Introduction - Slide 1

Honorable Janelle K. Sarauw, Chairperson of the Committee on Disaster Recovery and Infrastructure, other members of the committee, other senators present, fellow testifiers, and those in the listening and viewing audiences, good morning.

By way of introduction, I am Ashley M. Bryan, Interim Director of Transmission & Distribution at the Virgin Islands Water and Power Authority. Interim Executive Director, Mr. Noel Hodge, regrets he is unable to attend today’s hearing due to his required attendance at the monthly meeting of the Authority’s Governing Board that is getting underway shortly. With me to assist in this presentation are members of the Authority’s Engineering & Project Management teams.

It is my esteemed honor to lead this talented and hard-working group of engineers as we present a detailed overview of the Authority’s plan for disaster recovery in the territory. As has been previously presented before this body, the Authority is actively managing several disaster recovery and infrastructure projects throughout the territory. Our testimony today will provide an update on these projects, and equally as important, their intended benefit to the residents of the Virgin Islands. In short, once these projects are completed, the Authority will experience greater system efficiency and service reliability which will benefit all ratepayers.
Funding - Slide 2

The federal government remains a key partner throughout the disaster recovery process, providing much needed financial and technical assistance to the Authority’s recovery efforts. As of March 31, 2021, the Federal Emergency Management Agency (FEMA) has obligated over $642 million in funding for the Authority’s permanent work projects and to date, more than $422 million has been disbursed.

The Department of Housing and Urban Development (HUD) has also provided aid to the territory through the Community Development Block Grant - Disaster Recovery (CDBG-DR) program. Of the $242.7 million that was allocated to the territory in Tranche 1 funding, $95 million was earmarked for WAPA’s Harley Expansion Project. In March, HUD disbursed $7.5 million, and in April another $6.3 million was provided for the power plant expansion initiative. The total expended to date is $13.8 million.

PROJECT OVERVIEW

Project Methodology - Slide 3

Now that we have outlined the funding for the mitigation projects, what has been obligated, approved, and released to date, allow me to spend a few moments explaining the methods by which these projects were identified as priorities for WAPA and for our customers.
The planning of these multi-year projects began in 2017 immediately after initial commitments were made to WAPA that the federal government would fund not only a restoration of our system to pre-September 2017 levels, but the development of a multi-faceted strategy to address resiliency, redundancy, efficiency, and a general modernization of our power production facilities as well as the transmission and distribution capabilities.

For the Authority, the creation of hazard mitigation projects following the storms of 2017 was a primary focus. By December of that year, over twenty-three hazard mitigation projects had been developed and submitted to FEMA for review, approval, and funding. These projects were designed to address key areas of the Authority’s infrastructure that had been severely impacted by the two category five storms. Projects for each island system were designed using the same criteria: undergrounding as much of the existing electrical overhead transmission and distribution system as possible, interconnecting critical facilities and residential customers on the underground systems, hardening the remaining overhead systems with composite poles, and hybridizing the generation mix to include smaller more efficient units, battery storage systems and renewable energy resources. The Authority continues to pursue renewable energy solutions to meet the mandate of reducing our dependance on fossil fuel generation by 60% by 2025. Prior to the storms of 2017, the Authority entered into power purchase agreements with two vendors to provide a total of eight megawatts of grid tied solar energy – 4MW on St. Thomas and 4 MW on St. Croix.
The Authority also had an active net metering program that integrated customer owned rooftop and ground-mounted solar systems to the electric grid. In 2017, almost 16 megawatts of renewable energy supplemented the conventional generation by net metering customers. At its peak, the net metering program and the (2) four-megawatt utility scale projects, provided a reduction in conventional generation by approximately 25%. However, significant damage to the Donoe Solar Facility in St. Thomas caused by Hurricane Irma left it sidelined. Additionally, many residents with rooftop and ground-mounted solar installations experienced damage to their homes and structures which reduced the availability of renewable energy generation. The 4MW solar farm on St. Croix has since been restored to full operation levels and plans are coming together to rebuild the facility in St. Thomas with an increased capacity of six megawatts. The Authority has also enacted a new net billing program jointly with the Virgin Islands Energy Office and the Department of Planning and Natural Resources to continue the interconnection of renewable resources by residential and commercial customers.

