

6.E.3 FLOODPLAINS

Floodplain impacts would only be considered significant pursuant to NEPA if a proposed Federal action results in notable adverse impacts on natural and beneficial floodplain values. Mitigation measures for base floodplain encroachments may include committing to special flood related design criteria, elevating facilities above base flood elevations, locating nonconforming structures and facilities out of the floodplain, or minimizing fill placed in floodplains.

Flood Insurance Rate Maps (FIRM), produced by the Federal Emergency Management Agency (FEMA), was reviewed for the Detailed Study Area. Flood data was obtained and the information input into the Geographic Information System (GIS) database for the Detailed Study Area. As depicted in Chapter Five, *Affected Environment*, Exhibit 5.E.3-1, portions of the existing airport property areas are covered by mapped 100-year floodplain. These areas include part of the terminal as well as the western sections of both the north and south runways.

Table 6.E.3-1, *Impacts to the 100-year Floodplain*, summarizes the acreage of 100-year floodplain impacted by the runway development alternatives. Table 6.E.3-1 also provides the anticipated volume of fill required to develop the airfield components associated with each runway development alternative.

**Table 6.E.3-1
IMPACTS TO THE 100-YEAR FLOODPLAIN⁶⁶ (ACRES)
Fort Lauderdale-Hollywood International Airport**

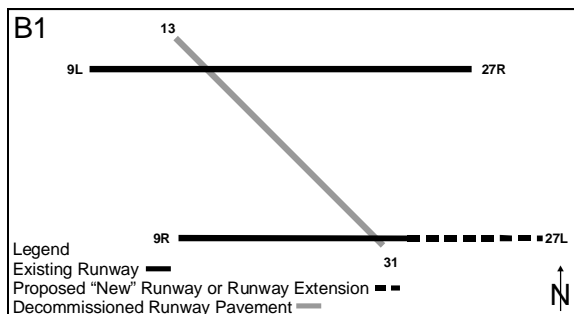
ALTERNATIVE	ACRES	Volume of Fill (cubic yards)
A	0	0
B1	150	6,153,660
B1b	150	6,153,660
B1c	150	6,153,660
B4	104	954,600
B5	151	6,935,200
C1	235	183,900
D1	327	6,337,600
D2	321	1,138,500

⁶⁶ Defined as Flood Zone AE on the FIRM map.

6.E.3.1 Alternative A: No Action

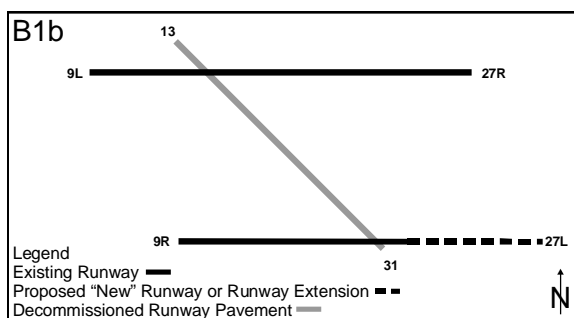
No impacts to floodplains would occur with implementation of Alternative A.

6.E.3.2 Alternative B1: Redevelop and extend existing Runway 9R/27L To An 8,600-Foot By 150-Foot Elevated Runway

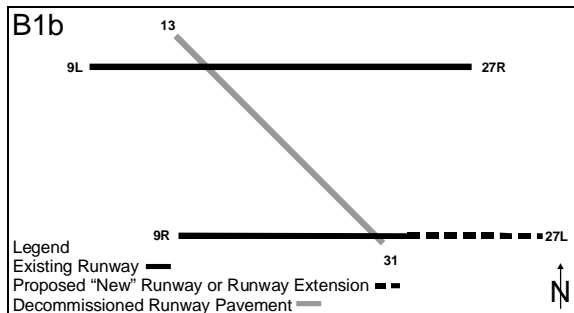


For Alternative B1, 150 acres of 100-year floodplain would be impacted. The proposed elevation of the extended runway would minimize the amount of fill required within the floodplain area. This would minimize potential impacts within the 100-year floodplain. Other impacts within the 100-year floodplain would result from the installation of the approach light system at both ends of Runway 9R/27L. None of the impacts from Alternative B1 would result in notable adverse impacts on natural and beneficial floodplain values. No significant impacts to floodplains would occur with implementation of Alternative B1.

