

**FEDERAL EMERGENCY MANAGEMENT AGENCY  
FINDING OF NO SIGNIFICANT IMPACT  
ENVIRONMENTAL ASSESSMENT  
CARRAÍZO RESERVOIR DREDGING PROJECT  
PUERTO RICO, FEMA-4339-DR-PR**

**BACKGROUND**

On September 17, 2017, Hurricane María caused significant damages to Puerto Rico. A disaster declaration was issued for Hurricane María on September 20, 2017, encompassing all of Puerto Rico. The declaration authorized federal public assistance to affected communities and certain non-profit organizations per FEMA, and in accordance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974 (42 U.S. Code [U.S.C.] 5172) as amended; the Sandy Recovery Improvement Act of 2013; and the Bipartisan Budget Act of 2018 (Public Law 115-123). The Central Office for Recovery, Reconstruction and Resiliency (COR3) is the applicant for FEMA grants and multiple agencies may be subrecipients for specific projects. The subrecipient for this project is the Puerto Rico Aqueduct and Sewer Authority (PRASA).

FEMA prepared an Environmental Assessment (EA) in accordance with Section 102 of the National Environmental Policy Act (NEPA) of 1969, *as amended*; and the Council on Environmental Quality (CEQP *Regulations for Implementation of the National Environmental Policy Act* (40 Code of Federal Regulations [CFR] Parts 1500 to 1508); FEMA Directive 108-1-1; and the DHS Instruction Manual 023-1-1. The EA analyzed the potential environmental impacts of the Proposed Action and alternatives.

The purpose of the project is to restore the water storage capacity of the Carraízo Reservoir which is the only water source for PRASA's Sergio Cuevas Water Filtration Plant (SCWFP). The need for the project is to support the long-term ability of PRASA to provide a steady, reliable source of potable water for the SCWFP service area which includes a population of approximately 500,000 individuals within the municipalities of San Juan, Carolina, Canóvanas, Trujillo Alto, Gurabo, Loíza, and Juncos.

**ALTERNATIVES**

FEMA evaluated alternatives based on engineering constraints, potential environmental impacts, and available property. The No Action Alternative was defined as leaving the reservoir in its existing condition and not removing the accumulated sediments resulting from Hurricane María. Leaving accumulated sediment in the reservoir would continue to impact its storage capacity that could affect the ability of PRASA to provide a steady source of potable water after extreme weather events, including droughts.

**PROJECT DESCRIPTION**

The Proposed Action would hydraulically dredge the Carraízo Reservoir to remove 2 Mm<sup>3</sup> (2.6 Mcy) of sediment over two years and would increase the water storage capacity of the reservoir to approximately 17.02 Mm<sup>3</sup> (22.3 Mcy). The dredged material would be pumped through a floating pipeline in the reservoir and through inland aboveground pipelines to three existing disposal dikes. After sediment settling, the decanted water would be released back into the reservoir. The dredged

sediment would remain in the disposal dikes and when dry, vegetation would be allowed to recover either through natural seeding or replanting, in accordance with applicable Puerto Rican permits and requirements. A temporary staging area and dock would be used to support the project.

## **SUMMARY OF POTENTIAL IMPACTS AND MITIGATION**

The Proposed Action would have no impacts on geology, seismicity, landslides, or zoning, and would have no impacts on cultural resources after avoidance measures are implemented. The Proposed Action would have negligible to minor, direct, temporary or short-term impacts to topography, floodplains, land use, soil resources, air quality, groundwater and hydrology, water quality, vegetation, wildlife and fish, threatened and endangered species, transportation, public services and utilities, public health and safety, and hazardous materials with implementation of BMPs. The Proposed Action would have minor indirect short-term impacts to socioeconomic and environmental justice communities. The Proposed Action would have minor to moderate direct short-term impacts with the implementation of BMPs to wetlands and noise during site preparation/construction and dredging operations.

The Proposed Action would result in long-term beneficial impacts to water resources, socioeconomic and communities with environmental justice concerns, public services and utilities, and public health and safety.