**Territorial Mitigation Projects - Slide 4**

Each island will benefit equally from the hazard mitigation projects we will outline today. The wide scale undergrounding will focus on the primary three phase lines, densely populated areas, and critical infrastructure that impacts the daily activities of our community. We employed a geospatial expert to perform population density and terrain calculations to further aid in the design of the mitigation projects.
Areas that were deemed not feasible for underground installations, primarily due to terrain, will be outfitted with composite poles. Composite poles are high performance utility poles that offer a lighter, more durable solution than conventional wood poles. They are not susceptible to deterioration and are more flexible in high wind situations. These poles will not only harden the remaining overhead system but will also extend the life of the grid. Other initiatives that will be employed on each island include the integration of renewable resources with smart grid technology allowing us to serve remote areas of the customer base for a duration when the grid is unavailable. New generation will be added in both districts with battery storage to supplement the fleet. Projects have also been developed to address the issues with the automated metering system, GIS mapping of the Authority’s assets and the construction of engineering facilities.

Slide 5

On St. Croix, we anticipate transitioning approximately 83% of the wood poles to underground utilities. Some of the areas you can anticipate underground installations are Estate Grove (10A), Calquohoun (10A), Mon Bijou (6A), and Catherine’s Rest (3A). Composite poles will be installed in areas such as Cotton Valley, the South Shore Road and Estate Solitude. In addition to underground and composite pole installations, 24 megawatts of new conventional generation are planned at the Richmond Power Plant coupled with a 20MWh battery system.
Two applications for microgrid solutions have been entered under the FEMA 404 grant program - on St. Croix, the project includes the installation of 18MW of ground mounted solar at Estate Adventure and a 20MWh battery storage system at the Gregory Willocks Electrical Substation. This project recently received conditional approval from FEMA to begin the Architectural & Engineering design phase. An additional 8MW of solar will be installed at the Henry Rohlsen Airport which will couple with the microgrid to supply approximately 80% of the peak generation on St. Croix. Other projects for St. Croix include underground installations of the fiber backhaul for the AMI towers to allow for direct fiber connectivity at each site, concrete bunkers at the tower sites and the construction of control centers that will provide a centralized location for the operations of the Generation and Transmission & Distribution divisions.

**Slide 6**

On St. John, (2) four-megawatt emergency generators will be installed at the islands load centers - Cruz Bay and Coral Bay. Battery storage will be coupled to the generators to provide black start and grid support capabilities. Through the FEMA Public Assistance Program, the Authority is also pursuing a microgrid project for St. John comprised of approximately four megawatts of solar energy to further supplement the electric grid. Undergrounding of electrical equipment will occur in downtown Cruz Bay and along North Shore road to support the main business district while composite poles will be installed on all remaining overhead systems.
Slide 7

Undergrounding on St. Thomas will include areas such as Estate Thomas, downtown Charlotte Amalie, Tutu Valley, and Bovoni with a goal of transitioning approximately 82% of the existing wood poles. Like the other islands, composite poles will be installed on the remaining overhead system. A submarine transmission line will be installed to provide a dedicated means of commuting power from the Randolph Harley Power Plant to neighboring substations. This system will also prepare the Authority for potential ship to shore power sales at the WICO cruise ship dock.

Unlike on St. Croix, equipment in the electrical substations in the St. Thomas-St. John district experienced many failures due to introduction of storm-driven wind, rain, and debris to the facilities. Our customers in the St. Thomas - St. John District are keenly familiar with the continued failures at the Donald Francois Substation in Long Bay. Using available funding, all the damaged substations will receive new Gas Insulated Switchgear, concrete enclosed buildings, and emergency generators.

At the power plant, 36 MW of new generation and battery storage will be integrated into the fleet, and a microgrid will be constructed at the Bovoni Landfill to support customers on the Eastern End of St. Thomas.

On Water Island, composite poles have been installed to serve the 198 customers. 1.5 MW of solar and a 2MWh battery system will be installed with the capability of back-feeding electrical power over the existing submarine cable system to provide
further support to the grid.

Senators, I am pleased to now turn the presentation over to other members of the WAPA team to update you on the progress being made on each of the specific projects they have been tasked with.

