the runway development alternatives would cause a significant (5 dB) change between the 45 and 60 DNL contour.

Table 6.B-12
MAXIMUM CRITERIA POLLUTANT DESIGN CONCENTRATIONS
Fort Lauderdale-Hollywood International Airport

ALTERNATIVES	MAXIMUM POLLUTANT CONCENTRATIONS ($\mu g/m^3$)								
	CO		NO_x	SO_x			PM_{10}	$PM_{2.5}$	
	1-HR	8-HR	ANNUAL	3-HR	24-HR	ANNUAL	24-HR	24-HR	ANNUAL
USEPA NAAQS	40,000	10,000	100	1,300	365	80	150	35	15
BACKGROUND CONCENTRATIONS	4,650.65	3,436.44	16.56	74.18	13.09	3.49	54.78	20.75	8.43
2005 Existing Conditions	26,919.89	9,160.52	96.93	125.13	26.65	7.20	60.87	25.80	10.24
2012 RUNWAY DEVELOPMENT ALTERNATIVES									
Alternative A	22,415.37	8,331.83	75.34	133.85	30.57	7.12	64.74	30.50	10.96
Alternative B1	22,260.88	8,316.37	74.46	119.68	26.52	6.84	63.25	28.92	10.80
Alternative B1b	22,260.88	8,318.06	74.47	119.70	26.53	6.84	63.25	28.92	10.80
Alternative B1c	22,257.29	8,330.01	74.48	120.78	26.58	6.88	63.33	29.00	10.82
Alternative B4	22,262.29	8,325.65	74.56	120.61	26.98	6.87	63.12	28.74	10.82
Alternative B5	22,260.83	8,319.76	74.57	119.93	26.55	6.87	63.27	28.94	10.81
Alternative C1	22,074.17	8,291.45	74.14	120.42	25.99	6.81	63.07	28.25	10.78
Alternative D1	22,260.88	8,318.06	74.47	119.70	26.53	6.84	63.25	28.92	10.80
Alternative D2	22,262.29	8,325.65	74.56	120.61	26.98	6.87	63.12	28.74	10.82

Table 6.B-12 (Continued)
MAXIMUM CRITERIA POLLUTANT DESIGN CONCENTRATIONS
Fort Lauderdale-Hollywood International Airport

ALTERNATIVES	MAXIMUM POLLUTANT CONCENTRATIONS ($\mu g/m^3$)								
	CO		NO_x	SO_x			PM_{10}	$PM_{2.5}$	
	1-HR	8-HR	ANNUAL	3-HR	24-HR	ANNUAL	24-HR	24-HR	ANNUAL
USEPA NAAQS	**40,000**	**10,000**	**100**	**1,300**	**365**	**80**	**150**	**35**	**15**
BACKGROUND CONCENTRATIONS	**4,650.65**	**3,436.44**	**16.56**	**74.18**	**13.09**	**3.49**	**54.78**	**20.75**	**8.43**
2005 Existing Conditions	**26,919.89**	**9,160.52**	**96.93**	**125.13**	**26.65**	**7.20**	**60.87**	**25.80**	**10.24**
2020 RUNWAY DEVELOPMENT ALTERNATIVES									
Alternative A	26,244.97	9,218.69	72.95	165.70	37.50	8.93	70.29	35.56	12.11
Alternative B1	24,657.20	9,149.29	65.95	126.88	29.53	7.45	65.88	31.55	11.37
Alternative B1b	24,657.20	9,156.11	66.04	126.90	29.58	7.46	65.91	31.58	11.38
Alternative B1c	24,765.72	9,165.24	65.97	127.55	29.56	7.45	65.90	31.57	11.37
Alternative B4	24,765.72	9,162.20	65.94	127.52	29.56	7.44	65.90	31.57	11.37
Alternative B5	24,751.07	9,169.98	**66.37**	127.00	29.38	7.46	66.50	32.18	11.44
Alternative C1	23,780.07	8,197.12	65.29	127.74	28.93	7.38	65.54	31.21	11.32
Alternative D1	24,599.83	9,100.15	68.52	129.27	28.79	7.62	65.46	30.98	11.32
Alternative D2	24,686.07	9,081.22	67.63	130.81	29.58	7.62	65.34	30.87	11.29

Note: The 2005 background concentrations and results of the 2005 Existing Conditions dispersion analysis are shown in the table only for reference. Background concentrations are already included in all the values shown for each alternative, including 2005 Existing Conditions.