## **PUBLIC INVOLVEMENT**

FEMA issued a public notice in the weekly newspaper, *El Vocero*, on July 12, 2022, to notify the public of the thirty-day public review and comment period. Accordingly, FEMA posted an electronic version of the EA to the FEMA Region 2 website at <https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository>, the PRASA website <https://www.acueductospr.com/cumplimiento>, and the COR3 website <https://recovery.pr.gov/es/document-library#>. The publicly available materials included a Spanish translation of the EA and an Executive Summary. The subrecipient made hard copies of the EA available for public review at the offices of the 7 municipalities associated with the project and SCWFP service area, and the 3 PRASA offices. The EA reflects the evaluation and assessment of the federal government, the decision maker for the federal action; however, FEMA has taken into consideration comments received during the public review period to inform the final decision regarding grant approval and project implementation.

## **PERMITS AND PROJECT CONDITIONS**

The subrecipient is responsible for obtaining and adhering to all applicable federal, state, and local permits, permit conditions, regulatory compliance, and authorizations for project implementation prior to construction and to adhere to all permit conditions. Any substantive change to the approved scope of work will require re-evaluation by FEMA for compliance with NEPA and other laws and executive orders. The subrecipient must also adhere to the following conditions during project implementation:

1. **Utility Clearance:** PRASA is responsible for locating utilities. If a utility provider cannot respond to a request to locate underground utility installations or cannot establish the exact location of these installations, the contractor may proceed, provided they use detection equipment or other acceptable means to locate utility installations.

2. **Stormwater, Soils and Erosion:** A Construction NPDES permit and a SWPPP will be prepared and implemented by PRASA. The agency will implement BMPs to manage piles of soil or debris, minimize steep slope disturbance, preserve native topsoil unless infeasible, and minimize soil compaction and erosion. The BMPs and guidelines recommended in the Puerto Rico Erosion and Sediment Control Handbook for Developing Areas (PRDNER/PREQB and USDA-NRCS 2005) will be implemented by PRASA for the proposed action.
3. **Spill Prevention, Control, and Countermeasure (SPCC) Plan:** A SPCC Plan will be prepared to establish procedures, methods, and equipment requirements to prevent fuel or lubricants from reaching waters and adjoining shorelines, and to contain discharges of harmful substances.
4. **Endangered Species Act:** An ESA Section 7 informal consultation letter was submitted to the USFWS with the determination of impacts to listed federal threatened or endangered species. The USFWS, in a communication dated February 18, 2022, concurred with FEMA on a May Affect but not likely to Adversely Affect determination. PRASA will comply with the conservation measures required by USFWS and will concentrate conservation, avoidance, and minimization on the Puerto Rican boa and Puerto Rico plain pigeon, both listed as threatened and endangered species.
5. **Fish and Wildlife Coordination Act:** The USFWS, in the communication dated February 18, 2022, concurred with the conservation measures proposed by FEMA, and provided indications on species in which to concentrate efforts. PRASA will comply with conservation measures required by USFWS. PRASA will make efforts to capture and relocate as many of the jicotea (*Trachemys stejnegeri*), or freshwater turtles, as possible. PRASA is responsible for coordinating with PRDNER to comply with Puerto Rico's requirements related to natural and environmental resources.
6. **Work Affecting Water:** PRASA is responsible for initiating the permitting process with USACE to obtain a Section 404 permit. PRASA is responsible for obtaining appropriate permits prior to the beginning of work and implementing permit requirements, including pre-construction notification. Section 401 CWA water quality certification will be issued by the PRDNER as part of the USACE Section 404 permitting process.
7. **Floodplain:** BMPs will be implemented for sediment control by PRASA. In addition, PRASA will comply with permit requirements to limit construction activities in floodplains.
8. **Wetlands:** PRASA will use preventive measures and construction BMPs to minimize impacts to Waters of the United States including wetlands that might be within the sediment pipeline alignment during the construction phase, dredging operations, and demobilization.
9. **Historic Preservation/Archaeological Resources:** PRASA will comply with the conditions required by SHPO. In the event that unmarked graves, burials, human remains, or archaeological deposits are uncovered, the subrecipient and its contractors will immediately halt construction activities in the vicinity of the discovery, secure the site, and take reasonable measures to avoid or minimize harm to the discovery. The subrecipient will immediately inform SHPO and FEMA. Work in sensitive areas may not resume until consultations are

completed or until an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards determines the extent and historic significance of the discovery.