**PROJECT UPDATES**

**Composite Poles – Slide 8**

Good Morning, my name is Denika Charles. I am a Mechanical Engineer in the Project Management Division.

The Composite Pole Projects were initiated after hurricanes Irma and Maria. Composite poles are to replace all wooden poles on the islands that were not included in the plan for underground projects. The Composite Poles Projects are an essential part of providing much-needed reliability to the existing distribution system.

Composite poles are, in general, made of fiberglass and are lighter, stronger, and more resilient to hurricane-force winds, and were chosen to replace the territory’s vulnerable wooden poles. The Authority has designed each composite pole with its own unique construction and are currently being installed throughout the territory. These poles can withstand wind speeds of up to 200 mph and come with a 40-year guarantee. The Composite Pole Projects encompass the islands of St. Croix, St. John, St. Thomas, and Water Island.
St. Croix

On St. Croix, Haugland is under contract for composite pole installation. The number of poles to be installed on the island is 4,003. To date 1,453 have been installed. The overall project is 36% complete and will be completed in full within two years from the issuance of the notice to proceed, or by March 2022.

St. Thomas

On St. Thomas, Haugland Virgin Islands is currently under contract for composite pole installation. The number of poles to be installed on the island totals 2,333. To date 813 poles have been installed. The overall project is 35% complete and will be completed in full within three years from the issuance of the notice to proceed, or by March 2024.

St. John

On St. John, BBC Electric is under contract to install the composite poles. The project schedule is being finalized but is anticipated to commence in June 2021. The total number of poles to be installed on island is 1,960 poles. 966 poles were installed following the 2017 storms. The overall project stands 49% complete and will be completed in full, 3 years from the issuance of the notice to proceed. Currently, the notice to proceed is pending execution.
Water Island

Water Island’s Composite Pole Installation Project was completed in 2019, with a total of 200 poles installed.

East End Substation Project – Slide 9

Good morning, I am Chavante Marsh, an Electrical Engineer in the Project Management Division.

The East End Electrical Substation is an essential electrical component in the St. Thomas -St. John district. It provides transmission lines to the island of St. John and distribution feeders to the eastern portion of St. Thomas (Feeders 7D, 9D, and Ridge Road Feeder).

The replacement project was divided into two phases. Phase One was awarded to Haugland Energy and ABB Inc. The project involved procuring a new 34.5kV Gas Insulated Switchgear (GIS) and the rebuilding of the 34.5kV GIS building and control building to withstand major hurricanes and storm systems. The new East End Transmission System has a Double Bus Ring Configuration allowing Authority to maintain redundancy at the substation while keeping the Transmission System energized during maintenance or any rare individual bus failure. The new GIS building will house both the 34.5kV and the 13.2kV Switchgear. The recently constructed GIS and Control buildings were built with poured concrete walls and roofs and include hurricane shutters as well as a stand-by generator and DC backup.
batteries. The generator and batteries will ensure that the protection system remains online during major outages to protect the substation’s electrical equipment. Phase One of the project was completed in July 2020.

Phase Two of the project was awarded to Haugland Virgin Islands and work commenced last November. The scope of work includes procuring and installing of a new 13.2kV Gas Insulated Switchgear (GIS) consisting of a main transformer breaker and four distribution feeder breakers. We are currently in the design and engineering phase of the project and Phase Two is scheduled to be completed by January 31, 2022.

The Gas Insulated Switchgears (GIS) will create a safer working environment for the operations and engineering personnel. There is a decreased likelihood of arc events and the GIS switchgears require less maintenance than the damaged and older styled Air Insulated Switchgear. The completion of the East End Substation project returns stability to the electrical grid especially along the eastern corridor of St. Thomas and across the island of St. John. A remaining significant challenge for this project is the repair of the substation’s power transformer. Until the transformer is repaired, the 13.2kV switchgear cannot be energized. The Authority is currently in the midst of identifying a contractor to carry out the repairs. Our goal is to complete the transformer repairs before December 2021 to remain in line with the Phase Two completion deadline.
St. John Power Transformer Replacement – Slide 10

The St. John substation houses two power transformers (ET1 & ET2), a transmission switchgear and a distribution switchgear to provide consumers with safe and reliable power. The pair of transformers and two transmission lines provide redundancy and ensures the electrical substation remains online in the event of faults or maintenance. ET2, one of the two power transformers on St. John, was severely damaged in a fire.

