



Proposed Report¹

**DEPARTMENT OF THE ARMY
CHIEF OF ENGINEERS
2600 ARMY PENTAGON
WASHINGTON, DC 20310-2600**

DAEN

SUBJECT: Savan Gut, St. Thomas, United States Virgin Islands, Flood Risk Management Study

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on the study of flood risk management along Savan Gut in the vicinity of Charlotte Amalie, United States Virgin Islands (USVI). It is accompanied by the report of the Jacksonville District Engineer and the South Atlantic Division Engineer. This report was prepared under Section 209 of the Flood Control Act of 1966 (Public Law 89-789), which authorizes studies for flood control in the United States and its territories.

2. In 1982, a Detailed Project Report (DPR) was conducted and approved under Section 205 of the Flood Control Act of 1948, as amended (33 U.S.C. 701s) (referred to as the Continuing Authorities Program (CAP)). Phase I of the project was constructed, but construction of the remaining features (Phase II) was suspended in 1999 because the project cost exceeded the Section 205 CAP federal funding limit. Due to the impacts of Hurricane Maria in 2017 and subsequent non-federal sponsor request, the Savan Gut project was selected (in accordance with the Bipartisan Budget Act of 2018 (BBA 18), Public Law 115-123) to be converted to a specifically authorized project.

3. The reporting officers recommend authorizing a plan to reduce flood damages to the Jane E. Tuitt Elementary School and the Central Business District in downtown Charlotte Amalie. The principal features of the project are the following:

- a. A Gabion Channel (328-feet long).
- b. A debris barrier located at the downstream end of the gabion channel.
- c. A series of drop structures.
- d. A catchment basin approximately 240 feet long.
- e. A trash barrier (rack) at the velocity check dam located at the downstream end of the drop structures before entering into the box culvert.
- f. Approximately 2,300-ft covered concrete channel (box culvert) from St. Thomas Harbor to and around the Jane E. Tuitt Elementary School (800 feet constructed under Phase I).
- g. Three replacement bridges (to maintain traffic flow over box culvert).
- h. Mitigation for cultural resources.

¹ This report contains the proposed recommendation of the Chief of Engineers. The recommendation is subject to change to reflect Washington-level review and comments from federal and state agencies.

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4. The USVI Department of Public Works is the cost-sharing non-federal sponsor for all features. Based on November 2019 (FY 20) price levels, the estimated total first cost of Phase II of the recommended plan is \$71,700,000. This cost includes the cost of constructing the project and the value of lands, easements, rights-of-way, relocations, and disposal areas (LERRDs). These costs do not include the sunk costs of Phase I (\$7,400,000).

a. Funding. In accordance with the Bipartisan Budget Act of 2018, Public Law 115-123, the study of this project under the Investigations heading was conducted at full federal expense. Upon approval, this project will be eligible for funding under the Construction heading to complete construction at full federal expense.

b. Estimated federal and non-federal cost shares. If funded by regular appropriations, in accordance with the cost sharing provisions of Section 103 of the Water Resources Development Act (WRDA) of 1986, as amended, the non-federal sponsor must contribute a minimum of 35 percent of construction costs, up to a maximum of 50 percent of construction costs, with a minimum 5% cash contribution. The remaining portion of the non-federal share can be provided in LERRDs, in-kind contributions, cash, or a combination. The estimated share of costs is adjusted based on Section 1156 of WRDA 1986, as amended, (33 USC 2310) which provides a waiver for a portion of non-federal cost sharing for Puerto Rico, Territories and Indian Tribes. The estimated federal and non-federal shares of the project first cost are approximately \$47,089,000 and \$24,611,000, respectively.

c. Operation and Maintenance Costs (O&M). The non-federal sponsor would be responsible for operation, maintenance, repair, replacement and rehabilitation (OMRR&R) of the project after construction. The estimated annual O&M cost is \$30,000.

d. The non-federal sponsor would be responsible for any investigations to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601-9675) that are on real property interests required for construction or O&M. If any such hazardous substances are found, the non-federal sponsor would be responsible for the costs of cleanup and response. Currently, no hazardous substances actions are anticipated.

e. Authorized Project Cost and Section 902 Calculation. The overall project first cost, for the purposes of authorization and calculating the maximum cost of the project pursuant to Section 902 of WRDA 1986, as amended, is \$79,100,000. This includes the cost to construct Savan Gut Phase II (\$71,400,000 FY 2020 Price Level) and the sunk cost of constructing Phase I (\$7,400,000).