The full build-out of Alternative D1 is not anticipated to occur until 2020. The 2012 Alternative D1 includes the construction and implementation of Alternative B1b. The 2020 Alternative D1 includes the construction and implementation of Alternative B1b, followed in subsequent years by the construction and implementation of a second parallel runway north of Runway 9L/27R with the same physical configuration as Alternative C1. The 2020 Alternative D1 combines the benefits associated with both Alternative B1b and Alternative C1. *See* Chapter Four, *Alternatives*, Section 4.2.2.6, *Runway Development Alternatives Screening Results*, Subsection, *D Alternatives – South and North Airfield Development*.

Table 6.B-12 (Continued)
MAXIMUM CRITERIA POLLUTANT DESIGN CONCENTRATIONS
Fort Lauderdale-Hollywood International Airport

The full build-out of Alternative D2 is not anticipated to occur until 2020. The 2012 Alternative D2 includes the construction and implementation of Alternative B4. The 2020 Alternative D2 includes the construction and implementation of Alternative B4, followed in subsequent years by the construction and implementation of a second parallel runway north of Runway 9L/27R with the same physical configuration as Alternative C1. The 2020 Alternative D2 combines the benefits associated with both Alternative B4 and Alternative C1. See Chapter Four, Alternatives, Section 4.2.2.6, *Runway Development Alternatives Screening Results*, Subsection, *D Alternatives – South and North Airfield Development*.

Source: FAA, EDMS Version 4.5, 2006.
Landrum & Brown analysis, 2007.

Table 6.B-13
IMPACT OF CRITERIA POLLUTANT CONCENTRATIONS
Fort Lauderdale-Hollywood International Airport

RUNWAY DEVELOPMENT ALTERNATIVES	POLLUTANT CONCENTRATION IMPACTS ($\mu g/m^3$)								
	CO		NO_x	SO_x			PM_{10}	$PM_{2.5}$	
	1-HR	8-HR	ANNUAL	3-HR	24-HR	ANNUAL	ANNUAL	24-HR	ANNUAL
2012 RUNWAY DEVELOPMENT ALTERNATIVES									
Alternative B1	-154.49	-15.46	-0.88	-14.17	-4.05	-0.28	-1.49	-1.58	-0.16
Alternative B1b	-154.49	-13.78	-0.87	-14.15	-4.05	-0.28	-1.49	-1.58	-0.16
Alternative B1c	-158.08	-1.83	-0.85	-13.07	-4.00	-0.25	-1.42	-1.50	-0.13
Alternative B4	-153.07	-6.18	-0.78	-13.24	-3.59	-0.25	-1.62	-1.75	-0.14
Alternative B5	-154.54	-12.07	-0.76	-13.92	-4.03	-0.25	-1.48	-1.56	-0.14
Alternative C1	-341.20	-40.38	-1.20	-13.43	-4.58	-0.31	-1.68	-2.25	-0.18
Alternative D1	-154.49	-13.78	-0.87	-14.15	-4.05	-0.28	-1.49	-1.58	-0.16
Alternative D2	-153.07	-6.18	-0.78	-13.24	-3.59	-0.25	-1.62	-1.75	-0.14
2020 RUNWAY DEVELOPMENT ALTERNATIVES									
Alternative B1	-1,587.77	-69.40	-7.00	-38.82	-7.97	-1.48	-4.41	-4.01	-0.74
Alternative B1b	-1,587.77	-62.57	-6.91	-38.79	-7.92	-1.47	-4.38	-3.98	-0.73
Alternative B1c	-1,479.24	-53.45	-6.98	-38.15	-7.94	-1.48	-4.39	-3.99	-0.74
Alternative B4	-1,479.24	-56.49	-7.01	-38.18	-7.94	-1.48	-4.39	-3.99	-0.74
Alternative B5	-1,493.90	-48.70	**-6.58**	-38.70	-8.12	-1.47	-3.79	-3.39	-0.67
Alternative C1	-2,464.90	-1,021.57	-7.65	-37.96	-8.57	-1.55	-4.75	-4.36	-0.79
Alternative D1	-1,645.14	-118.54	-4.43	-36.43	-8.71	-1.30	-4.83	-4.59	-0.79
Alternative D2	-1,558.89	-137.47	-5.32	-34.89	-7.92	-1.31	-4.95	-4.69	-0.82