10. **Institute of Puerto Rican Culture (ICP):** Measures to protect existing archaeological sites are the same as those required by SHPO. No ground moving, clearing, weeding or construction shall be carried out until the final approval of ICP has been obtained.
11. **Construction Material and Debris:** PRASA is responsible for obtaining required permits for the handling and transportation of construction material and debris. It will identify, handle, transport, and dispose of hazardous materials and/or toxic waste in accordance with EPA and PRDNER requirements, including the details associated with the proposed action construction materials and debris handling as part of the PRPB Joint Regulation, General Consolidated Permit of the Single Incidental Operational Permit
12. **Clean Air Act:** PRASA is responsible for complying with applicable EPA and PRDNER requirements for fugitive dust suppression. An Operation Plan to implement emission control measures would be included as part of the Single Incidental Operational Permit application, as required by the PRPB Joint Regulation. PRASA will also be responsible for obtaining and complying with all Puerto Rico air quality permits.
13. **Tree Cutting:** A tree inventory will be prepared by an OGPe authorized inspector to identify trees within the proposed action areas, as part of the Single Incidental Operational Permit as required by the PRPB Joint Regulation.
14. **Invasive Species Act:** PRASA is responsible for restoring disturbed soils with planting native, non-invasive species once project activities are completed in the disposal sites and along the sediment pipeline as needed. Construction equipment should be power washed prior to initial transport to the construction site and prior to changing locations to prevent spread of noxious weeds.
15. **Maintenance of Traffic (MOT) Plan:** PRASA will prepare a MOT Plan for those areas where equipment and supply deliveries and the installation of the sediment pipeline would disrupt normal traffic.
16. Submit copies of all permits obtained to FEMA at or prior to final closeout of the grant.
17. Do not initiate construction activities until fifteen (15) days after the date that the FONSI has been signed as "APPROVED."

## **PUBLIC COMMENTS**

FEMA received comments on the EA during the thirty-day public comment period that ended August 12, 2022. A total of 52 comments were received from federal, state and local agencies, and the general public. A public meeting was held at the request of the La Guasábara community group, on August 10, 2022, at the recreational facilities of Urb. Valle de San Luis. Most comments from the general public and community organizations focused on the potential for odors and pests in and around disposal dike A during dredging operations. Comments from federal agencies were on socioeconomic

and environmental justice and cumulative impacts. Attachment A summarizes the comment(s) made, and FEMA’s response.

**FINDING**

In accordance with NEPA and its implementing regulations at 40 CFR Parts 1500-1508, FEMA Directive 108-1 and FEMA Instruction 108-1-1, FEMA has determined that the proposed action will have no significant adverse impact on the quality of the human environment. As a result of this FONSI, an EIS will not be prepared, and the proposed project as described in the EA may proceed. This FONSI serves as the final public notice for the proposed project.

**APPROVED BY:**

**JOHN J MCKEE** Digitally signed by JOHN J MCKEE  
Date: 2022.11.03 08:44:59 -04'00'

3 November 2022

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John J. McKee  
Regional Environmental Officer, FEMA Region 2

Date

**PROGRAM ENDORSEMENT:**

**DANNA E PLANAS OCASIO** Digitally signed by DANNA E PLANAS OCASIO  
Date: 2022.11.03 11:09:47 -04'00'

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Danna E. Planas Ocasio  
Infrastructure Division Director, Joint Recovery Office

Date

**ANTONIO R BUSQUETS LOPEZ** Digitally signed by ANTONIO R BUSQUETS LOPEZ  
Date: 2022.11.03 13:27:22 -04'00'

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Antonio Busquets Lopez  
Hazard Mitigation Division Director, Joint Recovery Office

Date

**FEDERAL EMERGENCY MANAGEMENT AGENCY  
FINDING OF NO SIGNIFICANT IMPACT  
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PUERTO RICO**

