

6.K SUMMARY OF ALTERNATIVES INCLUDING POTENTIAL ENVIRONMENTAL IMPACTS AND BENEFITS

The following sections summarize the potential direct and secondary (induced) environmental impacts and/or benefits associated with each of the proposed runway development alternatives including the No Action. **Table 6.K.1, *Summary of Alternatives Including Potential Environmental Impacts and Benefits***, is provided at the end of this section.

The EIS analyzed eight runway development alternatives and the No Action alternative in terms of their potential environmental effects.

- Alternative A – No Action
- Alternative B1: redevelop and extend existing Runway 9R/27L to an 8,600-foot by 150-foot elevated runway
- Alternative B1b: redevelop and extend existing Runway 9R/27L to an 8,000-foot by 150-foot elevated runway with EMAS
- Alternative B1c:¹ redevelop and extend existing Runway 9R/27L to an 8,000-foot by 150-foot elevated runway with EMAS; includes the implementation of the operational noise abatement actions described in the County's Airfield Development Program Objective Statement adopted by the Commission on October 26, 2004
- 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)
- 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)
- 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)
- 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)
- 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)

Alternative A - No Action: Alternative A would not exceed the National Ambient Air Quality Standards (NAAQS). In terms of noise exposure for 2012, there would be 13 residential dwelling units with a total of 33 persons within the 65 Day-Night Average Sound Level (DNL) noise contour. No noise-sensitive facilities (i.e.

¹ Alternative B1c is the Airport Sponsor's Proposed Project.

churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2012. In terms of noise exposure for 2020, there would be 696 residential dwelling units with a total of 1,772 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2020. Because there is no development or construction, no direct land use impact would occur; and there would be no changes to land use planning and zoning.

No historic properties or archaeological sites would be affected. There would be no impact to Section 4(f) or Section 6(f) resources. Water quality standards would not be exceeded. There would be no impact to wetlands. There would be no significant impact to floodplains. This alternative would be consistent with the Florida Coastal Management Program. There are no impacts to wild and scenic rivers or farmlands. There would be no impacts to Federally-listed species and critical habitats. There would be no impact to state-listed species. There would be no impact to essential fish habitat.

There would be no impact to areas of known hazardous waste contamination. There would be no significant increase in solid waste. Land acquisition would not be necessary; therefore, there would be no residential or business relocations, no change to local traffic patterns, and no loss in community tax base.

There would be no disproportionate impact to minority or low-income communities and no effects on children's health and safety. For secondary induced impacts, there would be no impact to surface transportation infrastructure, no economic affect due to construction spending and activities, and no impact on public services. There would be no visual impact due to light emissions. There would be no adverse affect on energy supply/natural resources. There would be no construction impact.

Alternative B1 - redevelop and extend existing Runway 9R/27L to an 8,600-foot by 150-foot elevated runway: Alternative B1 would not exceed the NAAQS. In terms of noise exposure for 2012, there would be 632 residential dwelling units with a total of 1,538 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2012. In terms of noise exposure for 2020, there would be 1,046 residential dwelling units with a total of 2,447 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2020. There would be direct land use impacts due to the acquisition of all or a portion of the Hilton (formerly the Wyndham) Fort Lauderdale Airport Hotel and the Dania Boat Sales. This alternative would not require a land use or zoning change and would be consistent with current local land use and zoning documents.

No historic properties or archaeological sites would be affected. There would be no impact to Section 4(f) or Section 6(f) resources. Water quality standards would not be exceeded. There would be 15.17 acres of direct impacts to wetlands. There would be no significant impact to floodplains. This alternative would be consistent with the Florida Coastal Management Program. There are no impacts to wild and scenic rivers or farmlands. This alternative "may affect but is not likely to

adversely affect" three Federally-listed species: the West Indian Manatee, the wood stork, and the smalltooth sawfish. Surveys for one state-listed species, the Florida Burrowing Owl, would be conducted prior to initiating construction activities. There would be no significant affect to essential fish habitat.

There would be minimal impact to areas of known hazardous waste contamination. There would be no significant increase in solid waste. Acquisition of all or a portion of the Hilton (formerly the Wyndham) Fort Lauderdale Airport Hotel and the Dania Boat Sales properties would be required. No residential land acquisition would be necessary. There would be no significant impact to local traffic patterns, and no significant loss in community tax base.

