FINDING OF NO SIGNIFICANT IMPACT

Rio Guayanilla Flood Risk Management Study – Integrated Feasibility Report & Environmental Assessment
Municipality of Guayanilla
Commonwealth of Puerto Rico

The U.S. Army Corps of Engineers, Chicago District (Corps) has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The draft Final Integrated Feasibility Report and Environmental Assessment (Final IFR/EA) dated **27 March 2020**, for the **Rio Guayanilla Flood Risk Management Study** addresses **flood risk management** opportunities and feasibility in the **Municipality of Guayanilla, the Commonwealth of Puerto Rico**. The final recommendation is contained in the report of the Chief of Engineers, dated **DATE OF CHIEF'S REPORT TBD**.

The final IFR/EA, incorporated herein by reference, evaluated various alternatives that would **reduce risk of flood damages to structures and infrastructure and reduce risks to life safety** in the study area. The recommended plan is the **National Economic Development (NED) Plan** and includes:

- Construction of an engineered diversion channel with a bottom width of 100-feet and 2:1 side slopes. The 9,000 foot engineered channel will extend from a new diversion structure, constructed across the existing river approximately 2,000 feet downstream of PR-127. The diversion structure will direct the majority of flood waters to the trapezoidal diversion channel while maintaining a bank-full flow to the Rio Guayanilla. The diversion structure will maintain riverine connectivity for sediment transport and fish passage. A levee will be built on the eastern side of the diversion channel. The riverside slope of the levee will be lined with riprap to prevent erosion. The diversion channel and existing channel will be reconnected upstream of the Phase I project with an additional diversion structure.
- Upstream of the diversion channel, a combination of levees and floodwalls will be installed on the east side of the river channel at designated locations. The levees will be constructed from local limestone that will be excavated from an abandoned quarry in the project area. A 2,750 foot long earthen levee will also be constructed to reduce flood risk for El Faro community from overbank riverine flooding.
- Improvement of conveyance under PR-2 and PR-127 and removal of flow impediments.
- Due to impacts associated with the El Faro levee, wetland mitigation of 6 acres is also included in the Recommended Plan. Conservations measures for two special status species will be implemented during quarrying of levee materials to minimize potential impacts to less than significant.
- Project features impact three local roads that will require them to be relocated. A road at the northern part of the project will be moved north of PR-2 and two roads that intersect the diversion channel will be replaced with a bridge over the channel and connecting roadway that follows the southern edge of the diversion channel as it curves to the east.
- A flood warning system/response plan.
- Implementation of any required environmental compensatory mitigation and associated monitoring and mitigation area adaptive management plan, when applicable and appropriate.

Monitoring will continue until any required mitigation has been determined to be successful based on the identified criteria within **the Rio Guayanilla Mangrove Mitigation, Monitoring & Adaptive Management Plan** included in Appendix **A3**. Monitoring is expected to last no more than 10 years.

In addition to a "no action" plan, three action alternatives were evaluated. The alternatives included: Alternative #1 Non-Structural Measure – Natural Channel Conveyance and Flood Warning System; Alternative #3 Diversion Channel South w/ Single Line Protection; Alternative #6 Staged Greenway Terraces w/ Single Line Protection. Non-structural alternatives were considered and were generally eliminated due to economic and logistical infeasibility. The non-structural alternatives of a Flood Warning System and Natural Channel Conveyance were incorporated into the Recommended Plan.

For all alternatives, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the recommended plan are listed in Table 1:

Table 1: Summary of Potential Effects of the Recommended Plan

	Insignificant effects	Insignificant effects as a result of mitigation*	Resource unaffected by action
Aesthetics	☒	☐	☐
Air Quality	☒	☐	☐
Aquatic Resources/Wetlands	☐	☒	☐
Fish and Wildlife Habitat	☐	☒	☐
Threatened/Endangered Species	☐	☒	☐
Historic Properties	☒	☐	☐
Other Cultural Resources	☒	☐	☐
Floodplains	☒	☐	☐
Hazardous, Toxic & Radioactive Waste	☒	☐	☐
Hydrology	☒	☐	☐
Land Use	☒	☐	☐
Noise Levels	☒	☐	☐
Socio-economics	☒	☐	☐
Environmental Justice	☒	☐	☐
Soils	☒	☐	☐
Water Quality	☒	☐	☐
Climate Change	☒	☐	☐

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in the IFR/EA will be implemented, if appropriate, to minimize impacts. In addition, avoidance planning, conservation measures and compensatory mitigation as discussed below were incorporated as part of the Recommended Plan to render effects to insignificant.