**Attachment A: FEMA Responses to Agency and Public Comments**

No. of Comments	EA Section	Topic	FEMA's Response
1	Executive Summary	General	<b>EPA recommended adding visual aids to Executive Summary</b> – Suggestion noted.
4	2.0 Purpose and Need	Future Alternatives	<b>EPA and the Municipalities of Caguas and Trujillo Alto and General public suggest considering long-term solutions to meet water storage capacity for this project.</b> As stated in Section 2 Purpose and Need, the project addresses the immediate needs of the SCWFP service area to restore water storage capacity and to avoid water service interruptions due to severe weather events such as droughts or hurricane. Concurrent with this dredging project, PRASA is developing a request for proposal for a Preliminary Engineering Report (PER) for the Carraízo Reservoir Sediment Management Project. The purpose of the PER is to provide planning level analysis and present alternatives to reduce/manage the sediment inflow to the reservoir. There is also an ongoing initiative from the Natural Resources Conservation Service (NRCS) for the management of the Río Gurabo watershed as part of the National Water Quality Initiative. Through this initiative NRCS will help producers implement conservation and management practices through a systems approach to control and trap sediment, nutrients, and organic runoff. Qualified producers will receive assistance for installing conservation practices such as cover crops, reduced tillage, riparian buffers, and rotational grazing. For Fiscal Year 2022, NRCS, EPA and the Natural Resources Departments for PRDNER and the US Virgin Islands (DPNR) have identified two priority areas for watershed assessments to be completed in Puerto Rico, one of them is the Río Gurabo watershed. This watershed is the second largest sub-watershed contributing to the Carraizo Reservoir.
1	3.0 Project Background	Alternatives Dismissed From Further Consideration	<b>Public comment: Why was a desalination plant not a viable alternative?</b> Section 3, Project Background provides information on the selection of the project alternatives. The desalination plant alternative was studied in the 1992 PEIS, concluding that it was not feasible due to projected high construction costs and the elevated energy costs associated with plant operation, including the potential environmental impacts linked to the development of this alternative. Among other environmental impacts it is the high energy consumption and the disposal of brine. The circumstances around this option have not changed substantively and thus this alternative was dismissed from further evaluation.
3	3.0 Project Background	Disposal Dike Location	<b>Public comment: Why can't other areas be used for disposal?</b> As described in Section 3, Project Background, the disposal dikes were constructed for the previous dredging project. Reusing these sites for this dredging project is the most sustainable approach. Constructing new disposal dikes would impact natural undeveloped areas. Dredged sediments will be transferred through an aboveground pipeline to three existing disposal dikes located in Celada and Alturas de Hato Nuevo wards in Gurabo.

No. of Comments	EA Section	Topic	FEMA's Response
6	4.0 Alternatives	Preferred Alternative Selection	<p><b>Public comment: Why is Alternative 2 the preferred alternative when it only extends the useful life of the reservoir by 6 years. Based on long-term storage capacity loss, isn't Alternative 3 more cost effective?</b> While the activities for Alternative 3 propose to remove more sediment, the impacts to air, traffic and noise levels associated with this removal would be long-term, occurring over a 20-year period, producing major long-term impacts to air, noise and transportation in the project area. Based on the balance of project need versus environmental impacts, the subrecipient is selecting Alternative 2 for implementation.</p>
4	4.0 Alternatives	Staging area	<p><b>Public comment: Location of equipment and pipes close to Urb. La Serranía will impact traffic, access to neighborhood, and noise from equipment and pipes.</b> As described in Section 4 Alternatives, at the staging area, located across the road from Urb. La Serranía, equipment mobilization and temporary office trailer installation would occur. Equipment will be used for the construction of a temporary dock abutting the staging area to allow hydraulic dredge equipment and support vessels operations. This dock would be in a location similar to the dock location used for the previous dredging event. Dredging equipment and support vessels will stay on the reservoir during dredging operations for approximately one year. Figure 5 in Appendix A illustrates the location of all project elements. Sediment pipelines would float on open water in the reservoir and would be located aboveground mainly following the riverbank of the Río Grande de Loíza and the Río Gurabo to the disposal dikes. After construction of the temporary dock and rehabilitation of the staging area, equipment types would change and would be personal vehicles and trucks, with occasional deliveries of supplies. Access to Urb. La Serranía and all residential and commercial developments will be guaranteed all times.</p>
1	4.0 Alternatives	Sediment Pipeline alignment	<p><b>Public Comment: The proposed sediment pipeline will pass through our property.</b> As illustrated in Figure 5 in Appendix A and in the Basis of Design drawings, starting on page 61 in Appendix C, the subrecipient proposes the temporary sediment pipeline alignment in front of the mentioned property, within the road (PR-941) Right-of-Way (ROW). Along the eastern side of the mentioned property, the temporary sediment pipeline alignment would be installed along the Río Gurabo ROW. The proposed activities would not disturb agriculture activities or limit access to fields/property. The sediment pipeline would be placed aboveground, laid down on existing ground, with limited grass cutting to prepare the alignment. No ground disturbing activities will be conducted. The pipeline will be secured with non-invasive temporary weighted anchors.</p>
1	4.0 Alternatives	Sediment Pipeline alignment	<p><b>Trujillo Alto Municipality Comment: Easement and coordination with Municipality Planning office required for sediment pipeline.</b> FEMA understands that the subrecipient intends to use existing ROWs for the proposed sediment pipeline alignment. If access to privately owned land is needed, PRASA would work with the municipality and the property owners to obtain short-term agreements to minimize interference with current land uses.</p>

