

TABLE OF CONTENTS

	<u>PAGE</u>
<u>EXECUTIVE SUMMARY</u>	
ES.1 Introduction.....	ES-1
ES.1.1 Draft Environmental Impact Statement	ES-1
ES.1.2 The Role of the Federal Aviation Administration	ES-2
ES.1.3 The Proposal.....	ES-3
ES.1.4 Environmental Review Process	ES-4
ES.1.5 List of Federal, State, and Local Permits and Approvals.....	ES-6
ES.1.6 Proposed Federal Actions.....	ES-6
ES.2 Role of FLL in the National Airspace System.....	ES-9
ES.3 Purpose and Need.....	ES-10
ES.3.1 Airport Sponsor’s Identified Goals and Objectives.....	ES-10
ES.3.2 Federal Need and Purpose	ES-11
ES.4 Alternatives	ES-12
ES.4.1 Range of Alternatives.....	ES-12
ES.4.2 Runway Development Alternatives Screening Results	ES-15
ES.4.3 Alternatives Assessed for Environmental Impacts.....	ES-16
ES.5 Affected Environment	ES-20
ES.5.1 Study Area and Detailed Study Area	ES-20
ES.6 Environmental Consequences	ES-21
ES.6.1 Air Quality.....	ES-22
ES.6.2 Airport Noise	ES-22
ES.6.3 Compatible Land Uses.....	ES-23
ES.6.4 Historical, Architectural, Archeological, and Cultural Resources	ES-23
ES.6.5 Section 4(f) Properties [Recodified as 49 U.S.C. 303(c)]	ES-23
ES.6.6 Water Quality	ES-23
ES.6.7 Wetlands.....	ES-24
ES.6.8 Floodplains.....	ES-24
ES.6.9 Coastal Resources	ES-24
ES.6.10 Fish, Wildlife, and Plants	ES-24
ES.6.11 Hazardous Waste	ES-25
ES.6.12 Solid Waste	ES-26
ES.6.13 Socioeconomic, Environmental Justice, and Children’s Health and Safety.....	ES-26
ES.6.14 Secondary (Induced) and Infrastructure	ES-27
ES.6.15 Light Emissions and Visual Impacts.....	ES-28
ES.6.16 Natural Resources and Energy Supply	ES-28
ES.6.17 Construction Impacts.....	ES-29
ES.7 Mitigation	ES-29

EXECUTIVE SUMMARY, Continued

ES.8	Cumulative Impacts	ES-29
ES.9	Next Steps.....	ES-32
ES.9.1	Noise and Compatible Land Use Impacts.....	ES-33
ES.9.2	Wetland Impacts	ES-34
ES.10	Impacts to Endangered and Threatened Species	ES-35
ES.11	Next Steps.....	ES-36

CHAPTER ONE – HISTORY, BACKGROUND, AND PUBLIC INVOLVEMENT

1.0	Airport History	1-1
1.1	Project History	1-2
1.2	FAA Scoping, Focus Groups, and Interim Public Workshop	1-8
1.2.1	FAA Scoping	1-9
1.2.2	FAA Focus Groups	1-10
1.2.3	Interim FAA Public Workshop	1-10
1.3	FAA Public Information Workshop and FAA Public Hearing.....	1-10
1.4	Comments on the FAA Draft EIS	1-11
1.5	Broward County Public Hearing on the FAA Draft EIS	1-11

CHAPTER TWO – THE PROPOSAL

2.0	Airport Sponsor’s Proposed Project	2-1
2.1	Connected Actions	2-3
2.2	Refinement of the Sponsor’s Proposed Project.....	2-3
2.3	List of Federal, State, and Local Permits and Approvals	2-7
2.4	Proposed Federal Actions	2-8
2.4.1	Determination of Project Eligibility for Federal Funding Approval	2-8
2.4.2	Determination of Project Eligibility to Impose and Use Passenger Facility Charges (PFCs).....	2-8
2.4.3	FAA Approval and Funding of Proposed Airport Development	2-9
2.4.4	FAA Installation and/or Relocation of Navigational Aids Associated with the Proposed New Runway	2-9
2.4.5	FAA Approval of Air Traffic Procedures for the Runway.....	2-9
2.4.6	Determination of Obstructions to Navigable Airspace	2-9
2.4.7	FAA Approval of Airspace.....	2-9
2.4.8	FAA Certification and Other Approvals	2-9
2.4.9	Applicable Environmental Laws, Regulations, Statutes, and Policies	2-10

CHAPTER THREE – PURPOSE AND NEED

3.0	Introduction.....	3-1
3.1	Sponsor’s Identified Goals and Objectives	3-2
3.2	Problem Statement	3-3
3.2.1	Insufficient Airfield Capacity to Accommodate Projected Aviation Demand with the EIS - Estimated Threshold of Aircraft Delay ...	3-3

CHAPTER THREE – PURPOSE AND NEED, Continued

3.2.2	Inadequate Runway Length, Width, and Taxiway Infrastructure to Accommodate Larger Aircraft and Balanced Airfield Use	3-4
3.2.3	Insufficient Terminal Gate and Apron Capacity.....	3-4
3.3	Need for the Project	3-5
3.3.1	Need for Sufficient Airfield Capacity	3-5
3.3.2	Need for an Enhanced and Balanced Airfield.....	3-14
3.3.3	Need for Adequate Terminal Gate Facilities	3-19
3.4	Purpose of the Proposal	3-20

CHAPTER FOUR – ALTERNATIVES

4.0	Introduction and Background	4-1
4.1	Range of Alternatives	4-2
4.1.1	Off-Site Alternatives	4-2
4.1.2	On-Site Alternatives	4-3
4.1.3	No Action Alternative	4-4
4.2	Alternatives Analysis	4-4
4.2.1	Off-Site Alternatives	4-5
4.2.2	On-Site Alternatives	4-16
4.3	Alternatives to be Assessed for Environmental Impacts	4-33
4.3.1	Alternative A: No Action	4-33
4.3.2	Alternative B1: Redevelop and Extend Existing Runway 9R/27L to an 8,600-Foot by 150-Foot Elevated Runway	4-35
4.3.3	Alternative B4: Build a New 6,001-Foot at Grade Runway with EMAS Located 340 Feet North of Existing South Runway (To Replace Existing Runway 9R/27L)	4-41
4.3.4	Alternative B5: Build a 7,800-Foot Elevated Runway with EMAS Located 320 Feet South of Existing South Runway (To Replace Existing Runway 9R/27L)	4-45
4.3.5	Alternative C1: Build a 7,721-Foot at Grade Runway Located 850 Feet North of Existing Runway 9L/27R (A Dependent Parallel Runway to Existing Runway 9L/27R)	4-49
4.3.6	Alternative D1: Redevelop and Extend Existing Runway 9R/27L to 8,000 Feet and Build a New 7,721-Foot Runway North of Existing Runway 9L/27R (Combination of Alternatives B1b and C1).....	4-53
4.3.7	Alternative D2: Build a New 6,001-Foot at Grade Runway with EMAS Located 340 Feet North of Existing South Runway and Build a 7,721-Foot at Grade Runway Located 850 Feet North of Existing Runway 9L/27R (Combination of Alternatives B4 and C1)	4-56
4.4	Projected Costs	4-59
4.4.1	Alternative B1: Redevelop and Extend Existing Runway 9R/27L to an 8,600-Foot by 150-Foot Elevated Runway	4-59

CHAPTER FOUR – ALTERNATIVES, Continued

4.4.2	Alternative B1b/B1c: Redevelop and Extend Existing Runway 9R/27L to an 8,000-Foot by 150-Foot Elevated Runway with EMAS	4-61
4.4.3	Alternative B4: Build a New 6,001-Foot at Grade Runway with EMAS Located 340 Feet North of Existing South Runway (To Replace Existing Runway 9R/27L)	4-61
4.4.4	Alternative B5: Build a 7,800-Foot Elevated Runway with EMAS Located 320 Feet South of the Existing South Runway (To Replace Existing Runway 9R/27L)	4-63
4.4.5	Alternative C1: Build a 7,721-Foot at Grade Runway Located 850 Feet North of Existing Runway 9L/27R (A Dependent Parallel Runway to Existing Runway 9L/27R)	4-65
4.4.6	Alternative D1: Redevelop and Extend Existing Runway 9R/27L to 8,000 Feet and Build a New 7,721-Foot Runway North of Existing Runway 9L/27R (Combination of Alternatives B1b and C1)	4-65
4.4.7	Alternative D2: Build a New 6,001-Foot at Grade Runway with EMAS Located 340 Feet North of Existing South Runway and Build a 7,721-Foot at Grade Runway Located 850 Feet North of Existing Runway 9L/27R (Combination of Alternatives B4 and C1)	4-67
4.5	Construction Sequencing	4-68