There would be no disproportionate impact to minority or low-income communities and no effects on children's health and safety. For secondary induced impacts, there would be no significant impact to surface transportation infrastructure, a positive economic affect due to construction spending and activities, and no significant impact on public services. There would be no significant visual impact due to light emissions. There would be no adverse affect on energy supply/natural resources. There would be temporary construction impacts.

Alternative B1b: redevelop and extend existing Runway 9R/27L to an 8,000-foot by 150-foot elevated runway with EMAS: Alternative B1b would not exceed the NAAQS. In terms of noise exposure for 2012, there would be 652 residential dwelling units with a total of 1,593 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2012. In terms of noise exposure for 2020, there would be 1,051 residential dwelling units with a total of 2,472 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2020. There would be direct land use impacts due to the acquisition of all or a portion of the Hilton (formerly the Wyndham) Fort Lauderdale Airport Hotel and the Dania Boat Sales. This alternative would not require a land use or zoning change and would be consistent with current local land use and zoning documents.

No historic properties or archaeological sites would be affected. There would be no impact to Section 4(f) or Section 6(f) resources. Water quality standards would not be exceeded. There would be 15.41 acres of direct impacts to wetlands. There would be no significant impact to floodplains. This alternative would be consistent with the Florida Coastal Management Program. There are no impacts to wild and scenic rivers or farmlands. This alternative "may affect but is not likely to adversely affect" three Federally-listed species: the West Indian Manatee, the wood stork, and the smalltooth sawfish. Surveys for one state-listed species, the Florida Burrowing Owl, would be conducted prior to initiating construction activities. There would be no significant affect to essential fish habitat.

There would be minimal impact to areas of known hazardous waste contamination. There would be no significant increase in solid waste. Acquisition of all or a portion of the Hilton (formerly the Wyndham) Fort Lauderdale Airport Hotel and the Dania

Boat Sales properties would be required. No residential land acquisition would be necessary. There would be no significant impact to local traffic patterns, and no significant loss in community tax base.

There would be no disproportionate impact to minority or low-income communities and no effects on children's health and safety. For secondary induced impacts, there would be no significant impact to surface transportation infrastructure, a positive economic affect due to construction spending and activities, and no significant impact on public services. There would be no significant visual impact due to light emissions. There would be no adverse affect on energy supply/natural resources. There would be temporary construction impacts.

Alternative B1c:² Redevelop and extend existing Runway 9R/27L to an 8,000-foot by 150-foot elevated runway with EMAS; includes the implementation of the operational noise abatement actions described in the County's Airfield Development Program Objective Statement adopted by the Commission on October 26, 2004: Alternative B1c would not exceed the NAAQS. In terms of noise exposure for 2012, there would be 118 residential dwelling units with a total of 285 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2012. In terms of noise exposure for 2020, there would be 1,051 residential dwelling units with a total of 2,472 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2020. There would be direct land use impacts due to the acquisition of all or a portion of the Hilton (formerly the Wyndham) Fort Lauderdale Airport Hotel and the Dania Boat Sales. This alternative would not require a land use or zoning change and would be consistent with current local land use and zoning documents.

No historic properties or archaeological sites would be affected. There would be no impact to Section 4(f) or Section 6(f) resources. Water quality standards would not be exceeded. There would be 15.41 acres of direct impacts to wetlands. There would be no significant impact to floodplains. This alternative would be consistent with the Florida Coastal Management Program. There are no impacts to wild and scenic rivers or farmlands. This alternative "may affect but is not likely to adversely affect" three Federally-listed species: the West Indian Manatee, the wood stork, and the smalltooth sawfish. Surveys for one state-listed species, the Florida Burrowing Owl, would be conducted prior to initiating construction activities. There would be no significant affect to essential fish habitat.

There would be minimal impact to areas of known hazardous waste contamination. There would be no significant increase in solid waste. Acquisition of all or a portion of the Hilton (formerly the Wyndham) Fort Lauderdale Airport Hotel and the Dania Boat Sales properties would be required. No residential land acquisition would be necessary. There would be no significant impact to local traffic patterns, and no significant loss in community tax base.

² Alternative B1c is the Airport Sponsor's Proposed Project.

There would be no disproportionate impact to minority or low-income communities and no effects on children's health and safety. For secondary induced impacts, there would be no significant impact to surface transportation infrastructure, a positive economic affect due to construction spending and activities, and no significant impact on public services. There would be no significant visual impact due to light emissions. There would be no adverse affect on energy supply/natural resources. There would be temporary construction impacts.