No. of Comments	EA Section	Topic	FEMA's Response
3	4.0 Alternatives	Sediment Reuse	<b>EPA and Public comment on the beneficial reuse of dredged material rather than using existing disposal sites.</b> Puerto Rico Law does not allow for reuse of dredged sediments. In addition, for this project, as described in Sections 5.2 Air Quality, 5.12 Noise and 5.13 Transportation beneficial reuse would require removing, sorting, and transporting sediment for Alternative 3 which would create new major adverse impacts for air, noise, and traffic. Existing disposal sites can accommodate all dredged material for Alternative 2, eliminating the need to remove, sort and transport sediment off-site, therefore beneficial reuse is not included as a disposal option for Alternative 2.
2	4.0 Alternatives	Project Duration/Project Start/Working Hours	<b>Public Comment on project duration, start time and work hours.</b> The project would last two years. The work is projected to start by first quarter of 2023. Working hours would be between 7:00 a.m. and 10:00 p.m. which are considered a day period as per the definition given by the PR Environmental Quality Board Noise Pollution Control Regulation.
1	5.0 Affected Environment	Impact scale	<b>Public Comment: How is the impact determined?</b> The impact scale is described in Section 5, Tables 2 and 3 pg. 13-14.
1	5.1 Geology, Topography, and Soils	Farmlands	<b>EPA recommends discussion of the impacts of the alternatives on farmlands in the study area.</b> Impacts of the alternatives on farmlands within study area as well as proposed avoidance and minimization measures are discussed in the EA Section 5.1.2 Geology, Topography, and Soils, pg. 19-20.
6	5.2 Air Quality	Air Quality	<b>Public Comment: Concern that use of disposal sites will impact public health.</b> Section 5.2 of the EA describes existing conditions and potential impacts associated with each of the alternatives. Implementing BMPs and strict adherence to regulatory requirements and standards would limit adverse impacts to air quality associated with Alternative 2 activities. BMPs would include measures such as traffic management techniques, fugitive dust control, proper vehicle maintenance, and minimizing vehicle idling time, among others. PRDNER, formerly Puerto Rico Environmental Quality Board, Rule 404 Fugitive Emissions requires the implementation of BMPs that would assist in limiting short-term adverse impacts to air quality. Ultra-low sulfur diesel fuel would be used, as required by the Clean Air Nonroad Diesel Rule, for equipment such as booster pumps. Alternative 2 does not include the permanent installation of new sources of air emissions; therefore, there would be no long-term adverse impacts to air quality from this alternative.
1	5.2 Air Quality	Air Quality	<b>EPA encourages inclusion of air quality data in the EA.</b> The subrecipient (PRASA) is responsible for conducting a general conformity applicability analysis for the project.
1	5.2 Air Quality	Air Quality	<b>EPA recommends assessing Greenhouse Gas emissions and climate change effects of project.</b> As of the writing of this EA, the Department of Homeland Security and FEMA have not issued implementation guidance for EO 13990. As a predominantly grant-making agency, FEMA issued in December 2021 resources for state, local, tribal, and territorial governments including FEMA Resources for Climate Resilience highlighting FEMA's grants and how they contribute to climate resiliency ( <a href="https://www.fema.gov/node/fema-releases-resources-climate-resilience">https://www.fema.gov/node/fema-releases-resources-climate-resilience</a> ). The nature of this proposed project contributes to climate resiliency by increasing the water storage of the reservoir, reducing health and safety risks posed by drought.