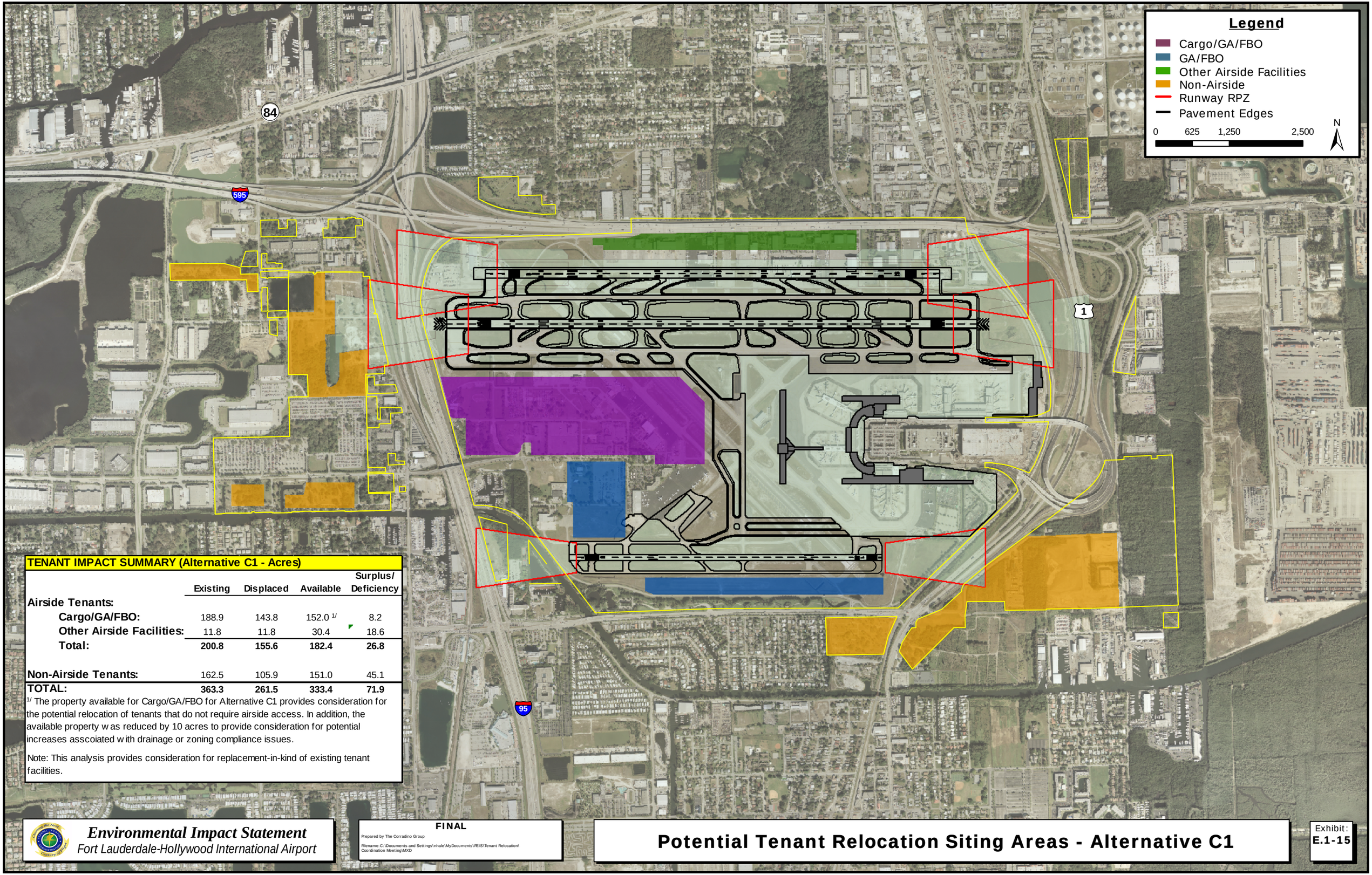
Table 6.B-13 (Continued)
IMPACT OF CRITERIA POLLUTANT CONCENTRATIONS
Fort Lauderdale-Hollywood International Airport

Note: Values in this table reflect the design concentrations provided in Table 6.B-10 for each runway development alternative minus the Alternative A (No Action) of the same future year.