CHAPTER FIVE – AFFECTED ENVIRONMENT

5.A	Introduction and Background	5.A-1
5.A.1	Fort-Lauderdale-Hollywood International Airport	5.A-1
5.A.2	Navigational Aids (NAVAIDs)	5.A.2
5.A.3	Passenger Terminal Complex	5.A.2
5.A.4	Study Areas	5.A.3
5.B	Air Quality	5.B-1
5.B.1	Regulatory Overview.....	5.B-2
5.B.1.1	National Environmental Policy Act (NEPA)	5.B-5
5.B.1.2	State Implementation Plan (SIP)	5.B-7
5.B.1.3	Broward County Air Quality Status.....	5.B-8
5.B.1.4	Clean Air Act General Conformity Rule.....	5.B-9
5.B.2	Assessment of 2005 Existing Conditions	5.B.10
5.B.2.1	Criteria And Precursor Pollutant Emission Inventory	5.B-11
5.B.2.2	Dispersion Analysis.....	5.B-12
5.B.3	Conclusion	5.B-16
5.C	Noise and Compatible Land Uses	5.C-1
5.C.1	Noise.....	5.C-3
5.C.1.1	Background	5.C-3
5.C.1.2	2005 Baseline Condition (Aircraft).....	5.C-7

CHAPTER FIVE – AFFECTED ENVIRONMENT, Continued

5.C.1.3	2004 Baseline (Roadway)	5.C-17
5.C.2	Land Use Compatibility.....	5.C-21
5.C.2.1	Land Use Pattern.....	5.C-21
5.C.2.2	Land Use Plans	5.C-22
5.C.3	14 CFR Part 150 Noise Study	5.C-33
5.C.4	Interlocal Agreements and Development Orders	5.C-35
5.C.4.1	City of Dania Beach – Interlocal Agreement	5.C-36
5.C.4.2	City of Fort Lauderdale – Interlocal Agreement	5.C-37
5.C.4.3	Broward County and the City of Fort Lauderdale – Development Orders	5.C-37
5.C.4.4	City of Hollywood - Development Order	5.C-38
5.D	Public Properties/Historic Resources	5.D-1
5.D.1	Historic, Architectural, Archeological, and Cultural Resources.....	5.D-3
5.D.1.1	Area of Potential Effect.....	5.D-3
5.D.1.2	Historic Resources	5.D-4
5.D.1.3	Archeological Resources	5.D-6
5.D.2	Section 4(f) Properties [Recodified as 49 U.S.C. 303(c)] and Section 6(f) Land and Water Conservation Fund Act	5.D-9
5.E	Water Resources	5.E-1
5.E.1	Water Quality	5.E-3
5.E.1.1	Regulatory Context.....	5.E-3
5.E.1.2	Stormwater Management at FLL	5.E-5
5.E.1.3	Surface Water Resources.....	5.E-8
5.E.1.4	Groundwater Resources	5.E-17
5.E.2	Wetlands.....	5.E-21
5.E.2.1	Regulations and Regulatory Involvement	5.E-21
5.E.2.2	Existing Conditions	5.E-22
5.E.3	Floodplains	5.E-27
5.E.4	Coastal Resources	5.E-29
5.E.5	Wild and Scenic Rivers	5.E-31
5.F	Biological and Natural Resources.....	5.F-1
5.F.1	Fish, Wildlife, and Plants	5.F-3
5.F.1.1	Biotic Communities.....	5.F-3
5.F.1.2	Invasive Plant Species.....	5.F-5
5.F.1.3	Vegetation	5.F-6
5.F.1.4	Wildlife	5.F-9
5.F.1.5	Endangered and Threatened Species.....	5.F-10
5.F.1.6	Essential Fish Habitat.....	5.F-17

CHAPTER FIVE – AFFECTED ENVIRONMENT, *Continued*

5.F.2	Farmlands	5.F-19
5.G	Solid Waste and Hazardous Materials.....	5.G-1
5.G.1	Hazardous Waste	5.G-3
5.G.1.1	Regulatory Context.....	5.G-3
5.G.1.2	Existing Conditions at Fort Lauderdale-Hollywood International Airport (FLL)	5.G-9
5.G.1.3	Federal and State Hazardous Waste File Search	5.G-20
5.G.2	Solid Waste	5.G-23
5.G.2.1	Regulatory Context.....	5.G-23
5.G.2.2	Existing Conditions at Fort Lauderdale-Hollywood International Airport (FLL)	5.G-25
5.G.3	Pollution Prevention	5.G-29
5.H	Social and Community Resources.....	5.H-1
5.H.1	Socioeconomic Impacts; Environmental Justice; and Children’s Environmental Health and Safety Risks	5.H-5
5.H.1.1	Socioeconomic Impacts	5.H-5
5.H.1.2	Environmental Justice	5.H-5
5.H.1.3	Children’s Environmental Health and Safety	5.H-8
5.H.2	Secondary (Induced) Impacts	5.H-9
5.H.2.1	Surface Transportation.....	5.H-9
5.H.2.2	Economic Impacts	5.H-11
5.H.2.3	Economic Impact Assessment	5.H-12
5.H.2.4	Economic Impacts of Construction	5.H-14
5.H.2.5	Public Services.....	5.H-15
5.H.3	Light Emissions and Visual Impacts.....	5.H-17
5.H.3.1	Current Airport Lighting Effects on Residential Areas	5.H-17
5.H.3.2	Terminal, Aviation Facility, and Landside Lighting.....	5.H-17
5.H.3.3	Existing Airfield Lighting	5.H-18
5.H.4	Natural Resources and Energy Supply	5.H-23
5.H.4.1	Energy Sources	5.H-23
5.H.4.2	Stationary Facilities	5.H-26
5.H.4.3	Aircraft Operations	5.H-27
5.H.4.4	Energy Requirements – 2005 Existing Conditions	5.H-27
5.H.4.5	Consumption of Natural Resources – 2005 Existing Conditions	5.H-28
5.H.5	Construction.....	5.H-31
5.H.5.1	Regulatory Overview.....	5.H-31

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES

6.A	Introduction.....	6.A-1
6.B	Air Quality	6.B-1
6.B.1	Regulatory Overview.....	6.B-1
6.B.2	Analysis of Future Conditions	6.B-3
6.B.2.1	Future Conditions – Emission Inventory	6.B-4
6.B.2.2	Future Conditions – Dispersion Analysis	6.B-5
6.B.2.3	Criteria and Precursor Pollutant Emission Inventory.....	6.B-5
6.B.2.4	Criteria Pollutant Dispersion Analysis.....	6.B-35
6.B.2.5	Roadway Intersection CO Dispersion Analysis	6.B-79
6.B.3	NEPA Compliance Assessment	6.B-99
6.B.4	Conclusion	6.B-101
6.C	Noise and Compatible Land Uses.....	6.C-1
6.C.1	Airport Noise	6.C-3
6.C.1.1	Noise Analysis and Land Use Impact Assessment	6.C-3
6.C.1.2	Analysis of the Effectiveness of the Aviation Greenbelt Noise Berm	6.C-55
6.C.1.3	Alternative A: 2020 No Action	6.C-56
6.C.1.4	2020 Alternative B1: Redevelop and Extend Existing Runway 9R/27L to an 8,600-Foot by 150-Foot Elevated Runway.....	6.C-62
6.C.1.5	2020 Alternative B1b: Redevelop and Extend Existing Runway 9R/27L to an 8,000-Foot by 150-Foot Elevated Runway with EMAS	6.C-67
6.C.1.6	2020 Alternative B1c (Airport Sponsor’s Proposed Project): Redevelop and Extend Existing Runway 9R/27L to an 8,000-Foot by 150-Foot Elevated Runway with EMAS.....	6.C-73
6.C.1.7	2020 Alternative B4: Build a New 6,001-Foot at Grade Runway with EMAS Located 340 Feet North of Existing South Runway (To Replace Existing Runway 9R/27L).....	6.C-73
6.C.1.8	2020 Alternative B5: Build a 7,800-Foot Elevated Runway with EMAS Located 320 Feet South of the Existing South Runway (To Replace Existing Runway 9R/27L).....	6.C-79
6.C.1.9	2020 Alternative C1: Build a 7,721-Foot at Grade Runway Located 850 Feet North of Existing Runway 9L/27R (A Dependent Parallel Runway to Existing Runway 9L/27R).....	6.C-84
6.C.1.10	2020 Alternative D1: Redevelop and Extend Existing Runway 9R/27L to 8,000 Feet and Build a New 7,721-Foot Runway North of Existing Runway 9L/27R (Combination of Alternatives B1b and C1).....	6.C-89
6.C.1.11	2020 Alternative D2: Build a New 6,001-Foot at Grade Runway with EMAS Located 340 Feet North of Existing South Runway and Build a 7,721-Foot at Grade Runway Located 850 Feet North of Existing Runway 9L/27R (Combination of Alternatives B4 and C1).....	6.C-95