No. of Comments	EA Section	Topic	FEMA's Response
6	5.2 Air Quality	Impacts to Local Community from Truck Traffic	<b>Public Comment: Caguas community concerns on potential impacts to community and residential roads due to potentially 77 trucks per day.</b> The impacts described in the comment are associated with Alternative 3 and disposal site A located in the municipality of Gurabo. There are no disposal sites in Caguas. As stated in Sections 5.2 Air Quality, 5.12 Noise, and 5.13 Transportation of the EA, due to the major direct long-term adverse impacts to air quality, traffic, and noise in the municipality of Gurabo, Alternative 3 was not selected as the Proposed Action.
1	5.3 Water Resources & Water Quality	Water Quality	<b>EPA suggests monitoring the raw water intake and finished water during dredging operations.</b> As indicated in the EA, Section 5.14.2 Potential Impacts - Alternative 2, water quality at the SCWFP and GWFP raw water intakes would be monitored to determine the level of turbidity and total dissolved solids conditions during the dredging process and release of decanted water, respectively. Monitoring frequency and parameters would be according to the EPA Water Quality Certificate. The Subrecipient will follow all required permits and conditions
1	5.3 Water Resources & Water Quality	Water Quality	<b>EPA recommends further discussion and analysis of impaired waters listed under the Clean Water Act.</b> A thorough discussion is included in Section 5.3.1 which summarizes the findings of the 2020 303(d) report for the Carraízo Reservoir and the Caguas-Juncos Valley rivers and streams.
1	5.3 Water Resources & Water Quality	Water Quality	<b>EPA requests further discussion of when and where the methods of water extraction from dredged material.</b> A thorough discussion of both methods is included in Section 5.3.2, pgs. 30-31. These two methods are options for extracting water from dredged sediment. The decision on which option to use would be up to the contractor selected for the project. Implementation of one option over the other would not change the impacts analysis.
1	5.3 Water Resources & Water Quality	Technical Definition	<b>USACE recommends eliminating “navigable” and replace with “waters of the US.”</b> Noted and acknowledged here in this FONSI, FEMA will specify this as appropriate in environmental assessments for other projects for clarity.
3	5.3 Water Resources & Water Quality	Sediment Characterization	<b>Public Comment: Were the proposed sediments to be dredged tested for biological and chemical components?</b> Yes, the sediment to be dredged was found to be non-hazardous. Section 5.3 describes the sediment studies conducted for the project and summarizes the results. In addition, a copy of the Sediment Sampling Report is included in Appendix G of the EA.
1	5.5 Floodplain	Flood Management	<b>Municipality of Caguas recommends taking special precautions since the staging area is in a Special Flood Hazard Zone according to NFIP.</b> The installation of temporary office trailers at the staging area would occur above the Base Flood Elevation, using platforms or jacks. As part of the BMPs, PRASA intends to prepare an emergency demobilization plan to manage equipment and materials if a major atmospheric event is forecasted. No impacts to the floodplain would occur during an emergency or the installation and demobilization of the pipeline.
1	5.5 Floodplain	Flood Management	<b>EPA recommends discussion of prevention strategies for runoff and sedimentation due to storm events.</b> BMPs proposed to prevent run off and sedimentation due to storm events are included in Appendix H (Best Management Practices) in the EA.

No. of Comments	EA Section	Topic	FEMA's Response
1	5.6 Vegetation	Vegetation	<p><b>EPA questions the impacts on vegetation as stated in the EA.</b> Based on the flora and fauna study, as stated in the EA Section 5.6.1, pg. 39, plants within the project area are mostly non-native and common to disturbed areas. PRASA surveyed each project component and found that most areas are dominated by invasive species of shrubs and non-native herbaceous vegetation. Most of the 12-m (39.4-ft) wide pipeline easement would be in areas previously used as pasture fields, dominated by the non-native Venezuela grass. This alignment was selected to avoid mature trees and forested areas. PRASA is responsible for complying with the requirements of the PRDNER Joint Regulation on the requirements to mitigate trees that are impacted by the proposed action. A tree inventory would be prepared, prior to project activities, by an OGPe authorized inspector to identify trees within the proposed action areas, as part of the Single Incidental Operational Permit as required by the OGPe.</p>
1	5.10 Socioeconomic and Environmental Justice	Socioeconomic and Environmental Justice	<p><b>EPA asks for clarification on how communities of concern were defined in the EA.</b> Most of the general population of Puerto Rico, as defined by the Council on Environmental Quality, meets the definition of minority population, “populations of individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.” Therefore, the analysis considers income and poverty levels of the municipalities in the CRW and the SCWFP and GWFP service areas, the areas potentially impacted by the project. Based upon the data, these communities are not considered to low income or living in poverty.</p>
1	5.10 Socioeconomic and Environmental Justice	Socioeconomic and Environmental Justice	<p><b>EPA recommends including the EJSscreen analysis maps in the Final EA.</b> At the time of this EA, data available in EJSscreen was limited; FEMA understands that data will be released and updates to EJSscreen will continue into 2023. FEMA uses EJSscreen as one of multiple sources of data for evaluating impacts to the human environment and for potential disproportionate adverse impacts to disadvantaged communities.</p>
8	5.12 Noise	Noise Levels	<p><b>Public Comment: Residents of Gurabo are concerned with potential noise levels of the project.</b> Under Alternative 2, noise would be short-term and controlled by using sound dampeners and suppressors, by controlling working hours, and by using noise attenuating equipment. Details are provided in Section 5.12, including lists of the BMPs that would be required to limit adverse impacts to noise levels associated with the Proposed Action (Alternative 2).</p>
2	5.12 Noise	Noise	<p><b>Public Comment: Concerned with increased in noise at the staging area.</b> Noise generating activities at the staging area described in Section 5.12. At the staging area, after the site is cleared of shrubs and weeds, the office trailer is installed and the dock is constructed, the only noise and traffic at the staging area will be from employee vehicles, occasional supply trucks, and small boats used to transport staff to the dredge. There will be no pumps located at the staging area. The dredging equipment will be in the reservoir, downriver from Urbanization La Serranía. Refer to figure 15 in Appendix A for more information on the location of the pipeline and pumps and Figure 19 for the roads to be used for the project.</p>