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): Alternative B4 would not exceed the NAAQS. In terms of noise exposure for 2012, there would be 372 residential dwelling units with a total of 973 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2012. In terms of noise exposure for 2020, there would be 477 residential dwelling units with a total of 1,492 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2020. There would be a direct land use impact if the partial acquisition of the Dania Boat Sales is necessary. This alternative would not require a land use or zoning change and would be consistent with current local land use and zoning documents.

No historic properties or archaeological sites would be affected. There would be no impact to Section 4(f) or Section 6(f) resources. Water quality standards would not be exceeded. There would be 0.13 acres of direct impacts to wetlands. There would be no significant impact to floodplains. This alternative would be consistent with the Florida Coastal Management Program. There are no impacts to wild and scenic rivers or farmlands. This alternative "may affect but is not likely to adversely affect" two Federally-listed species; the West Indian Manatee and the wood stork. Surveys for one-state listed species, the Florida Burrowing Owl, would be conducted prior to initiating construction activities. There would be no significant affect to essential fish habitat.

There would be minimal impact to areas of known hazardous waste contamination. There would be no significant increase in solid waste. Acquisition of a portion of the Dania Boat Sales properties may be necessary. No residential land acquisition would be necessary. There would be no significant impact to local traffic patterns, and no significant loss in community tax base.

There would be no disproportionate impact to minority or low-income communities and no effects on children's health and safety. For secondary induced impacts, there would be no significant impact to surface transportation infrastructure, a positive economic affect due to construction spending and activities, and no significant impact on public services. There would be no significant visual impact due to light emissions. There would be no adverse affect on energy supply/natural resources. There would be temporary construction impacts.

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): Alternative B5 would not exceed the NAAQS. In terms of noise exposure for 2012, there would be 840 residential dwelling units with a total of 1,928 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2012. In terms of noise exposure for 2020, there would be 1,260 residential dwelling units with a total of 4,235 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2020. There would be direct land use impacts due to the acquisition of all of the Hilton (formerly the Wyndham) Fort Lauderdale Airport Hotel and the Dania Boat Sales. This alternative would not require a land use or zoning change and would be consistent with current local land use and zoning documents.

No historic properties or archaeological sites would be affected. There would be no impact to Section 4(f) or Section 6(f) resources. Water quality standards would not be exceeded. There would be 21.67 acres of direct impacts to wetlands. There would be no significant impact to floodplains. This alternative would be consistent with the Florida Coastal Management Program. There are no impacts to wild and scenic rivers or farmlands. This alternative "may affect but is not likely to adversely affect" four Federally-listed species: the West Indian Manatee, the wood stork, the smalltooth sawfish, and Johnson's Seagrass. Surveys for one state-listed species, the Florida Burrowing Owl, would be conducted prior to initiating construction activities. There would be no significant affect to essential fish habitat.

There would be minimal impact to areas of known hazardous waste contamination. There would be no significant increase in solid waste. Acquisition of all of the Hilton (formerly the Wyndham) Fort Lauderdale Airport Hotel and the Dania Boat Sales properties would be required. No residential land acquisition would be necessary. There would be no significant impact to local traffic patterns, and no significant loss in community tax base.

There would be no disproportionate impact to minority or low-income communities and no effects on children's health and safety. For secondary induced impacts, there would be no significant impact to surface transportation infrastructure, a positive economic affect due to construction spending and activities, and no significant impact on public services. There would be no significant visual impact due to light emissions. There would be no adverse affect on energy supply/natural resources. There would be temporary construction impacts.

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): Alternative C1 would not exceed the NAAQS. In terms of noise exposure for 2012, there would be 28 residential dwelling units with a total of 71 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2012. In terms of noise exposure for 2020, there would be 285 residential dwelling units with a total of 717 persons within the 65 DNL noise contour. No-noise sensitive facilities (i.e. churches, schools, hospitals, nursing

homes, libraries) are located within the 65 DNL noise contour in 2020. The development and construction of this alternative would not cause a direct land use impact; and there would be no changes to land use planning and zoning.

No historic properties or archaeological sites would be affected. There would be no impact to Section 4(f) or Section 6(f) resources. Water quality standards would not be exceeded. There would be 15.40 acres of direct impacts to wetlands. There would be no significant impact to floodplains. This alternative would be consistent with the Florida Coastal Management Program. There are no impacts to wild and scenic rivers or farmlands. This alternative "may affect but is not likely to adversely affect" one Federally-listed species, the wood stork. Surveys for one state-listed species, the Florida Burrowing Owl, would be conducted prior to initiating construction activities. There would be no significant affect to essential fish habitat.