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES, Continued

6.C.1.12	Summary of Land Use Impact Assessment	6.C-100
6.C.1.13	Roadway Noise	6.C-105
6.C.2	Land Use Compatibility.....	6.C-111
6.C.2.1	Property and Land Use Impacts	6.C-111
6.C.2.2	Consistency with Local Plans	6.C-113
6.D	Public Properties/Historic Resources	6.D-1
6.D.1	Historic, Architectural, Archeological, and Cultural Resources.....	6.D-3
6.D.1.1	Alternative A	6.D-3
6.D.1.2	Alternatives B1, B1b, B1c, B4, B5, C1, D1, and D2.....	6.D-3
6.D.2	Section 4(f) Properties [Recodified as 49 U.S.C. 303(c)] and Section 6(f) Land and Water Conservations Fund Act.....	6.D-5
6.D.2.1	Direct and Constructive Impacts to Section 4(f) Resources	6.D-6
6.D.2.2	Temporary Construction Impact to Section 4(f) Resources.....	6.D-9
6.E	Water Resources	6.E-1
6.E.1	Water Quality	6.E-5
6.E.1.1	Introduction	6.E-5
6.E.1.2	Water Quality General Approach and Methodology	6.E-9
6.E.1.3	Water Quality Impacts	6.E-14
6.E.1.4	Summary of Water Quality Impacts	6.E-21
6.E.2	Wetlands.....	6.E-25
6.E.2.1	Wetland Impacts Methodology and Analysis	6.E-25
6.E.2.2	Wetlands Located within the Limits of Disturbance for the Runway Development Alternatives	6.E-27
6.E.2.3	Analyses of Wetland Impacts	6.E-30
6.E.2.4	Summary of Direct Wetland Impacts	6.E-35
6.E.2.5	Secondary Wetland Impacts.....	6.E-36
6.E.2.6	Cumulative Wetland Impacts.....	6.E-37
6.E.3	Floodplains.....	6.E-39
6.E.3.1	Alternative A: No Action	6.E-40
6.E.3.2	Alternative B1: Redevelop and Extend Existing Runway 9R/27L to an 8,600-Foot by 150-Foot Elevated Runway	6.E-40
6.E.3.3	Alternative B1b/B1c: Redevelop and Extend Existing Runway 9R/27L to an 8,000-Foot by 150-Foot Elevated Runway with EMAS	6.E-40
6.E.3.4	Alternative B4: Build a New 6,001-Foot at Grade Runway With EMAS Located 340 Feet North of Existing South Runway (To Replace Existing Runway 9R/27L).....	6.E-41
6.E.3.5	Alternative B5: Build a 7,800-Foot Runway with EMAS Located 320 Feet South of the Existing South Runway (To Replace Existing Runway 9R/27L).....	6.E-42

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES, Continued

6.E.3.6	Alternative C1: Build a 7,721-Foot at Grade Runway Located 850 Feet North of Existing Runway 9L/27R (A Dependent Parallel Runway to Existing Runway 9L/27R)	6.E-42
6.E.3.7	Alternative D1: Redevelop and Extend Existing Runway 9R/27L to 8,000 Feet and Build a New 7,721-Foot Runway North of Existing Runway 9L/27R (Combination of Alternatives B1b and C1)	6.E-43
6.E.3.8	Alternative D2: Build a New 6,001-Foot at Grade Runway With EMAS Located 340 Feet North of Existing South Runway and Build a 7,721-Foot at Grade Runway Located 850 Feet North of Existing Runway 9L/27R (Combination of Alternatives B4 and C1)	6.E-43
6.E.3.9	Summary of Floodplain Impacts	6.E-44
6.E.4	Coastal Resources [Coastal Barriers and Coastal Zone Management]	6.E-45
6.E.4.1	Summary of Impacts	6.E-48
6.F	Biological and Natural Resources	6.F-1
6.F.1	Fish, Wildlife, and Plants	6.F-3
6.F.1.1	Federally-Listed Species	6.F-7
6.F.1.2	State-Listed Species	6.F-14
6.F.1.3	Impacts of the Alternatives on Listed Species	6.F-21
6.F.1.4	Essential Fish Habitat (EFH) Assessment	6.F-25
6.F.1.5	Assessment of Impacts to EFH	6.F-27
6.F.1.6	Avoidance/Minimization/Potential Mitigation Measures for EFH	6.F-33
6.F.1.7	Summary	6.F-34
6.G	Hazardous and Waste Materials	6.G-1
6.G.1	Hazardous Materials	6.G-3
6.G.1.1	Introduction	6.G-3
6.G.1.2	General Approach and Methodology	6.G-3
6.G.1.3	Environmental Consequences	6.G-3
6.G.1.4	Environmental Impact Summary	6.G-16
6.G.2	Solid Waste	6.G-19
6.G.2.1	Analysis of Impacts	6.G-19
6.G.2.2	Environmental Impact Summary	6.G-28
6.G.3	Pollution Prevention	6.G-31
6.H	Social and Community Resources	6.H-1
6.H.1	Socioeconomic Impacts; Environmental Justice; and Children's Environmental Health and Safety Risks	6.H-3
6.H.1.1	Socioeconomic Impacts	6.H-3
6.H.1.2	Environmental Justice	6.H-9

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES, Continued

6.H.1.3	Children’s Environmental Health and Safety Risks	6.H-13
6.H.2	Secondary (Induced) Impacts	6.H-15
6.H.2.1	Surface Transportation.....	6.H-15
6.H.2.2	Economic Impacts	6.H-24
6.H.2.3	Public Services.....	6.H-25
6.H.3	Light Emissions and Visual Impacts.....	6.H-27
6.H.3.1	Light Emissions	6.H-27
6.H.3.2	Visual Impacts	6.H-32
6.H.4	Natural Resources and Energy Supply	6.H-39
6.H.4.1	Stationary Facilities	6.H-39
6.H.4.2	Aircraft Operations	6.H-40
6.H.4.3	Assessment Procedures and Results	6.H-40
6.H.4.4	Consumption of Natural Resources.....	6.H-53
6.H.4.5	Conclusion	6.H-54
6.H.5	Construction Impacts.....	6.H-55
6.H.5.1	Permanent Impacts	6.H-55
6.H.5.2	Temporary Impacts	6.H-56
6.I	Recognized Impact Categories Neither Applicable Nor Pertinent to this Proposal	6.I-1
6.J	Conceptual Mitigation Measures Considered in the Draft EIS	6.J-1
6.K	Summary of Alternatives Including Potential Environmental Impacts and Benefits.....	6.K-1

CHAPTER SEVEN – CUMULATIVE IMPACTS

7.0	Introduction.....	7-1
7.1	Background	7-1
7.1.1	Identification of Pertinent Past, Present, and Reasonably Foreseeable Future Actions	7-2
7.2	Baseline for Incremental Increases in Adverse Effects	7-20
7.3	Cumulative Impact Comparison	7-21
7.3.1	Air Quality.....	7-21
7.3.2	Airport Noise	7-22
7.3.3	Land Use Compatibility.....	7-23
7.3.4	Water Quality and Water Resources	7-24
7.3.5	Fish, Wildlife, Plants, and Essential Fish Habitat	7-29
7.3.6	Hazardous Materials and Solid Waste	7-30
7.3.7	Social and Community Resources	7-31
7.3.8	Secondary, Induced, and Infrastructure.....	7-32
7.3.9	Light Emissions and Visual Impacts.....	7-34
7.3.10	Natural Resources and Energy Supply	7-35

CHAPTER SEVEN – CUMULATIVE IMPACTS, Continued

7.3.11 Construction Impacts..... 7-35
7.4 Conclusions and Findings 7-36
7.4.1 Summary of Cumulative Impacts 7-36

CHAPTER EIGHT – FAA’S PREFERRED ALTERNATIVE

8.0 Introduction..... 8-1
8.1 FAA Mission 8-1
8.2 Sponsor’s Goals and Objectives 8-3
8.3 Alternatives Considered in This EIS 8-4
8.4 Identification of FAA’s Preferred Alternative 8-5
8.4.1 Physical Description of FAA’s Preferred Alternative 8-9
8.4.2 FAA’s Preferred Alternative: Summary of Environmental Impacts 8-14
8.5 Environmental Considerations 8-15
8.5.1 Air Quality..... 8-15
8.5.2 Noise..... 8-15
8.5.3 Land Use..... 8-15
8.5.4 Historical, Architectural, Archaeological & Cultural Resources..... 8-16
8.5.5 Section 4(f) Properties and Section 6(f) of the Land and
Water Conservation Fund Act 8-16
8.5.6 Water Quality 8-16
8.5.7 Wetlands..... 8-16
8.5.8 Floodplains 8-17
8.5.9 Coastal Resources 8-17
8.5.10 Fish, Wildlife, & Plants – Including Essential Fish Habitat 8-17
8.5.11 Hazardous Materials 8-18
8.5.12 Solid Waste 8-19
8.5.13 Socioeconomic, Environmental Justice, & Children’s
Health & Safety..... 8-19
8.5.14 Secondary (Induced) and Infrastructure 8-19
8.5.15 Light Emissions & Visual Impacts 8-19
8.5.16 Natural Resources and Energy..... 8-20
8.5.17 Construction 8-20
8.6 FAA’s Preferred Alternative: Mitigation of Environmental Impacts 8-21
8.6.1 Noise..... 8-21
8.6.2 Mitigation of Noise Impacts to Incompatible Land Use..... 8-22
8.6.3 Wetlands..... 8-46
8.7 Additional Environmental Analysis for the FAA’s Preferred
Alternative - For Disclosure Purposed..... 8-49