No. of Comments	EA Section	Topic	FEMA's Response
14	5.13 Transportation	Traffic and Parking	<b>Public Comment: Concerned with potential impacts to traffic, parking, and road damage.</b> Section 5.13 Transportation describes the existing conditions of traffic in the project area and proposed activities for each alternative and potential impacts. The Proposed Action (Alternative 2) does not include the transport of sediment off-site by truck, therefore there would be no increase in heavy traffic. Section 5.13 also describes potential impacts for Alternative 3 due to the sorting, processing and transportation of dry sediment from disposal dike A. Due to the major, direct, long-term impacts associated with Alternative 3, it was not selected as the proposed action.
12	5.15 Public Health	Odors and Pests	<b>Public Comment: Residents' concerns with strong odors and pests of flies and mosquitos near disposal dikes.</b> Odors from sediment typically comes from the decomposition of organic material typically within sediment lacking oxygen. Organic matter includes leaves, plants, bacteria, and algae. The Carraizo Sediment study took samples from the bottom of the reservoir to determine the composition of the sediment to be dredged. The study found that approximately 94-99% of the sediment to be dredged was sand, gravel, and silt. A very small amount of the sediment contained organic material, approximately 1-6%. Scientists collecting the samples did not smell odors from the sediment samples. BMPs will be implemented to control mosquitoes. The water discharge equipment at the disposal sites is designed to dewater the sediment and minimize ponding of rainwater once dredging activities have finished. PRASA would inspect and maintain the water outlet structures to ensure the movement of water out of the disposal areas. To prevent rodents and flies from inhabiting the disposal dikes, PRASA would designate eating areas, require disposal of food refuse separately from construction debris, install closed garbage containers to avoid pest generation, conduct weekly waste collection by a certified waste disposal company, and place rodent traps as part of regular site management activities.
1	5.15 Public Health & Safety	Public Health & Safety	<b>Municipality of Gurabo provided additional contact information.</b> The Regional State Police Building is located at José Mercado Avenue in Caguas and contact information will be kept at the project office at the staging area. Contact information for the Municipal Emergency Management Offices for the Municipalities of Caguas and Gurabo will also be kept at the project office at the staging area.
1	5.17 Cumulative Impacts		<b>EPA suggested further discussion and support for impact levels in cumulative impacts.</b> Local planning data indicates that there are seven projects planned within one mile of the project area as described in the EA on pages 73-74. These seven projects include small to medium construction projects with temporary adverse impacts anticipated to air quality, noise, and traffic. Permit requirements associated with these projects would reduce the adverse impacts and impacts would end after construction activities are complete.
5	6.0 Permits & Environmental Requirements	Federal Regulations	<b>Public Comments: Residents question adherence to environmental regulations.</b> Section 6 of the EA includes the permit and environmental requirements associated with the proposed action (Alternative 2). Federal funding is contingent upon acquiring the necessary federal and local permits. Noncompliance with these requirements may jeopardize the receipt of federal funds.