The full build-out of Alternative D1 is not anticipated to occur until 2020. The 2012 Alternative D1 includes the construction and implementation of Alternative B1b. The 2020 Alternative D1 includes the construction and implementation of Alternative B1b, followed in subsequent years by the construction and implementation of a second parallel runway north of Runway 9L/27R with the same physical configuration as Alternative C1. The 2020 Alternative D1 combines the benefits associated with both Alternative B1b and Alternative C1. *See* Chapter Four, *Alternatives*, Section 4.2.2.6, *Runway Development Alternatives Screening Results*, Subsection, *D Alternatives – South and North Airfield Development*.

The full build-out of Alternative D2 is not anticipated to occur until 2020. The 2012 Alternative D2 includes the construction and implementation of Alternative B4. The 2020 Alternative D2 includes the construction and implementation of Alternative B4, followed in subsequent years by the construction and implementation of a second parallel runway north of Runway 9L/27R with the same physical configuration as Alternative C1. The 2020 Alternative D2 combines the benefits associated with both Alternative B4 and Alternative C1. See Chapter Four, Alternatives, Section 4.2.2.6, *Runway Development Alternatives Screening Results*, Subsection, *D Alternatives – South and North Airfield Development*.

Source: FAA, EDMS Version 4.5, 2006.
Landrum & Brown analysis, 2007.



TENANT IMPACT SUMMARY (Alternative C1 - Acres)

	Existing	Displaced	Available	Surplus/ Deficiency
Airside Tenants:				
Cargo/GA/FBO:	188.9	143.8	152.0 [1/]	8.2
Other Airside Facilities:	11.8	11.8	30.4	18.6
Total:	**200.8**	**155.6**	**182.4**	**26.8**
Non-Airside Tenants:	162.5	105.9	151.0	45.1
TOTAL:	**363.3**	**261.5**	**333.4**	**71.9**

[1/] The property available for Cargo/GA/FBO for Alternative C1 provides consideration for the potential relocation of tenants that do not require airside access. In addition, the available property was reduced by 10 acres to provide consideration for potential increases asscoiated with drainage or zoning compliance issues.

Note: This analysis provides consideration for replacement-in-kind of existing tenant facilities.

Environmental Impact Statement
Fort Lauderdale-Hollywood International Airport

FINAL

Prepared by The Corradino Group

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Potential Tenant Relocation Siting Areas - Alternative C1

Exhibit: **E.1-15**

F.6.4 ALTERNATIVE B4 SENSITIVITY ANALYSIS[1]

Alternative B4 includes the development of a new 6,001-foot at-grade runway (with EMAS) located 340 feet north of existing south runway to replace existing Runway 9R/27L. Because the runway length for Alternative B4 is the shortest of all of the runway development alternatives by 1,720 feet to 2,599 feet, a sensitivity analysis was performed to understand the impact on delay if a lower runway use percentage were used for departures on the 6,001-foot runway. **Table F-19** ***Alternative B4 Sensitivity Analysis - Delays*** present the resulting delays at the 2012 and 2020 demand levels.

For this sensitivity analysis of 2012 and 2020 conditions, the runway suitability for all aircraft was determined using dry landing conditions with aircraft at 90 percent payload. This sensitivity analysis further assumed that, based on pilot refusal, approximately 80 daily departures of jet aircraft would opt to use the longer existing north runway instead of the 6,001-foot Runway 9R/27L to avoid taking a payload penalty.

The analysis results, provided in Table F-19, shows the consequence of that assumption is an increase in delay from 2.2 minutes per aircraft in 2012 to 3.1 minutes. And, in 2020, the delay increases from 4.7 minutes to 10.2 minutes. The higher delay numbers are attributable to the assumption that airlines would not take a payload penalty to use Runway 9R/27L at a lower level of delay. The delay numbers calculated on the 90 percent payload conditions without the 'pilot refusal assumption' were presented earlier in Table F-11 *Alternatives Delay Detail–Year 2012* and Table F-12 *Alternatives Delay Detail–Year 2020.*

Table F-19
ALTERNATIVE B4 SENSITIVITY ANALYSIS - DELAYS
Fort Lauderdale-Hollywood International Airport