**CHAPTER NINE – LIST OF PREPARERS AND LIST OF AGENCIES AND
PERSONS TO WHOM COPIES ARE SENT**

9.1 List of Preparers 9-1
9.2 EIS Document Distribution List 9-4

EXHIBITS

PAGE

EXECUTIVE SUMMARY

Exhibit ES-1	Alternative A - No Action	
Exhibit ES-2	Alternative B1 – Redevelop and Extend Existing Runway 9R/27L to an 8,600-Foot by 150-Foot Elevated Runway	
Exhibit ES-3	Alternative B1b/B1c – Redevelop and Extend Existing Runway 9R/27L to an 8,000-Foot by 150-Foot Elevated Runway	
Exhibit ES-4	Alternative B4 – Build a New 6,001-Foot At-Grade Runway with EMAS Located 340 Feet North of Existing South Runway (to Replace Existing Runway 9R/27L)	
Exhibit ES-5	Alternative B5 – Build A 7,800-Foot Elevated Runway with EMAS Located 320 Feet South Of Existing South Runway (to Replace Existing Runway 9R/27L)	
Exhibit ES-6	Alternative C1 – Build A 7,721 Foot At-Grade Runway Located 850 Feet North of Existing Runway 9L/27R (A Dependent Parallel Runway to Existing Runway 9L/27R)	
Exhibit ES-7	Alternative D1 – Redevelop and Extend Existing Runway 9R/27L to 8,000 Feet and Build a New 7,721-Foot Runway North of Existing Runway 9L/27R (Combination of Alternatives B1b and C1)	
Exhibit ES-8	Alternative D2 – Build a New 6,001-Foot at Grade Runway with EMAS Located 340 Feet North of Existing South Runway and Build A 7,721 Foot At-Grade Runway Located 850 Feet North of Existing Runway 9L/27R (Combination of Alternatives B4 and C1)	
Exhibit ES-9	FAA’s Preferred Alternative Noise Exposure Contour (Alternative B1b)	

CHAPTER ONE – HISTORY, BACKGROUND, AND PUBLIC INVOLVEMENT

Exhibit 1-1	Airport Location Map	1-13
-------------	----------------------------	------

CHAPTER TWO –THE PROPOSAL

Exhibit 2-1	Sponsor’s Proposed Project	2-13
-------------	----------------------------------	------

CHAPTER THREE – PURPOSE AND NEED

Exhibit 3-1	FAA 2006 Terminal Area Forecast-Aircraft Operations	3-10
Exhibit 3-2	Average Delay by Month – 2004/2005	3-15
Exhibit 3-3	FAA 2006 Terminal Area Forecast – Enplanements	3-21

CHAPTER FOUR – ALTERNATIVES

Exhibit 4-1	Fatal Flaws	4-69
Exhibit 4-2	Alternative B1 - East Extension & Widening of Runway 9R/27L.....	4-71
Exhibit 4-3	Alternative B2 - East Extension & Widening of Runway 9R/27L.....	4-73
Exhibit 4-4	Alternative B3 - West Extension & Widening of Runway 9R/27L.....	4-75
Exhibit 4-5	Alternative B4 - Construct New Runway 9R/27L North of Existing Runway 9R/27L	4-77
Exhibit 4-6	Alternative B5 - New Runway 9R/27L (Simultaneous VFR/IFR Approaches)	4-79

CHAPTER FOUR – ALTERNATIVES, Continued

Exhibit 4-7	Alternative B6 - West Extension & Widening of Runway 9R/27L.....	4-81
Exhibit 4-8	Alternative B7 - Construct New Runway 9R/27L North of Existing Runway 9R/27L	4-83
Exhibit 4-9	Alternative C1 - New North Runway 8/26	4-85
Exhibit 4-10	Alternative C2 - New Parallel Runway 9C/27C.....	4-87
Exhibit 4-11	Alternative C3 - Construct New Parallel Runways 8L/26R & 8R/26L.....	4-89
Exhibit 4-12	Alternative D1 - Construct New Parallel Runways 8/26 & 9L/27R	4-91
Exhibit 4-13	Alternative D2 - New North Runway 8/26 and Redevelopment of Runway 9R/27L	4-93
Exhibit 4-14	Alternative E1 - Rotated Crosswind (Runway 11/29)	4-95
Exhibit 4-15	Alternative E2 - Rotated South Runway (Runway 10/28)	4-97
Exhibit 4-16	Alternative E3 - Rotate South Runway (Runway 8/26)	4-99
Exhibit 4-17	Alternative E4 - Shift Runway 13/31 to the Southeast.....	4-101
Exhibit 4-18	Alternative E5 - Extend Runway 13/31 to the Southeast	4-103
Exhibit 4-19	Alternative E6 - Extend Runway 13/31 to the Northwest	4-105
Exhibit 4-20	Refined Alternative A - No Action	4-107
Exhibit 4-21	Refined Alternative B1 - East Extension/ Widening of Runway 9R/27L.....	4-109
Exhibit 4-22	Refined Alternatives B1b/B1c - East Extension/ Widening of Runway 9R/27L.....	4-111
Exhibit 4-23	Preliminary NAVAID Siting Alternative B1	4-113
Exhibit 4-24	Preliminary NAVAID Siting Alternatives B1b/B1c/D1	4-115
Exhibit 4-25	Tenant Facility Impacts Alternatives B1/B1b/B1c.....	4-117
Exhibit 4-26	Refined Alternative B4 - New Runway 9R/27L (6,001 feet by 150 feet)	4-119
Exhibit 4-27	Preliminary NAVAID Siting Alternatives B4/D2	4-121
Exhibit 4-28	Tenant Facility Impacts Alternative B4.....	4-123
Exhibit 4-29	Potential Terminal 4 Reconfiguration Alternatives B4/D2	4-125
Exhibit 4-30	Refined Alternative B5 – New Runway 9R/27L (Simultaneous VFR/IFR Approaches)	4-127
Exhibit 4-31	Preliminary NAVAID Siting Alternative B5.....	4-129
Exhibit 4-32	Tenant Facility Impacts Alternative B5.....	4-131
Exhibit 4-33	Refined Alternative C - New North Runway 8/26	4-133
Exhibit 4-34	Preliminary NAVAID Siting Alternatives C1/D1/D2	4-135
Exhibit 4-35	Tenant Facility Impacts Alternative C1.....	4-137
Exhibit 4-36	Refined Alternative D1 - New Runways 8/26 and 9R/27L (Compilation of Alternatives B1b and C1)	4-139
Exhibit 4-37	Tenant Facility Impacts Alternative D1.....	4-141
Exhibit 4-38	Refined Alternative D2 - New Runways 8/26 and 9R/27L (Compilation of Alternatives B4 and C1).....	4-143
Exhibit 4-39	Tenant Facility Impacts Alternative D2.....	4-145

CHAPTER FIVE – AFFECTED ENVIRONMENT

Exhibit 5.A.1-1	Study Area	5.A-5
Exhibit 5.A.1-2	Detailed Study Area	5.A-7
Exhibit 5.C.1-1	Decibel Scale Range of Everyday Sound.....	5.C-39
Exhibit 5.C.1-2	Impacts on Speech Communication.....	5.C-41
Exhibit 5.C.1-3	Existing Airfield	5.C-43
Exhibit 5.C.1-4	2005 Baseline East Flow Jet Flight Corridors	5.C-45
Exhibit 5.C.1-5	2005 Baseline East Flow Prop Flight Corridors	5.C-47
Exhibit 5.C.1-6	2005 Baseline West Flow Jet Flight Corridors	5.C-49
Exhibit 5.C.1-7	2005 Baseline West Flow Prop Flight Corridors.....	5.C-51
Exhibit 5.C.1-8	2005 Baseline Noise Exposure Contour	5.C-53
Exhibit 5.C.1-9	9-27 Grid Point Location Map	5.C-55
Exhibit 5.C.1-10	13-31 Grid Point Location Map.....	5.C-57
Exhibit 5.C.1-11	Noise Monitoring Locations.....	5.C-59
Exhibit 5.C.1-12	Ambient Roadway Noise Measurement Locations.....	5.C-61
Exhibit 5.C.2-1	Study Area Existing Land Use.....	5.C-63
Exhibit 5.C.2-2	Noise-Sensitive Facilities Grid Point Location Map	5.C-65
Exhibit 5.D.1-1	Area of Potential Effect (APE)	5.D-13
Exhibit 5.D.2-1	Location of Public Parks / Recreational Facilities	5.D-15
Exhibit 5.E.1-1	Major Basins and Outfall Locations of the Existing Baseline Stormwater Management System at FLL.....	5.E-33
Exhibit 5.E.1-2(a)	Northern Basin Existing Baseline Stormwater Management System at FLL, Including Outfall and Minor Sub-basins, and Drainage Infrastructure	5.E-35
Exhibit 5.E.1-2(b)	Eastern/Terminal Basin Existing Baseline Stormwater Management System at FLL, Including Outfall and Minor Sub-basins, and Drainage Infrastructure	5.E-37
Exhibit 5.E.1-2(c)	Western Basin Existing Baseline Stormwater Management System at FLL, Including Outfall and Minor Sub-basins, and Drainage Infrastructure	5.E-39
Exhibit 5.E.1-2(d)	Ravenswood Watershed Existing Baseline Stormwater Management System at FLL, Including Outfall and Minor Sub-basins, and Drainage Infrastructure	5.E-41
Exhibit 5.E.1-3	Water Management Basins, Primary Canals, Control Structures, and BCDPEP Surface Water Sampling Locations within the Project Study Area.....	5.E-43
Exhibit 5.E.1-4	Delineation of Salt Water Intrusion within the Project Study Area.....	5.E-45
Exhibit 5.E.1-5	Wellfield Zones of Protection within the Project Study Area.....	5.E-47
Exhibit 5.E.2-1	Existing Wetlands and Surface Waters within FLL Detailed Study Area	5.E-49
Exhibit 5.E.3-1	FEMA Flood Zones	5.E-51