No. of Comments	EA Section	Topic	FEMA's Response
1	6.0 Permits & Environmental Requirements	Tree Cutting/Natural Habitat	<b>Public Comment: Concern removal of trees will impact natural protection and quality of life and destroy natural habitat.</b> Section 6 of the EA lists all the permits required and the BMPs to be implemented to reduce and/or eliminate impacts to natural habitats. The closest project site to La Serranía is the staging area. This area is covered by herbaceous vegetation, although scattered trees also occur. Established trees within the staging area would be avoided to the extent practicable. If tree removal is required, PRASA is responsible for complying with the OGPe Joint Regulation, which requires mitigation of trees that might be impacted by the proposed action. A tree inventory would be prepared by an OGPe authorized inspector to identify trees within the proposed action areas, as part of the OGPe Single Incidental Operational Permit.
1	6.0 Permits & Environmental Requirements		<b>EPA expects PRASA will coordinate with USACE for permits.</b> A Joint Permit Application will be filed with USACE under Section 404 of the Clean Water Act.
3	Section 7 Agency Coordination and Public Involvement	Commenting Period	<b>Public Comment: Concerns were raised about the short notice for submitting comments.</b> FEMA established a 30-day public and agency comment period which is standard for an EA. Public notification of the release of the EA and the public comment period was announced in the newspaper (El Vocero), radio (Uno Radio Group), and social networks (FEMA, PRASA and COR3 Facebook and/or Twitter pages). In addition, the public comment period was visually announced with two large signs posted on PR-796 on the way to Urb. La Serranía and other communities along this road. The signs were 4 ft x8 ft. One of the signs was installed at the intersection of PR-796 and PR-798 close to the Borinquen Memorial Park. The other sign was installed in front of the staging area, which is located in front of Urb. La Serranía. The signs remained in place from July 12, 2022 to August 12, 2022. Publication in the newspaper and radio announcement was on July 12, 2022, and publication in social networks was from July 12, 2022 until August 12, 2022.
1	Other	Proposed water park near the Carraízo Reservoir	<b>Public Comment: Questions potential approval of project conflicts with other proposed projects in the project area.</b> The development of projects in Puerto Rico, such as a water park, must comply with the Puerto Rico Joint Permits Regulation for the Evaluation and Issuance of Permits Related to Development, Land Use and Business Operations (the "2020 Joint Regulation") and other federal regulations as required. Projects that might cause an impact on wetlands or Waters of the US must undergo an US Army Corps of Engineers permitting process. The Caguas Municipality confirmed by telephone that it has no relationship with the developer, is not the owner, nor has it authorized the acquisition or development of a water park project. The Municipality confirmed by a formal communication to OGPe that the project has not been endorsed by the Municipality as presented. According to information available at OGPe's Single Business Portal (SBP), the water park project proponent filed an environmental assessment recommendation (REA) in 2020 and a determination of environmental assessment (DEA) is currently under evaluation by OGPe. No construction permit, site approval applications, or infrastructure recommendations were found in the OGPe-SBP for this project. The water park project was not identified in the list of Site Approval applications submitted for the years 2017– 2022 for the municipalities that comprise in the Carraízo Reservoir watershed.

No. of Comments	EA Section	Topic	FEMA's Response
2	Other	Alarm System	<p><b>Public Comment: Recommends changing PRASA's emergency siren alarm system.</b> PRASA reaffirms that the proposed dredging activities do not require changes to the normal operation of the Carraízo Dam. Repair or modification of the Carraízo Dam is not included as part of the dredging scope. PRASA will follow the Carraízo Dam Emergency Action Plan in the event of an emergency. This Plan is the guide for PRASA personnel when abnormal conditions occur that might endanger the dam structure, resulting in dangerous flooding downstream. The existing Warning System consists of an alarm (voice and siren type) located downstream that notifies public and communities near the dam structure if an emergency is identified. The PRASA Metropolitan Region is responsible for the internal and external notifications to other federal and local agencies. The San Juan and Carolina Municipalities, specifically the Emergency Management and Disaster Administration Bureau (NMEAD) and the federal and local authorities are responsible for starting the sequence of notice alerts, coordinating emergency operations and preventive mobilization of population at risk, including performing necessary actions to guarantee the protection of life and safety of general public.</p>
	Other	Construct new dam	<p><b>Public Comment: Suggest constructing new dam to support nearby towns.</b> The purpose and need of this project is to restore water capacity of the Carraizo Reservoir so that PRASA can continue to provide service to the existing SCWFP service area. Creating a new dam to service other towns does not meet the purpose and need of this project. PRASA resumed the planning efforts for the construction of the Valenciano Dam and corresponding filtration plant to serve approximately 140,000 persons in the municipalities of Las Piedras, Humacao, Juncos, Gurabo, San Lorenzo and Caguas.</p>