



US Army Corps  
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Jacksonville District



## **RIO PUERTO NUEVO SUPPLEMENTAL FLOOD RISK MANAGEMENT PROJECT QUESTIONS FROM COMMUNITY MEETING HELD ON JULY 20, 2022**

- 1. A main point that came up was how useful can this project be if the main source of flooding by 100 to 1 is the broken pluvial infrastructure that USACE isn't going to deal with? The other dominant point was why, if aware as you are of the nature based solutions being applied all over the world and the U.S, which consider and integrate the greater landscape in order to find the best possible collection of options and solutions to conform into a project that protects the crucial ecological services... you have opted for a short-sighted solution that ends up doing more harm than good.**

The Río Puerto Nuevo Flood Control Project, once completed, will significantly reduce the risk of flooding in the adjacent areas caused by local stormwater drainage. Although members of the community have raised their concerns, the fact remains that the existing conditions do not allow stormwater drainage systems to drain via outfalls into the existing river. During significant rain events when the river overtops and floods the streets, successful drainage via stormwater drainage systems is not possible. Once the project is completed, the stormwater drainage systems that connect to the river will successfully discharge to the river and reduce flooding within these adjacent communities. Nonetheless, the municipal storm drainage systems will require maintenance and/or improvements to ensure successful drainage in these areas. Maintenance and/or improvements of the municipal stormwater drainage systems outside of the project footprint is not part of the authorized scope of our project.

USACE has continually researched opportunities to incorporate environmentally sustainable designs and minimize impacts to the environment while still maintaining the authorized intent of the design and economic feasibility. For example, a section of the project was deferred to minimize impacts to the historical aqueduct in the Botanical Gardens. No additional archeological resources are being impacted by the project.

Supplemental Contract 6 is currently under a preliminary design with completion of that design in March 2023. USACE has been exploring opportunities to perform a nature-based solution to the best extent possible to minimize impacts to the San Juan Ecological Corridor based on recommendations from agencies and the public. The challenge remains that the design must still meet the structural, hydraulic, and hydrological requirements and consider the project costs for this contract. In a highly urbanized environment, nature-based design opportunities are very limited due to the need for additional width for natural slopes to convey the 100-year flood. However, the team continues to evaluate a design option that will allow for such an opportunity. The team has also reached out to ERDC and explore opportunities for Engineering with Nature within this area of the project.

### **Notre Dame Bridge:**

- 2. The existing University Garden bridge design restricts significantly the water flow by having a path under the bridge that is in the order of 50% of the Water Basin Area. So a replacement of the bridge by a design that does not interrupt the water flow can have very significant impact on the flooding in Univ G and Jardines Metro**

This will be answered in multiple parts for both question 2 and 3:

- We have evaluated many alternatives including the idea of only constructing Contract 5A and no changes to Contract 6, small changes, etc. Fundamentally, we are required by congress to construct the project as intended to provide flood protection at the authorize level of protection (100 year storm event).
- We cannot successfully complete the Notre Dame Bridge (Contract 5A) without making the necessary designed improvements to Contract 6 and the downstream contracts. The design for Notre Dame Bridge assumes that the Rio Piedras will be able to pass the designed flow of a 100 year storm event. If they were to only pass a 5 or 10 year event for example (currently in its existing state it can only pass less than a 2 year event) then the water would come out of bank and flood at Notre Dame bridge.
- If we were to not construct Contract 6, hypothetically, it would mean a significant change to the design of the Notre Dame Bridge which would impact properties along both sides and a bridge that would need to ramp up above the flood level experienced by a 100 year storm event. It is not a functional plan.
- With respect to construction on UPR experimental Station land, we will no longer be constructing the sediment basin. The plans would be for us to construct a transition channel to meet the existing Rio Piedras at the project terminus.

3. **What would be the effect of doing contract 5A and the change of Contract 6, to Replacing the Bridge in Notre Dame but not doing the new channel in University Gardens but do some improvement to current river bed and do the Sediment Basin on UPR Experimental Station Land. Up to what rainfall event frequency can be managed by this type of alternative.(I want to know about this potential option for understanding impact of this potential option)**

See above answer in Question 2.