5. The total equivalent average annual costs of the project are estimated to be \$948,500 (FY 81 PL, 2.75% discount rate and a 50-year period of analysis), including OMRR&R. All project costs are allocated to the authorized purpose of flood risk management. The recommended plan as designed is expected to reduce flood risk up to the Standard Project Flood (SPF). Based on the 2019 Level 1 economic evaluation, the recommended plan would reduce average annual flood damages by approximately \$5,252,000 (1981 PL) or almost 100% of future without project damages. Net average annual benefits are estimated to be \$4,303,500 based on 1981 price levels, with a benefit-to-cost ratio of approximately 5.5 to 1.

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6. Approximately 379 structures (91 Residential and 288 commercial and public facilities) were identified in the 1982 report study area as at risk of flooding under a SPF event. Review of aerial photography from 1982 compared to current aerial photo-imagery indicate that the area remains densely populated, commensurate with 1982, and that the number of structures remains approximately the same to that identified in the 1982 report. The 1982 study report describes the flood risks that the Savan Gut imposes on the residential and commercial structures in the Savan community and Charlotte Amalie. The Savan Gut project is expected to reduce almost all potential future flood damages; however, even after project construction and implementation, some flood damages could occur in the study area. The residual risks have been communicated to the non-federal sponsor, which understands and agrees with the analysis. The recommended plan has been designed to avoid or minimize environmental impacts while maximizing safety and economic benefits to the community. The feasibility study team organized and participated in stakeholder meetings and public workshops throughout the original study process and met again with members of the community and elected officials during development of the Savan Gut CAP Conversion Study.

7. In accordance with the Corps guidance on review of decision documents, all technical, engineering and scientific work underwent an open, dynamic and rigorous review process to ensure technical quality. This included District Quality Control review, Agency Technical Review and policy and legal review. All comments from these reviews have been addressed and incorporated into the final documents. Overall the reviews have resulted in improvements to the quality of the feasibility analyses supporting the recommended plan. Type I Independent External Peer Review (IEPR) was not required for this CAP Conversion Study. A safety assurance review (Type II IEPR) will be conducted during the design phase of the project.

8. Washington-level review indicates that the project recommended by the reporting officers is technically sound, environmentally and socially acceptable, and economically justified. The plan complies with all essential elements of the 1983 U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation Studies and complies with other administrative and legislative policies and guidelines. A 2020 Environmental Assessment (EA) was prepared to evaluate the effects of flood damage reduction measures of the Recommended Plan applying current environmental regulations and standards to assure that the Recommended Plan remains environmentally justified. The 2020 EA completes the required analysis, consultation, and coordination as required by the National Environmental Policy Act of 1969 and incorporates information and analyses from the 1982 DPR and EA, when the information is valid and applicable to this current evaluation. The comments from interested parties, including federal, state, and local agencies, have been considered. All comments submitted during the public review period were considered in developing the final EA and Finding of No Significant Impact. Few changes in the environmental conditions of the project area have occurred. The ongoing erosion and scouring of the gut bed and banks have continued to degrade the streambank vegetation. The recommended plan includes debris and vegetation removal during the channelization, clearing, and grubbing activities associated with the construction of the debris basin. While there appear to be degraded wetlands in the project's vicinity near the debris basin, the clearing and re-grading actions to create the basin are not expected to reduce the value or function of the existing degraded wetlands. Project construction will result in removal of debris and refuse from the area, and revegetation is expected to occur promptly within the project footprint. Upon construction completion, areas outside of the construction footprint will be restored. Therefore, consistent with the 1982 recommended plan, mitigation is not required as there will be no loss of wetland function.