6.E.3.3 Alternative B1b: Redevelop And Extend Existing Runway 9R/27L To An 8,000-Foot By 150-Foot Elevated Runway With EMAS

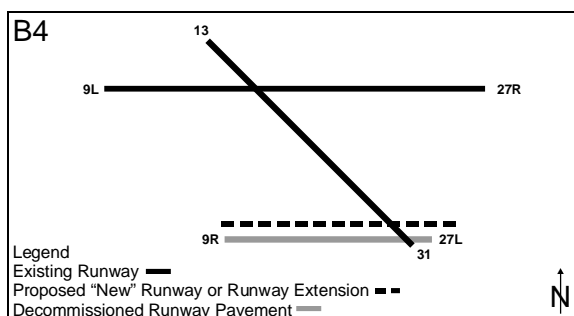


**Alternative B1c (Airport Sponsor’s Proposed Project):
Redevelop and Extend Existing Runway 9R/27L To An
8,000-Foot By 150-Foot Elevated Runway With EMAS**



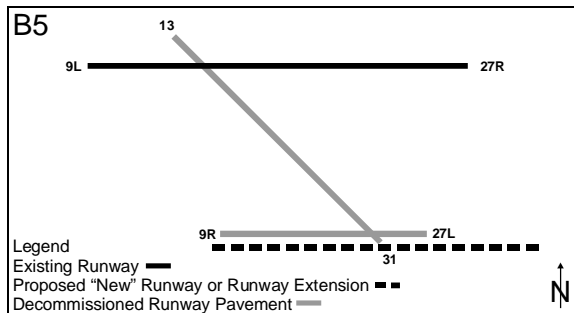
Alternatives B1b and B1c would have impacts on floodplains similar to those described under Alternative B1, even though the extension to Runway 9R/27L is 600 feet shorter. Each of these alternatives would impact 150 acres of 100-year floodplain. Other impacts within the 100-year floodplain would result from the installation of the approach light system at both ends of Runway 9R/27L. None of the impacts from Alternatives B1b or B1c would result in notable adverse impacts on natural and beneficial floodplain values. No significant impacts to floodplains would occur with implementation of Alternatives B1b and B1c.

6.E.3.4 Alternative B4: Build A New 6,000-Foot At Grade Runway With EMAS Located 340 Feet North Of Existing South Runway (To Replace Existing Runway 9R/27L)



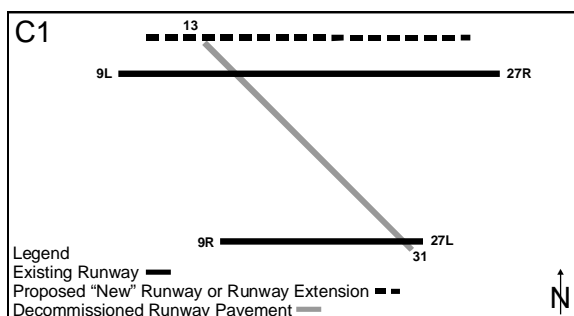
Redeveloping Runway 9R/27L to the north of its existing alignment and extending the runway east to a full length of 6,000 feet would impact 104 acres of 100-year floodplain. As with other runway development alternatives, a portion of the runway approach light system would be located within the 100-year floodplain. Impacts would be minimized because small amounts of fill would be placed within the 100-year floodplain. None of the impacts from Alternative B4 would result in notable adverse impacts on natural and beneficial floodplain values. No significant impacts to floodplains would occur with implementation of Alternative B4.

6.E.3.5 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)



Redevelopment of Runway 9R/27L to the south of its existing alignment and extension of the runway east to a full length of 7,800 feet would impact 151 acres of 100-year floodplain. The proposed elevation of the extended runway would minimize the amount of fill required within the floodplain area. This would minimize potential impacts within the 100-year floodplain. As with other runway development alternatives, a portion of the runway approach light system would be located within the 100-year floodplain. Impacts would be minimized because small amounts of fill would be placed within the 100-year floodplain. Rerouting of Griffin Road caused by this alternative would not impact the floodplain. None of the impacts from Alternative B4 would result in notable adverse impacts on natural and beneficial floodplain values. No significant impacts to floodplains would occur with implementation of Alternative B5.