There would be minimal impact to areas of known hazardous waste contamination. There would be no significant increase in solid waste. No off-airport business property would need to be acquired. No residential land acquisition would be necessary. There would be no significant impact to local traffic patterns, and no significant loss in community tax base.

There would be no disproportionate impact to minority or low-income communities and no effects on children's health and safety. For secondary induced impacts, there would be no significant impact to surface transportation infrastructure, a positive economic affect due to construction spending and activities, and no significant impact on public services. There would be no significant visual impact due to light emissions. There would be no adverse affect on energy supply/natural resources. There would be temporary construction impacts.

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): Alternative D1 would not exceed the National Ambient Air Quality Standards (NAAQS). This alternative would not be fully operational by 2012; therefore the 2012 noise impacts to residential dwelling units would be the same as Alternative B1b. No noise sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2012. In terms of noise exposure for 2020, there would be 801 residential dwelling units with a total of 1,926 persons within the 65 DNL noise contour. No noise sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2020. There would be direct land use impacts due to the acquisition of all or a portion of the Hilton (formerly the Wyndham) Fort Lauderdale Airport Hotel and the Dania Boat Sales. This alternative would not require a land use or zoning change and would be consistent with current local land use and zoning documents.

No historic properties or archaeological sites would be affected. There would be no impact to Section 4(f) or Section 6(f) resources. Water quality standards would not be exceeded. There would be 21.87 acres of direct impacts to wetlands. There would be no significant impact to floodplains. This alternative would be

consistent with the Florida Coastal Management Program. There are no impacts to wild and scenic rivers or farmlands. This alternative “may affect but is not likely to adversely affect” three federally listed species; the West Indian Manatee, the wood stork, and the smalltooth sawfish. Surveys for one state listed species, the Florida Burrowing Owl, would be conducted prior to initiating construction activities. There would be no significant affect to essential fish habitat.

There would be minimal impact to areas of known hazardous waste contamination. There would be no significant increase in solid waste. Acquisition of all or a portion of the Hilton (formerly the Wyndham) Fort Lauderdale Airport Hotel and the Dania Boat Sales properties would be required. No residential land acquisition would be necessary. There would be no significant impact to local traffic patterns, and no significant loss in community tax base.

There would be no disproportionate impact to minority or low-income communities and no effects on children’s health and safety. For secondary induced impacts, there would be no significant impact to surface transportation infrastructure, a positive economic affect due to construction spending and activities, and no significant impact on public services. There would be no significant visual impact due to light emissions. There would be no adverse affect on energy supply/natural resources. There would be temporary construction impacts.

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): Alternative D2 would not exceed the NAAQS. This alternative would not be fully operational by 2012; therefore the 2012 noise impacts to residential dwelling units would be the same as Alternative B4. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2012. In terms of noise exposure for 2020, there would be 303 residential dwelling units with a total of 789 persons within the 65 DNL noise contour. No noise-sensitive facilities (i.e. churches, schools, hospitals, nursing homes, libraries) are located within the 65 DNL noise contour in 2020. There would be a direct land use impact if the partial acquisition of the Dania Boat Sales is necessary. This alternative would not require a land use or zoning change and would be consistent with current local land use and zoning documents.

No historic properties or archaeological sites would be affected. There would be no impact to Section 4(f) or Section 6(f) resources. Water quality standards would not be exceeded. There would be 15.54 acres of direct impacts to wetlands. There would be no significant impact to floodplains. This alternative would be consistent with the Florida Coastal Management Program. There are no impacts to wild and scenic rivers or farmlands. This alternative “may affect but is not likely to adversely affect” two Federally-listed species; the West Indian Manatee and the wood stork. Surveys for one state-listed species, the Florida Burrowing Owl, would be conducted prior to initiating construction activities. There would be no significant affect to essential fish habitat.

There would be minimal impact to areas of known hazardous waste contamination. There would be no significant increase in solid waste. Acquisition of a portion of the Dania Boat Sales properties may be necessary. No residential land acquisition would be necessary. There would be no significant impact to local traffic patterns, and no significant loss in community tax base.

There would be no disproportionate impact to minority or low-income communities and no effects on children's health and safety. For secondary induced impacts, there would be no significant impact to surface transportation infrastructure, a positive economic affect due to construction spending and activities, and no significant impact on public services. There would be no significant visual impact due to light emissions. There would be no adverse affect on energy supply/natural resources. There would be temporary construction impacts.

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