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9. I concur in the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the selected plan to reduce flood risks for Savan Gut Phase II, St. Thomas, USVI be authorized for implementation, as a federal project, with such modifications thereof as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost sharing, financing, and other applicable requirements of federal and state laws and policies. The complete construction of the plan recommended may be completed with 100% federal funding in accordance with Division B, Subdivision 1, Title IV of the Bipartisan Budget Act (BBA) of 2018 (Public Law 115-123). Applying these requirements, the federal portion of the estimated total first cost is \$71,700,000. Federal implementation of the recommended plan would be subject to the non-federal sponsor agreeing to comply with applicable federal laws and policies, including but not limited to:

a. Provide all lands, easements, and rights-of-way, perform or ensure the performance of all relocations, and provide relocation assistance, as determined by the federal government to be required for the initial construction or the operation and maintenance of the project, all in compliance with applicable provisions of the Uniform Relocation and Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601-4655) and the regulations contained in 49 C.F.R. Part 24.

b. For as long as the project remains authorized, operate, maintain, repair, rehabilitate, and replace the project, or functional portions of the project at no cost to the federal government, in a manner compatible with the project's authorized purposes and in accordance with applicable federal and state laws and regulations and any specific directions prescribed by the federal government.

c. Inform affected interests, at least annually, of the extent of protection afforded by the project; participate in and comply with applicable federal floodplain management and flood insurance programs; comply with Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12); and publicize floodplain information in the area concerned and provide this information to zoning and other regulatory agencies for their use in adopting regulations, or taking other actions, to prevent unwise future development and to ensure compatibility with protection levels provided by the project.

d. Prevent obstructions or encroachments on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) such as any new developments on project lands, easements, and rights-of-way or the addition of facilities that may reduce the level of protection the project affords, hinder operation and maintenance of the project, or interfere with the project's proper function.

e. Give the federal government a right to enter, at reasonable times and in a reasonable manner, upon property that the non-federal sponsor owns or controls for access to the project for the purpose of completing, inspecting, operating, maintaining, repairing, rehabilitating, or replacing the project.

f. Hold and save the United States free from all damages arising from the construction, operation, maintenance, repair, rehabilitation, and replacement of the project, except for damages due to the fault or negligence of the United States or its contractors.

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g. Perform, or ensure performance of, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the CERCLA, Public Law 96-510, as amended (42 U.S.C. 9601-9675), that may exist in, on, or under lands, easements, or rights-of-way that the federal government determines to be required for construction, operation, or maintenance of the project. However, for lands that the federal government determines to be subject to the navigation servitude, only the federal government shall perform such investigations unless the federal government provides the non-federal sponsor with prior specific written direction, in which case the non-federal sponsor shall perform such investigations in accordance with such written direction.

h. Assume, as between the federal government and the non-federal sponsor, complete financial responsibility for all necessary cleanup and response costs of any hazardous substances regulated under CERCLA that are located in, on, or under lands, easements, or rights-of-way that the federal government determines to be required for construction, operation, or maintenance of the project.

i. Agree, as between the federal government and the non-federal sponsor, that the non-federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and to the maximum extent practicable, operate, maintain, repair, rehabilitate, and replace the project in a manner that will not cause liability to arise under CERCLA.

10. The recommendations contained herein reflect the information available at this time and current departmental policies governing formulation of individual projects. These recommendations do not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program nor the perspective of higher review levels within the executive branch. Consequently, the recommendations may be modified before they are transmitted to the Congress as a proposal for authorization and implementation funding. However, prior to transmittal to the Congress, the non-federal sponsor, the state, interested federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.

Encls

TODD T. SEMONITE
Lieutenant General, USA
Chief of Engineers