				Arivals				Departures				Total	
				North Runway(s)		South Runway		North Runway(s)		South Runway			
Demand	Alternative	Direction	VFR/IFR	Ops	Delay	Ops	Delay	Ops	Delay	Ops	Delay	Ops	Delay
2012	B4	East	VFR	270	2	266	1	402	5	134	0	1072	2.7
2012		West	VFR	295	3	241	1	386	9	150	0	1072	4.4
2012		East	IFR	270	2	266	2	402	7	134	0	1072	3.6
2012		West	IFR	295	3	241	1	386	13	150	0	1072	5.8
		Average										**1072**	**3.1**
2020	B4	East	VFR	252	2	382	3	482	17	152	1	1268	8.0
2020		West	VFR	300	3	334	2	457	45	177	1	1268	17.6
2020		East	IFR	252	2	382	5	482	32	152	1	1268	14.0
2020		West	IFR	300	4	334	3	457	60	177	1	1268	23.2
		Average										**1268**	**10.2**

Source: Landrum & Brown analysis, 2007

Using the same methodology as presented previously in Section F.4 *Demand/ Capacity Analysis* and F.5 *Net Benefits Analysis*, new capacity numbers and a new

[1] During the EIS process, concerns were raised with the length of Alternative B4 and the potential necessity for payload penalties on aircraft operations. Therefore, the FAA conducted a sensitivity analysis on Alternative B4 to determine the impact estimated refusals caused by potential payload penalties would have on delay. The FAA also received comments on the Draft EIS from several airlines expressing this concern with Alternative B4.

BCA ratio were calculated for Alternative B4. **Table F-20 *Net Benefits versus Costs Showing Alternative B4 Sensitivity Analysis,*** shows the new capacity and BCA ratios comparison between alternatives based on this Alternative B4 sensitivity analysis. The numbers in Table F-20 are the same as shown in Table F-14 for all alternatives, except for Alternative B4.

Table F-20
NET BENEFITS VERSUS COSTS SHOWING ALTERNATIVE B4 SENSITIVITY ANALYSIS
Fort Lauderdale-Hollywood International Airport

Alternative	Year	Benefit [1]	Cost [1]	BCA Ratio	Capacity @6-min delay	Capacity @10-min delay
No Action	2020	N/A	N/A	N/A	310,000	340,000
	2030	N/A	N/A	N/A		
B1	2020	$1,151,871,000	$ 616,196,000	1.87	445,000	475,000
	2030	$2,342,791,000	$ 625,041,000	3.75		
B1b	2020	$1,151,871,000	$ 617,127,000	1.87	445,000	475,000
	2030	$2,342,791,000	$ 624,302,000	3.75		
B1c	2020	$1,025,498,000	$ 617,127,000	1.66	445,000	475,000
	2030	$2,137,772,000	$ 624,302,000	3.42		
B4	2020	$1,293,750,000	$ 441,206,000	2.93	375,000	450,000
	2030	$2,286,086,000	$ 446,126,000	5.12		
B5	2020	$1,151,871,000	$ 578,950,000	1.99	445,000	475,000
	2030	$2,342,791,000	$ 586,436,000	3.99		
C1	2020	$1,218,193,000	$ 413,319,000	2.95	420,000	450,000
	2030	$2,133,739,000	$ 419,868,000	5.08		
D1	2020	$1,227,131,000	$ 933,318,000	1.31	over 510,000	over 510,000
	2030	$2,989,828,000	$ 943,266,000	3.17		
D2	2020	$1,655,549,000	$ 790,200,000	1.98	470,000	500,000
	2030	$3,197,128,000	$ 797,549,000	3.80		

1. Net Present Value of total benefits and costs over evaluation period expressed in 2007 U.S. dollars.

Source: Landrum & Brown analysis, 2007

The sensitivity analysis indicates that Alternative B4 would provide adequate capacity to serve 2012 demand even with the reduced utilization of Runway 9R/27L to avoid payload penalties. However, as forecast operations increase through 2020, the resulting delay increase would be greater than six to ten minutes per operation. It is then likely that the airlines could opt to operate on Runway 9R/27L with some payload penalty to avoid the higher delay. As shown in Table F-19, this would result in average delays of greater than 10 minutes per operation. Therefore, Alternative B4 would provide the least long-term capacity when compared to of all the runway development alternatives.

The sensitivity analysis also shows that Alternative B4 yields a positive BCA ratio of 2.93 in 2020 and 5.12 in 2030 even with the reduced utilization of Runway 9R/27L. This is a direct result of the lower development cost for Alternative B4 as compared to the other runway development alternatives.