4. **What phases has been completed to date on the Notre Dame Bridge (surveying river, pluvial lines, X-% design, etc-name)**

We are at approximately 90% design of construction drawings completed. We have completed all surveying of river, utilities investigations, etc. If there are connections from municipal street drainage, those are accounted for in our project footprint (for example stormwater outfalls), however, any local surface flooding (due to secondary drainage or grading) is of the responsibility of the Municipality and is not within our project footprint and requirements. We hope that the Municipality will have the opportunity to maintain and or improve the secondary drainage system and grading within the areas that surround our project.

5. **What is the current Design phase and/or Percentage of the Notre Dame Bridge**

As stated above, we are in the Engineering and Construction Phase, where we are designing for construction. We are currently at 90% design for Notre Dame Bridge.

6. **What is the current estimate for date of design completion?**

Design will be completed for Notre Dame Bridge in Winter 2022 (December timeframe). Although we are not scheduled for Award of contract until Summer 2024.

7. **When temporary bridge is expected to be installed and in use?**

The temporary bridge would be constructed first and would be expected to be built approximately in early to mid-2025. We would not remove the existing Notre Dame Bridge until the temporary bridge is in service.

8. **What is current expected construction start and completion, allowing running of cars in new bridge?**

The construction period for Contract 5A is Summer 2024 until Winter 2027. A little more than 3 years.

9. **What would be a flood simulation run of the option in 1 above.**

We have run models that show if Contract 5A and 6 are not constructed, the flooding would still exist within contract 6 area and flood downstream through our project. This would still cause enough impacts to not justify the construction of the downstream portions. Contract 6 would have to be constructed to have a successful project and provide the flood protection and benefits that we are intending.

## **Rio Piedras Channel:**

10. **What phases has been completed to date on the Rio Piedras Channel (surveying river, pluvial lines, X-% design, etc-name)**

All surveying along Rio Piedras have been completed. Surface flooding been related to the river stage (water level) will always be higher and the impact area of flooding greater than the smaller events surface street flooding. The design allows for the conveyance of water during a 100 year storm event downstream and allows for surface/street drainage to enter the river concurrently without drainage backwater.

11. **What is the current Design phase and/or Percentage of the Rio Piedras Channel**

There are 3 contracts that are being constructed for the existing Rio Piedras. Contract 3, which is at a 98% design completion. Contract 4, at a 60% design completion and Contract 6 at a 15% design completion. We should note that as discussed at the presentation, we are still investigating other nature based design alternatives.

**12. What is the current estimate for date of design completed?**

Design completions are as follows:

- a. Contract 3 – Summer 2022.
- b. Contract 4 – Fall 2023
- c. Contract 6 – Winter 2024

**13. What is current expected construction start and completion of the channel construction,**

Construction Periods are as follows:

- d. Contract 3 – Winter 2023 with completion in Summer 2029
- e. Contract 4 – Winter 2025 with completion in Spring 2030
- f. Contract 6 – Winter 2026 with completion in Spring 2032

**14. The community has expressed great frustration with the flooding the is caused in areas that are not in the scope of your program. Yet we would value if we can be pointed out to resources that could assist us in studying, modeling and identifying solutions to address these needs by our Community by engaging such resources, other than those from the Municipality of San Juan**

Any discussions related to work by others, in this particular case, Municipality of San Juan, should be discussed with them present. To answer your questions, There are members within the Public Works department that can support these challenges. All the information we are able to share with the Government of Puerto Rico, has been shared and will continue to be shared.

We hope to have another meeting with the Government of Puerto Rico in the next few weeks to share some of this feedback with them and see how we can hold a follow up technical forum regarding this questions. Once we have the opportunity to provide more information and jointly hold a meeting, we can be there to support DNER and the Municipality in these discussions. However, we do not have the ability to initiate and/or lead any discussions on the Municipalities behalf as we do not have any agreements or active projects with them outside of the Rio Puerto Nuevo Project. We can only provide support and information upon request.