CHAPTER FIVE – AFFECTED ENVIRONMENT, *Continued*

Exhibit 5.E.4-1	Coastal Barrier Resource Areas.....	5.E-53
Exhibit 5.F.1-1	Land Cover within Detailed Study Area Boundary Showing Biotic Community Types by FLUCCS* Code	5.F-21
Exhibit 5.G.1-1	Locations of Facilities with Aboveground Storage Tanks (ASTs)	5.G-33
Exhibit 5.G.1-2	Locations of Facilities with Underground Storage Tanks (USTs)	5.G-35
Exhibit 5.G.1-3	Locations of Facilities with Leaking Underground Storage Tanks (LUSTs)	5.G-37
Exhibit 5.G.1-4	Locations of RCRA Small Quantity Generator Sites.....	5.G-39
Exhibit 5.G.1-5	Locations of Hazmat Sites.....	5.G-41
Exhibit 5.H.2-1	External Airport Roadway Network Average Daily Traffic Volume Count Locations.....	5.H-33
Exhibit 5.H.2-2	Existing 2006 Peak Hour Traffic Volumes and Level of Service with Existing Lane Geometrics	5.H-35
Exhibit 5.H.3-1	Current Airport Light Emissions	5.H-37
Exhibit 5.H.3-2	Approach Lighting System	5.H-39
Exhibit 5.H.4-1	Florida Power and Light (FPL) Power Generation Plants Serving Fort Lauderdale	5.H-25
Exhibit 5.H.4-2	Gulfstream Pipeline.....	5.H-26

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES

Exhibit 6.C.1-1	2012 No Action Alternative Noise Exposure Pattern	6.C-115
Exhibit 6.C.1-2	2012 Alternative B1 Noise Exposure Pattern.....	6.C-117
Exhibit 6.C.1-3	Comparison of 2012 No Action and Alternative B1 Noise Exposure Pattern.....	6.C-119
Exhibit 6.C.1-4	2012 Alternative B1b Noise Exposure Pattern	6.C-121
Exhibit 6.C.1-5	Comparison of 2012 No Action and Alternative B1b Noise Exposure Pattern	6.C-123
Exhibit 6.C.1-6	2012 Alternative B1c (Sponsor’s Proposed Project) Noise Exposure Pattern	6.C-125
Exhibit 6.C.1-7	Comparison of 2012 No Action and Alternative B1c (Sponsor’s Proposed Project) Noise Exposure Pattern	6.C-127
Exhibit 6.C.1-8	2012 Alternative B4 Noise Exposure Pattern.....	6.C-129
Exhibit 6.C.1-9	Comparison of 2012 No Action and Alternative B4 Noise Exposure Pattern	6.C-131
Exhibit 6.C.1-10	2012 Alternative B5 Noise Exposure Pattern.....	6.C-133
Exhibit 6.C.1-11	Comparison of 2012 No Action and Alternative B5 Noise Exposure Pattern	6.C-135
Exhibit 6.C.1-12	2012 Alternative C1 Noise Exposure Pattern.....	6.C-137
Exhibit 6.C.1-13	Comparison of 2012 No Action and Alternative C1 Noise Exposure Pattern	6.C-139

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES, Continued

Exhibit 6.C.1-14	Area of 3 dB Increase within the 60 - 65 DNL 2012 Alternative B1	6.C-141
Exhibit 6.C.1-15	Area of 3 dB Increase within the 60 - 65 DNL 2012 Alternative B1b	6.C-143
Exhibit 6.C.1-16	Area of 3 dB Increase within the 60 - 65 DNL 2012 Alternative B1c.....	6.C-145
Exhibit 6.C.1-17	Area of 3 dB Increase within the 60 - 65 DNL 2012 Alternative B4	6.C-147
Exhibit 6.C.1-18	Area of 3 dB Increase within the 60 - 65 DNL 2012 Alternative B5	6.C-149
Exhibit 6.C.1-19	Area of 3 dB Increase within the 60 - 65 DNL 2012 Alternative C1	6.C-151
Exhibit 6.C.1-20	2020 No Action Noise Exposure Pattern	6.C-153
Exhibit 6.C.1-21	2020 Alternative B1 Noise Exposure Pattern.....	6.C-155
Exhibit 6.C.1-22	Comparison of 2020 No Action and Alternative B1 Noise Exposure Pattern	6.C-157
Exhibit 6.C.1-23	2020 Alternative B1b Noise Exposure Pattern	6.C-159
Exhibit 6.C.1-24	Comparison of 2020 No Action and Alternative B1b Noise Exposure Pattern	6.C-161
Exhibit 6.C.1-25	2020 Alternative B4 Noise Exposure Pattern.....	6.C-163
Exhibit 6.C.1-26	Comparison of 2020 No Action and Alternative B4 Noise Exposure Pattern	6.C-165
Exhibit 6.C.1-27	2020 Alternative B5 Noise Exposure Pattern.....	6.C-167
Exhibit 6.C.1-28	Comparison of 2020 No Action and Alternative B5 Noise Exposure Pattern	6.C-169
Exhibit 6.C.1-29	2020 Alternative C1 Noise Exposure Pattern.....	6.C-171
Exhibit 6.C.1-30	Comparison of 2020 No Action and Alternative C1 Noise Exposure Pattern	6.C-173
Exhibit 6.C.1-31	2020 Alternative D1 Noise Exposure Pattern.....	6.C-175
Exhibit 6.C.1-32	Comparison of 2020 No Action and Alternative D1 Noise Exposure Pattern	6.C-177
Exhibit 6.C.1-33	2020 Alternative D2 Noise Exposure Pattern.....	6.C-179
Exhibit 6.C.1-34	Comparison of 2020 No Action and Alternative D2 Noise Exposure Pattern	6.C-181
Exhibit 6.C.1-35	Area of 3 dB Increase within the 60 – 65 2020 Alternative B....	6.C-183
Exhibit 6.C.1-36	Area of 3 dB Increase within the 60 – 65 2020 Alternative B1b/B1c	6.C-185
Exhibit 6.C.1-37	Area of 3 dB Increase within the 60 – 65 2020 Alternative B4 ..	6.C-187
Exhibit 6.C.1-38	Area of 3 dB Increase within the 60 – 65 2020 Alternative B5 ..	6.C-189
Exhibit 6.C.1-39	Area of 3 dB Increase within the 60 – 65 2020 Alternative C1 ..	6.C-191
Exhibit 6.C.1-40	Area of 3 dB Increase within the 60 – 65 2020 Alternative D1 ..	6.C-193
Exhibit 6.C.1-41	Area of 3 dB Increase within the 60 – 65 2020 Alternative D2 ..	6.C-195
Exhibit 6.C.1-42	Potential Roadway Noise Receivers	6.C-197
Exhibit 6.E.2-1	Impacts to Wetlands from B1 Alternative	6.E-49
Exhibit 6.E.2-2	Impacts to Wetlands from B1b/c Alternative.....	6.E-51