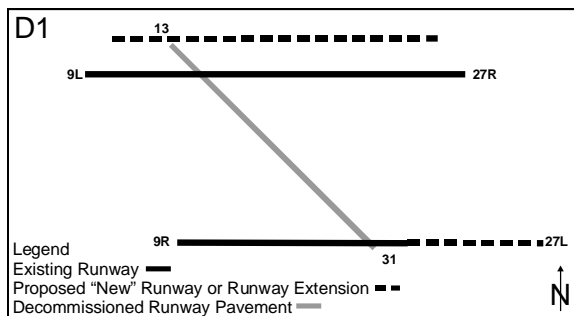
6.E.3.6 Alternative C1: Build A 7,721-Foot At Grade Runway Located 850 Feet North Of Existing Runway 9L/27R (A Dependent Parallel Runway To Existing Runway 9L/27R)



Alternative C1, with the development of Runway 8/26 north of existing Runway 9L/27R, would displace the existing airport tenants on the north perimeter of airport property. Some of these tenants could be relocated on available airport property within the west airfield, resulting in 235 acres of impacts to the on-airport 100-year floodplain. As with other runway development alternatives, a portion of the runway approach light system would be located within the 100-year floodplain. Impacts would be minimized because small amounts of fill would be placed within

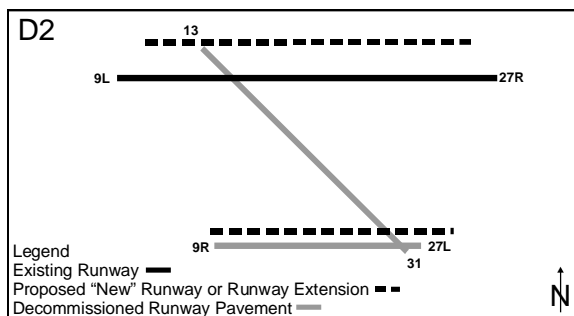
the 100-year floodplain. None of the impacts from Alternative B4 would result in notable adverse impacts on natural and beneficial floodplain values. No significant impacts to floodplains would occur with implementation of Alternative C1.

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)



Alternative D1, a combination of Alternatives B1b and C1, would impact 327 acres of the on-airport 100-year floodplain. Redeveloping and extending Runway 9R/27L would require construction within the 100-year floodplain and could involve relocation of some of the airport tenants from the north airfield to the west airfield and within a portion of the on-airport 100-year floodplain. As with other runway development alternatives, a portion of the runway approach light system would be located within the 100-year floodplain. Impacts would be minimized because small amounts of fill would be placed within the 100-year floodplain. None of the impacts from Alternative B4 would result in notable adverse impacts on natural and beneficial floodplain values. No significant impacts to floodplains would occur with implementation of Alternative D1.

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 B4 And C1)



Alternative D2, a combination of Alternatives B4 and C1, would impact 321 acres of on-airport 100-year floodplain. Alternative B4 redevelops Runway 9R/27L north of its existing alignment, extends it into the 100-year floodplain, and involves

relocating some of the airport tenants from the north airfield to the west airfield within the 100-year floodplain. As with other runway development alternatives, a portion of the runway approach light system would be located within the 100-year floodplain. Impacts would be minimized because small amounts of fill would be placed within the 100-year floodplain. None of the impacts from Alternative B4 would result in notable adverse impacts on natural and beneficial floodplain values. No significant impacts to floodplains would occur with implementation of Alternative D2.

6.E.3.9 SUMMARY OF FLOODPLAIN IMPACTS

No regulated floodways would be impacted by any of the runway development alternatives. A floodway is defined as the stream channel plus additional area along the stream bank that would be necessary to carry a 100-year flood without increasing flood elevations more than one foot. Encroachment into a floodway is prohibited or restricted by local governments participating in FEMA programs. Broward County is a participant in the National Flood Insurance program. Table 6.E.3-1 summarizes the 100-year floodplain encroachments for alternatives analyzed in this Draft EIS.

With the exception of the No Action Alternative, complete avoidance and minimization of new floodplain impacts under the runway development alternatives is not practicable due to existing site geometry. The floodplains present on FLL have already been impacted by previous construction and development. Impacts to Flood Zone AE would result from each of the runway development alternatives. However, these impacts would not be significant and would not result in: 1) a considerable probability of the loss of human life; 2) likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service or loss of vital transportation facility; and 3) a notable adverse impact on natural and beneficial floodplain values.⁶⁷

Design measures considered to minimize floodplain encroachments may include special flood related design criteria, elevating facilities above base flood levels, locating nonconforming structures and facilities out of the floodplain, or minimizing fill placed in floodplains. Modifications to the existing airport stormwater management system could perform hydraulically in a manner equal to or greater than that of the existing drainage system. Backwater surface elevations are not expected to increase. As a result, there would be no significant change in flood risk and there would not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, the FAA has determined that this encroachment is not significant. Section 6.J., *Conceptual Measures Considered And Committed To For The Avoidance/Mitigation Of Adverse Environmental Impacts*, includes conceptual mitigation measures for floodplain encroachments.

⁶⁷ U.S. Department of Transportation Order 5650.2 *Floodplain Management and Protection*.