Aquatic Resources/Wetlands and Fish & Wildlife Habitat – *Channel Improvements & Diversion Structure*: To minimize effects to riverine components of connectivity, substrate transport and sorting, and ephemeral hydrology, conservation measures were applied to the

diversion channel structure. These include culverts sized to facilitate fish passage, maintenance of low to bank full flows in the natural channel (0-2-year flood events), and gravel and cobble substrate transport and sorting for channel morphology and habitat. Additional conservation measures incorporated into the design of the stilling basin include a low flow channel and with associated stream morphology above the diversion structure. (Section 3.5.1 of the Integrated Feasibility Report)

Aquatic Resources/Wetlands and Fish & Wildlife Habitat – *Wetland Impact Avoidance, Minimization & Enhancement Opportunities*: To avoid effects to the existing mangrove swamp due to the construction of the diversion channel, avoidance and enhancement of mangrove wetlands was included in the Recommended Plan. To provide a net benefit to estuarine wetlands, the western berm of the engineered diversion channel was eliminated which will allow for continued overbank flooding of the inner mangrove swamp. Overbank floods provide freshwaters that flush excess salinity from the 240 acre greater coastal mangrove zone between El Faro and Rio Guayanilla. Floodwaters are also a source of required sediment from the upper portions of the watershed to the interior swamp. Flood risk management protection for El Faro will be provided by a set-back levee. The set-back levee configuration is more conducive to promoting a naturalistic hydrogeomorphic setting for river mouth delta and estuarine wetlands to regenerate. (Section 3.5.1 of the Integrated Feasibility Report).

Fish & Wildlife Habitat – *Rock Sourcing*: To avoid impacts to **4** federally endangered species and over 20 endemic rare plants, coordination between the USACE and the USFWS identified an abandoned quarry as an alternate site for obtaining stone for the project. Based on initial surveys, it was determined that areas within the abandoned quarry had been previously cleared of vegetation and quarried, but still provide habitat for the Puerto Rican Nightjar and Puerto Rican Boa. Implementation of the prescribed conservation measures lead to a determination of not likely to adversely affect the Puerto Rican Nightjar and the Puerto Rican Boa. (Section 3.5.1 and Section 5.6.8 of the Integrated Feasibility Report).

Aquatic Resources/Wetlands and Fish & Wildlife Habitat – *Wetland Compensatory Mitigation*: Construction of the El Faro levee results in an unavoidable impact. The recommended plan will result in unavoidable adverse impacts to **5.8 acres of Interior Basin Mangrove Swamp that requires compensatory mitigation.** To mitigate for these unavoidable adverse impacts, the U.S. Army Corps of Engineers will **provide** 6 acres of compensatory mitigation (40 C.F.R. § 230.93) for the loss of 5.8 acres of perennial estuarine interior basin mangrove wetland/habitat and associated fauna due construction of the setback levee. Full description can be found in Section 5.6.7 and 5.6.12 of the Environmental Assessment, and the Mitigation, Monitoring & Adaptive Management Plan in Appendix A3.

Public review of the draft IFR/EA and FONSI was completed on **4 October 2019**. All comments submitted during the public review period were responded to in the Final IFR/EA and FONSI. The project was submitted to the Puerto Rico Permit Management Office through the Single Business Portal website on October 25, 2019 and a response was received on January 14, 2020.

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the U.S. Army Corps of Engineers coordinated with the U.S. Fish and Wildlife Service on potential impacts of

the recommended plan. To avoid impacts to **4** federally endangered species, coordination between the USACE and the USFWS identified an abandoned quarry as an alternate site for obtaining stone for the project. Based on initial surveys, areas within the abandoned quarry had been previously cleared of vegetation and quarried, but still provide habitat for the Puerto Rican Nightjar and Puerto Rican Boa. Based on further assessment of the abandoned quarry site on November 4, 2019 by USFWS, and inclusion of the prescribed conservation measures, the USACE has determined that the proposed project is not likely to adversely affect the following federally listed species or their designated critical habitat: *the Puerto Rican Nightjar (Antrostomus noctitherus) and the Puerto Rican Boa (Epicrates inornatus).* The U.S. Fish and Wildlife Service (FWS) concurred with the Corps' determination on February 24, 2020.

Pursuant to section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers determined that historic properties would not be adversely affected by the recommended plan. The **State Historic Preservation Officer for Puerto Rico** concurred with the determination on **March 26, 2020**

Pursuant to the Clean Water Act of 1972, as amended, the discharge of dredged or fill material associated with the recommended plan has been found to be compliant with section 404(b)(1) Guidelines (40 CFR 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is found in **the 404(b)(1) Analysis presented in Appendix A2** of the IFR/EA.

A water quality certification pursuant to section 401 of the Clean Water Act will be obtained from the **Puerto Rico Environmental Quality Board** prior to construction. In a letter dated **27 May 2020**, the **Commonwealth of Puerto Rico** stated that at this time, the recommended plan is consistent with and not likely to compromise Puerto Rico Water Quality Standards. A final determination will be based on information developed during the pre-construction engineering and design phase. All conditions of the water quality certification will be implemented in order to minimize adverse impacts to water quality.

A determination of consistency with the **Commonwealth of Puerto Rico** Coastal Zone Management program pursuant to the Coastal Zone Management Act of 1972 was obtained from the **Puerto Rico Planning Board.** All conditions of the consistency determination shall be implemented in order to minimize adverse impacts to the coastal zone.

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed.

Technical, environmental, and economic criteria used in the formulation of alternative plans were those specified in the Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on this report, the reviews by other Federal, State and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

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Date

Aaron W. Reisinger
Colonel, Corps of Engineers
District Commander