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES, Continued

Exhibit 6.E.2-3	Impacts to Wetlands from B4 Alternative	6.E-53
Exhibit 6.E.2-4	Impacts to Wetlands from B5 Alternative	6.E-55
Exhibit 6.E.2-5	Impacts to Wetlands from C1 Alternative	6.E-57
Exhibit 6.E.2-6	Impacts to Wetlands from D1 Alternative	6.E-59
Exhibit 6.E.2-7	Impacts to Wetlands from D2 Alternative	6.E-61
Exhibit 6.H.2-1	Existing 2006 Peak Hour Traffic Volumes and Level of Service with Existing Lane Geometries	6.H-71
Exhibit 6.H.2-2	2012 Peak Hour Traffic Volumes and Level of Service with Existing Lane Geometries Alternatives A, B4, and B5	6.H-73
Exhibit 6.H.2-3	2020 Peak Hour Traffic Volumes and Level of Service with Existing Lane Geometries Alternatives A, B4 and B5	6.H-75
Exhibit 6.H.2-4	2012 Peak Hour Traffic Volumes and Level of Service with Existing Lane Geometries Alternatives B1, B1b and B1c	6.H-77
Exhibit 6.H.2-5	2020 Peak Hour Traffic Volumes and Level of Service with Existing Lane Geometries Alternatives B1, B1b and B1c	6.H-79
Exhibit 6.H.2-6	2012 Peak Hour Traffic Volumes and Level of Service with Existing Lane Geometries Alternatives C1 and D2	6.H-81
Exhibit 6.H.2-7	2020 Peak Hour Traffic Volumes and Level of Service with Existing Lane Geometries Alternatives C1 and D2	6.H-83
Exhibit 6.H.2-8	2012 Peak Hour Traffic Volumes and Level of Service with Existing Lane Geometries Alternative D1	6.H-85
Exhibit 6.H.2-9	2020 Peak Hour Traffic Volumes and Level of Service with Existing Lane Geometries Alternative D1	6.H-87
Exhibit 6.H.3-1	Light Emissions Alternative B1	6.H-89
Exhibit 6.H.3-2	Light Emissions Alternative B1b	6.H-91
Exhibit 6.H.3-3	Light Emissions Alternative B1c	6.H-93
Exhibit 6.H.3-4	Light Emissions Alternative B4	6.H-95
Exhibit 6.H.3-5	Light Emissions Alternative B5	6.H-97
Exhibit 6.H.3-6	Light Emissions Alternative C1	6.H-99
Exhibit 6.H.3-7	Light Emissions Alternative D1	6.H-101
Exhibit 6.H.3-8	Light Emissions Alternative D2	6.H-103
Exhibit 6.H.5-1	Alternative B1/B1b/B1c – Limits of Disturbance	6.H-105
Exhibit 6.H.5-2	Preliminary Approach Light Access Alternative B1	6.H-107
Exhibit 6.H.5-3	Preliminary Approach Light Access Alternatives B1b/B1c/D1	6.H-109
Exhibit 6.H.5-4	Primary Construction Access Routes Alternatives B1, B1b, B1c	6.H-111
Exhibit 6.H.5-5	Alternative B4 - Limits of Disturbance	6.H-113

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES, Continued

Exhibit 6.H.5-6	Preliminary Approach Light Access Alternatives B4/D2	6.H-115
Exhibit 6.H.5-7	Primary Construction Access Routes Alternative B4	6.H-117
Exhibit 6.H.5-8	Alternative B5 - Limits of Disturbance.....	6.H-119
Exhibit 6.H.5-9	Preliminary Approach Light Access Alternative B5.....	6.H-121
Exhibit 6.H.5-10	Primary Construction Access Routes Alternative B5	6.H-123
Exhibit 6.H.5-11	Alternative C1 – Limits of Disturbance	6.H-125
Exhibit 6.H.5-12	Preliminary Approach Light Access Alternatives C1/D1/D2	6.H-127
Exhibit 6.H.5-13	Primary Construction Access Routes Alternative C1	6.H-129
Exhibit 6.H.5-14	Alternative D1 – Limits of Disturbance.....	6.H-131
Exhibit 6.H.5-15	Primary Construction Access Routes – Alternative D1	6.H-133
Exhibit 6.H.5-16	Alternative D2 – Limits of Disturbance.....	6.H-135
Exhibit 6.H.5-17	Primary Construction Access Routes Alternative D2	6.H-137

CHAPTER EIGHT – FAA’S PREFERRED ALTERNATIVE

Exhibit 8-1	Alternative B1b – East Extension/Widening of Runway 9R/27L	8-51
Exhibit 8-2	Preliminary NAVAID Siting Alternative B1b	8-53
Exhibit 8-3	Tenant Facility Impacts Alternative B1b	8-55
Exhibit 8-4	FAA’s Preferred Alternative Noise Exposure Contour	8-57
Exhibit 8-5	FAA’s Preferred Alternative – West of FLL	8-59
Exhibit 8-5	FAA’s Preferred Alternative – South of FLL	8-61

TABLES

PAGE

EXECUTIVE SUMMARY

Table ES-1	Summary of Alternatives Including Potential Environmental Impacts and Benefit.....	ES-41
Table ES-2	Incompatible Land Uses Potentially Eligible for EIS Noise Mitigation Measures – 2020 FAA’s Preferred Alternative	ES-34

CHAPTER THREE – PUPOSE AND NEED

Table 3-1	FAA 2006 Terminal Area Forecast	3-9
-----------	---------------------------------------	-----

CHAPTER FOUR – ALTERNATIVES

Table 4-1	Enplaned Passenger Costs at Large - and Medium-Hub Airports with Low Cost/Low Fare Service.....	4-7
Table 4-2	Cities in Top 25 Markets of Domestic O&D Passengers 12 Months Ended March 2005	4-13
Table 4-3	Initial Screening of Runway Development Alternatives	4-28
Table 4-4	Summary of Costs – Alternative B1	4-60
Table 4-5	Summary of Costs - Alternatives B1b/B1c.....	4-62
Table 4-6	Summary of Costs - Alternative B4	4-63
Table 4-7	Summary of Costs - Alternative B5	4-64
Table 4-8	Summary of Costs - Alternative C1	4-66
Table 4-9	Summary of Costs - Alternative D1	4-67
Table 4-10	Summary of Costs - Alternative D2	4-68

CHAPTER FIVE – AFFECTED ENVIRONMENT

Table 5.B-1	National Ambient Air Quality Standards (NAAQS)	5.B-4
Table 5.B-2	CFR Title 40: Protection of Environment Part 93.158(B)(1 and 2) Criteria for Determining Conformity of General Federal Actions	5.B-5
Table 5.B.3	Clean Air Act De Minimis Thresholds.....	5.B-6
Table 5.B-4	Criteria and Precursor Pollutant Emission Inventory - 2005 Existing Conditions	5.B-12
Table 5.B-5	Criteria Pollutant Design Concentrations – 2005 Existing Conditions	5.B-14
Table 5.B-6	Roadway Intersection Carbon Monoxide Design Concentrations – 2005 Existing Conditions	5.B-16
Table 5.C.1-1	Typical Percentage of Persons Highly Disturbed by Aircraft Noise by Type of Activity	5.C-6
Table 5.C.1-2	Departure Trip Length Distribution – 2005 Baseline.....	5.C-11
Table 5.C.1-3	Average Day Operations – 2005 Baseline.....	5.C-12
Table 5.C.1-4	Average Day Operations by Aircraft Type – 2005 Baseline	5.C-13
Table 5.C.1-5	Ground Run-up Operations – 2005 Baseline	5.C-15

CHAPTER FIVE – AFFECTED ENVIRONMENT, Continued

Table 5.C.1-6	Area Exposed to Various Noise Levels (In Square Miles) – 2005 Baseline Noise Contours	5.C-16
Table 5.C.1-7	Incompatible Land Uses – 2005 Baseline	5.C-18
Table 5.C.2-1	Schools in the Study Area	5.C-28
Table 5.C.2-2	Libraries in the Study Area	5.C-29
Table 5.C.2-3	Assisted Living Facilities in the Study Area	5.C-29
Table 5.C.2-4	Places of Worship in the Study Area	5.C-30
Table 5.C.2-5	Performing Arts Centers and Museums in the Study Area	5.C-32
Table 5.C.2-6	Hospitals in the Study Area.....	5.C-32
Table 5.D.1-1	Historic Resources Identified in the Area of Potential Effect.....	5.D-5
Table 5.D.2-1	Public Parks/Recreational Facilities Located in Study Area	5.D-10
Table 5.E.1-1	Annual 2004 Baseline and Summary of Pollutants Average Concentrations for Calendar Year 2004 for All BCDPEP Surface Water Quality Stations in Study Area	5.E-15
Table 5.E.2-1	Wetland Areas and Sizes within the Detailed Study Area	5.E-23
Table 5.F.1-1	FLUCCS Biotic Community Land Cover.....	5.F-4
Table 5.F.1-2	FLUCCS Urbanized Land Cover	5.F-4
Table 5.F.1-3	Protected Wildlife Potentially Present In Southern Broward County.....	5.F-12
Table 5.F.1-4	Protected Plants Potentially Present In Southern Broward County.....	5.F-15
Table 5.F.2-1	Study Area Soil Legend	5.F-20
Table 5.G.1-1	Aboveground Storage Tank Data	5.G-16
Table 5.G.1-2	Underground Storage Tank Data.....	5.G-17
Table 5.G.1-3	LUST Sites	5.G-18
Table 5.H.1.2-1	Environmental Justice Demographic Characteristics (Broward County and Study Area).....	5.H-7
Table 5.H.2-1	Local Traffic Volumes	5.H-10
Table 5.H.2-2	Estimated Direct Economic Impact by Type of Business/FY 2002.....	5.H-14
Table 5.H.2-3	Fire Departments within the Vicinity of the Airport	5.H-16
Table 5.H.2-4	Police Departments within the Vicinity of the Airport	5.H-16
Table 5.H.2-5	Hospitals within the Vicinity of the Airport.....	5.H-16
Table 5.H.3-1	Airfield Lighting.....	5.H-19
Table 5.H.4-1	Annual Utility Power and Fuel Demand – 2005 Existing Conditions	5.H-28

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES

Table 6.B-1	Emission Inventory of Criteria and Precursor Pollutants.....	6.B-6
Table 6.B-2	Impact of Criteria and Precursor Pollutant Emissions	6.B-9
Table 6.B-3	Alternative A (No Action) – 2012 EDMS Emission Inventory of Criteria and Precursor Pollutants.....	6.B-16
Table 6.B-4	Alternative B1 – 2012 EDMS Emission Inventory of Criteria and Precursor Pollutants.	6.B-18
Table 6.B-5	Alternative B1b – 2012 EDMS Emission Inventory of Criteria and Precursor Pollutants.....	6.B-20
Table 6.B-6	Alternative B1c – 2012 EDMS Emission Inventory of Criteria and Precursor Pollutants.....	6.B-22
Table 6.B-7	Alternative B4 – 2012 EDMS Emission Inventory of Criteria and Precursor Pollutants	6.B-24
Table 6.B-8	Alternative B5 – 2012 EDMS Emission Inventory of Criteria and Precursor Pollutants.....	6.B-26
Table 6.B-9	Alternative C1 – 2012 EDMS Emission Inventory of Criteria and Precursor Pollutants.	6.B-28
Table 6.B-10	Alternative D1 – 2020 EDMS Emission Inventory of Criteria and Precursor Pollutants.....	6.B-31
Table 6.B-11	Alternative D2 – 2020 EDMS Emission Inventory of Criteria and Precursor Pollutants.....	6.B-34
Table 6.B-12	Maximum Criteria Pollutant Design Concentrations.....	6.B-37
Table 6.B-13	Impact of Criteria Pollutant Concentrations	6.B-40
Table 6.B-14	Alternative A (No Action) – 2012 Criteria Pollutant Design Concentrations	6.B-45
Table 6.B-15	Alternative B1 – 2012 Criteria Pollutant Design Concentration.....	6.B-49
Table 6.B-16	Alternative B1b – 2012 Criteria Pollutant Design Concentration.....	6.B-53
Table 6.B-17	Alternative B1c – 2012 Criteria Pollutant Design Concentration.....	6.B-57
Table 6.B-18	Alternative B4 – 2012 Criteria Pollutant Design Concentration.....	6.B-61
Table 6.B-19	Alternative B5 – 2012 Criteria Pollutant Design Concentration.....	6.B-65
Table 6.B-20	Alternative C1 – 2012 Criteria Pollutant Design Concentration.....	6.B-69
Table 6.B-21	Alternative D1 – 2020 Criteria Pollutant Design Concentration.....	6.B-73
Table 6.B-22	Alternative D2 – 2020 Criteria Pollutant Design Concentration.....	6.B-77
Table 6.B-23	Maximum Carbon Monoxide Design Concentrations for Intersections for 2012 and 2020.....	6.B-81
Table 6.B-24	Carbon Monoxide Concentration Impacts at Intersections.....	6.B-82
Table 6.B-25	Alternative A (No Action) – 2012 Roadway Intersection Carbon Monoxide Design Concentrations.....	6.B-83

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES, Continued

Table 6.B-26	Alternative B1 – 2012 Roadway Intersection Carbon Monoxide Design Concentrations	6.B-85
Table 6.B-27	Alternative B1b – 2012 Roadway Intersection Carbon Monoxide Design Concentrations	6.B-87
Table 6.B-28	Alternative B1c – 2012 Roadway Intersection Carbon Monoxide (CO) Design Concentrations	6.B-89
Table 6.B-29	Alternative B4 – 2012 Roadway Intersection Carbon Monoxide (CO) Design Concentrations	6.B-91
Table 6.B-30	Alternative B5 – 2012 Roadway Intersection Carbon Monoxide (CO) Design Concentrations	6.B-93
Table 6.B-31	Alternative C1 – 2012 Roadway Intersection Carbon Monoxide (CO) Design Concentrations	6.B-95
Table 6.B-32	Alternative D1 – 2020 Roadway Intersection Carbon Monoxide Design Concentrations	6.B-97
Table 6.B-33	Alternative D2 – 2020 Roadway Intersection Carbon Monoxide Design Concentrations	6.B-99
Table 6.C.1-1	Average Day Operations* – 2012 No Action Alternative	6.C-5
Table 6.C.1-2	Average Day Operations by Aircraft Type* – 2012 No Action Alternative	6.C-6
Table 6.C.1-3	Ground Run-up Operations – 2012 No Action Alternative.....	6.C-8
Table 6.C.1-4	Area Exposed to Various Noise Levels (In Square Miles) 2012 No Action Alternative Noise Exposure Contours	6.C-9
Table 6.C.1-5	Incompatible Land Uses – 2012 Alternative A No Action	6.C-10
Table 6.C.1-6	Average Day Operations* – 2012 Alternative B1	6.C-11
Table 6.C.1-7	Average Day Operations by Aircraft Type* – 2012 Alternative B1	6.C-12
Table 6.C.1-8	Area Exposed to Various Noise Levels (In Square Miles) – 2012 Alternative B1	6.C-15
Table 6.C.1-9	Incompatible Land Uses - 2012 Alternative B1	6.C-16
Table 6.C.1-10	Average Day Operations* – 2012 Alternative B1b	6.C-18
Table 6.C.1-11	Average Day Operations by Aircraft Type* – 2012 Alternative B1b ..	6.C-19
Table 6.C.1-12	Area Exposed to Various Noise Levels (In Square Miles) – 2012 Alternative B1b	6.C-22
Table 6.C.1-13	Incompatible Land Uses - 2012 Alternative B1b	6.C-23
Table 6.C.1-14	Average Day Operations* – 2012 Alternative B1c.....	6.C-24
Table 6.C.1-15	Average Day Operations by Aircraft Type* – 2012 Alternative B1c.....	6.C-25
Table 6.C.1-16	Area Exposed to Various Noise Levels (In Square Miles) – 2012 Alternative B1c.....	6.C-28
Table 6.C.1-17	Incompatible Land Uses - 2012 Alternative B1c	6.C-30
Table 6.C.1-18	Average Day Operations* – 2012 Alternative B4	6.C-31
Table 6.C.1-19	Average Day Operations by Aircraft Type* – 2012 Alternative B4	6.C-32
Table 6.C.1-20	Area Exposed to Various Noise Levels (In Square Miles) – 2012 Alternative B4	6.C-35
Table 6.C.1-21	Incompatible Land Uses - 2012 Alternative B4	6.C-37

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES, Continued

Table 6.C.1-22	Average Day Operations* – 2012 Alternative B5	6.C-38
Table 6.C.1-23	Average Day Operations by Aircraft Type* – 2012 Alternative B5	6.C-39
Table 6.C.1-24	Area Exposed to Various Noise Levels (In Square Miles) – 2012 Alternative B5	6.C-42
Table 6.C.1-25	Incompatible Land Uses - 2012 Alternative B5	6.C-43
Table 6.C.1-26	Average Day Operations* – 2012 Alternative C1	6.C-45
Table 6.C.1-27	Average Day Operations by Aircraft Type* – 2012 Alternative C1	6.C-45
Table 6.C.1-28	Area Exposed to Various Noise Levels (In Square Miles) – 2012 Alternative C1	6.C-48
Table 6.C.1-29	Incompatible Land Uses - 2012 Alternative C1	6.C-49
Table 6.C.1-30	Incompatible Land Uses - 2012 Alternatives	6.C-50
Table 6.C.1-31	Noise Impacts Between the 60 and 65 DNL Noise Exposure Contours – 2012 Alternatives	6.C-53
Table 6.C.1-32	Average Day Operations* – 2020 No Action Alternative.	6.C-57
Table 6.C.1-33	Average Day Operations by Aircraft Type* – 2020 No Action Alternative	6.C-57
Table 6.C.1-34	Ground Run-up Operations — 2020 No Action Alternative	6.C-59
Table 6.C.1-35	Area Exposed to Various Noise Levels (In Square Miles) - 2020 No Action Alternative Noise Exposure Contours	6.C-60
Table 6.C.1-36	Incompatible Land Uses – 2020 No Action Alternative	6.C-61
Table 6.C.1-37	Average Day Operations* – 2020 Alternative B1	6.C-63
Table 6.C.1-38	Average Day Operations by Aircraft Type* – 2020 Alternative B1	6.C-64
Table 6.C.1-39	Area Exposed to Various Noise Levels (In Square Miles) – 2020 Alternative B1	6.C-66
Table 6.C.1-40	Incompatible Land Uses - 2020 Alternative B1	6.C-67
Table 6.C.1-41	Average Day Operations* – 2020 Alternative B1b	6.C-68
Table 6.C.1-42	Average Day Operations by Aircraft Type* – 2020 Alternative B1b	6.C-69
Table 6.C.1-43	Area Exposed to Various Noise Levels (In Square Miles) – 2020 Alternative B1b	6.C-71
Table 6.C.1-44	Incompatible Land Uses - 2020 Alternative B1b	6.C-72
Table 6.C.1-45	Average Day Operations* – 2020 Alternative B4	6.C-75
Table 6.C.1-46	Average Day Operations by Aircraft Type* – 2020 Alternative B4	6.C-75
Table 6.C.1-47	Area Exposed to Various Noise Levels (In Square Miles) – 2020 Alternative B4	6.C-77
Table 6.C.1-48	Incompatible Land Uses - 2020 Alternative B4	6.C-78
Table 6.C.1-49	Average Day Operations* – 2020 Alternative B5	6.C-80
Table 6.C.1-50	Average Day Operations by Aircraft Type* – 2020 Alternative B5	6.C-80
Table 6.C.1-51	Area Exposed to Various Noise Levels (In Square Miles) – 2020 Alternative B5	6.C-82
Table 6.C.1-52	Incompatible Land Uses - 2020 Alternative B5	6.C-83
Table 6.C.1-53	Average Day Operations* – 2020 Alternative C1	6.C-85

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES, Continued

Table 6.C.1-54	Average Day Operations by Aircraft Type* – 2020 Alternative C1	6.C-85
Table 6.C.1-55	Area Exposed to Various Noise Levels (In Square Miles) – 2020 Alternative C1	6.C-87
Table 6.C.1-56	Incompatible Land Uses - 2020 Alternative C1	6.C-88
Table 6.C.1-57	Average Day Operations* – 2020 Alternative D1	6.C-90
Table 6.C.1-58	Average Day Operations by Aircraft Type* – 2020 Alternative D1	6.C-90
Table 6.C.1-59	Area Exposed to Various Noise Levels (In Square Miles) – 2020 Alternative D1	6.C-93
Table 6.C.1-60	Incompatible Land Uses - 2020 Alternative D1	6.C-94
Table 6.C.1-61	Average Day Operations* – 2020 Alternative D2	6.C-96
Table 6.C.1-62	Average Day Operations by Aircraft Type* – 2020 Alternative D2	6.C-96
Table 6.C.1-63	Area Exposed to Various Noise Levels (In Square Miles) – 2020 Alternative D2	6.C-99
Table 6.C.1-64	Incompatible Land Uses - 2020 Alternative D2	6.C-100
Table 6.C.1-65	Incompatible Land Uses - 2020 Alternatives	6.C-101
Table 6.C.1-66	Noise Impacts Between the 60 and 65 DNL Noise Exposure Contours – 25020 Alternatives	6.C-103
Table 6.E.1-1	FAC 62-302.530, Criteria for Surface Water Quality Classifications	6.E-7
Table 6.E.1-2	Pollutant Level Concentration for All Alternatives Versus Applicable FAC Chapter 62-302 Criteria For Class III – Predominantly Marine Water	6.E-16
Table 6.E.2.1	Comparative Summary of Impacts to Wetlands Caused by the Project Alternatives	6.E-36
Table 6.E.3-1	Impacts to the 100-Year Floodplain (Acres)	6.E-39
Table 6.E.4-1	Florida Coastal Management Program Consistency Review Statute/Scope Consistency	6.E-45
Table 6.F.1-1	Summary of Potential Effects on Protected Wildlife Species for the Runway Development Alternatives	6.F-4
Table 6.F.1-2	Summary of Potential Effects on Protected Plants for the Runway Development Alternatives	6.F-6
Table 6.G.1-1	Hazardous Waste Projections	6.G-17
Table 6.G.2-1	Solid Waste Projections	6.G-29
Table 6.G.2-2	Construction Debris Projections	6.G-30
Table 6.H.1.2-1	Percentage of Minority Residents and Average Median Household Income in Broward County and the Study Area	6.H-10
Table 6.H.1.2-2	Evaluation of Factors for Potential – Environmental Justice Impacts	6.H-11

CHAPTER SIX – ENVIRONMENTAL CONSEQUENCES, Continued

Table 6.H.1.2-3	Impacts to Minority and Low-Income Population Households in 2012 and 2020	6.H-12
Table 6.H.2-1	Summary of Level of Service (LOS) With Average Control Delay (Secs)* – 2006, 2012, And 2020.....	6.H-16
Table 6.H.4-1	Annual Energy Demand – 2012 and 2020	6.H-41
Table 6.H.4-2	2012 Energy Demand Impacts - Change in Energy Demand Versus the 2012 No Action Alternative	6.H-43
Table 6.H.4-3	Alternative A (No Action) – 2012 Annual Energy Demand	6.H-44
Table 6.H.4-4	Alternative B1 – 2012 Annual Energy Demand	6.H-46
Table 6.H.4-5	Alternative B1b – 2012 Annual Energy Demand	6.H-47
Table 6.H.4-6	Alternative B1c – 2012 Annual Energy Demand	6.H-48
Table 6.H.4-7	Alternative B4 – 2012 Annual Energy Demand	6.H-50
Table 6.H.4-8	Alternative B5 – 2012 Annual Energy Demand	6.H-51
Table 6.H.4-9	Alternative C1 – 2012 Annual Energy Demand	6.H-52

CHAPTER SEVEN – CUMULATIVE IMPACTS

Table 7-1	Summary Analysis of Cumulative Impacts to Wetlands and EFH	7-27
Table 7-2	Summary of Cumulative Environmental Impacts	7-39

CHAPTER EIGHT – FAA’S PREFERRED ALTERNATIVE

Table 8-1	Area Exposed To Various Noise Levels (In Square Miles) - 2020 Noise Contour B1bG.....	8-21
Table 8-2	Incompatible Land Uses - 2020 Noise Contour B1bG	8-22
Table 8-3	Incompatible Land Use within the 65 DNL Noise Contour - 2020 FAA’s Preferred Alternative	8-29
Table 8-4	FAA’s Preferred Alternative - West of FLL: Incompatible Land Use within the 65+ DNL Noise Contour	8-30
Table 8-5	FAA’s Preferred Alternative - South of FLL: Incompatible Land Use within the 65+ DNL Noise Contour	8-31
Table 8-6	Estimated Cost to Sound Insulate Eligible Structures within the 65+ DNL Noise Contour	8-32
Table 8-7	Estimated Cost for Purchase Assurance/Sales Assistance Programs with Sound Insulation For Eligible Structures within the 65+ DNL Noise Contour	8-33
Table 8-8	Adjacent Areas of Incompatible Land Use Outside the 65+ DNL Noise Contour	8-38
Table 8-9	Estimated Cost to Sound Insulate Eligible Structures Outside the 65+ DNL Noise Contour	8-38
Table 8-10	Estimated Cost for Purchase Assurance/Sales Assistance Programs With Sound Insulation for Eligible Structures Outside the 65+ DNL Noise Contour	8-39
Table 8-11	Summary of the Estimated Cost for Land Use Mitigation Inside and Outside the 65 DNL Noise Contour.....	8-42

**CHAPTER NINE – LIST OF PREPARERS AND LIST OF AGENCIES AND
PERSONS TO WHOM COPIES ARE SENT**

Table 9-1	List of Preparers	9-1
Table 9-2	Draft EIS Document Distribution List	9-4
Table 9-3	Federal and State Elected Officials	9-11
Table 9-4	Locations Where the Draft and Final EIS Document are Available For Public Review	9-14

APPENDICES

APPENDIX A – AGENCY STREAMLINING

APPENDIX B – PUBLIC INVOLVEMENT

- Appendix B.1 – Scoping
- Appendix B.2 – Focus Group Meetings
- Appendix B.3 – Interim Public Workshop

APPENDIX C – FAA/AIRPORT SPONSOR’S CORRESPONDENCE

APPENDIX D – PURPOSE AND NEED

- Appendix D.1 – Forecast Verification and Derivatives
- Appendix D.2 – Terminal Gate Verification
- Appendix D.3 – Runway Length Analysis

APPENDIX E– AIRFIELD PLANNING, DESIGN, AND CONSTRUCTABILITY REVIEW

APPENDIX F – NET BENEFITS ANALYSIS

APPENDIX G – AIR QUALITY

- Appendix G.1 – Technical Report Air Quality Assessment Methodology and Procedure
- Appendix G.1.A – Agency Coordination
- Appendix G.1.B – Hazardous Air Pollutant (HAP) Evaluation

APPENDIX H – NOISE

APPENDIX I– INTERLOCAL AGREEMENTS AND DEVELOPMENT ORDERS

APPENDIX J – LAND USE GIS METHODOLOGY

- Appendix J.1 – Geographic Information System (GIS) Database Development and Land Use Methodology
- Appendix J.2 – Land Use Policies
- Appendix J.3 – Municipality Planning and Zoning Coordination

APPENDIX K – PUBLIC RESOURCES

- Appendix K.1 – Historic, Architectural, Archeological, and Cultural Resources
- Appendix K.2 – Section 4(f)

APPENDIX L – WATER RESOURCES

APPENDIX M – BIOLOGICAL RESOURCES

APPENDIX N – HAZARDOUS AND WASTE MATERIALS

APPENDIX O – SURFACE TRANSPORTATION METHODOLOGY

APPENDIX P – RESPONSE TO COMMENTS

APPENDIX Q – FAA’S PREFERRED ALTERNATIVE

**APPENDIX R – COMMENTS RECEIVED AFTER CLOSE OF THE
COMMENT PERIOD**

APPENDIX S – ADDITIONAL ANALYSIS

Appendix S.1 – Additional Simulation Analysis Conducted for Capacity and Delay After
Publication of Draft EIS

Appendix S.2 – Additional Noise Disclosure Analysis

Appendix S.3 – Qualitative Air Quality Assessment With Runway End Utilization Based on
Terminal Gate Location