A turnkey project was awarded to RG Engineering to remove all damaged equipment and materials from the ET2 transformer and pad foundation bay, repair the damaged bay, and procure, install, test, and commission a new Siemens power transformer. Under terms of the contract, RG Engineering will also perform some repairs and maintenance on the existing ET1 transformer once the new ET2 transformer has been put in service.

The new ET2 transformer was replaced and successfully put online in February 2021. During maintenance of the existing transformer, ET1, lightning arrestors on the 15 kV side were found to have suffered damage. If the Authority were to experience a major electrical fault on ET1 during the installation and commissioning of ET2, St. John would face the very real prospect of being without electrical service for an extended period.

Currently, the ET1 power transformer is offline, and we are awaiting the arrival and replacement of the lightning arrestors to repair the transformer.
The redundancy of two transformers is a necessity on St. John in the event of equipment failure or scheduled maintenance.

This project is scheduled to be completed by June 2021. Currently, we do not anticipate a delay in the project’s completion. Once the ET1 Power Transformer is back in service, St. John will have been returned to its pre-storm configuration.

**AMI Project – Slide 11**

The adverse effects of hurricanes Irma and Maria leveled extensive damage to the Advanced Metering Infrastructure (AMI) system. Damaged components included the towers, base units at the tower sites, data collectors, customer revenue meters, digital revenue meters, and other associated equipment.

The Authority has seven tower sites territory-wide, three on St. Croix, three on St. Thomas, and one (1) on St. John. Currently, all tower sites are online.

In the aftermath of the storms, the Authority developed a project worksheet to fund replacement of damaged AMI components and to retool the system to mitigate future damages. The plan includes replacing hurricane-damaged meters, data collectors, hardening of the tower sites by building concrete bunkers to sustain hurricane force winds, outfitting the sites with standby power generators, and re-building the fiber optic infrastructure to facilitate communication to the seven sites.

Over the last three to four years, improvements have been made through the replacing of meters and meter modules, bad data collector batteries, installing new collectors and performing data clean ups.
Although the Authority has used internal staff and external consultants in a bid to repair the system, the results have not been as robust as anticipated.

The Authority, with the guidance of FEMA, will submit a request for proposals for engineering assistance to fully evaluating the current AMI system and identify the root cause of the challenges that are plaguing the system. The RFP will also include the resources geared toward restoration of the system. We anticipate the RFP being issued next month. While we pursue a permanent fix to the system, the Authority will continue efforts to restore the system to pre-storm levels while maintaining the system in an operational state.

**Underground Projects- STX – Slide 12**

Good morning. My name is Suresh Sookraj. I am an Electrical Engineer in the Design & Construction Department.

Three electrical underground projects will soon begin taking shape on St. Croix. A groundbreaking ceremony for these projects was held on April 14. The projects include the Wilfred “Bomba” Allick Port and Transshipment Center at Krause Lagoon, Midland, and Golden Grove. The container port project will replace overhead infrastructure from the Limetree Bay Training School to the Molasses Pier. The Midland project will replace infrastructure from the Gregory Willocks Substation to Central High School and the Golden Grove project will extend from the intersection of Spicy Grill on Queen Mary Highway to the Golden Grove Correctional Facility. The
contractors are J. Benton Construction for the container port, VI Paving for Midland and VIVOT for the Golden Grove project.

These three projects will provide more resilient and reliable electrical service to critical areas that are essential to the recovery of the island in the event of a disaster such as port facilities, the shipping docks and dockside facilities for numerous cargo companies, the VIPD Training School and K-9 Unit, the Golden Grove Correctional Facility, Agape Wellness Center, a residential community as well as a critical focal point for the underground feeders which service the west side of the island.

Presently, we are awaiting formal written CZM approval as well as DPNR permits for the container port project and VI State Historic Preservation Office approval of the “scope of work” document prepared by an archaeologist for all three projects. The three projects have targeted completion dates of December 2021.

**Underground Project – STJ – Slide 13**

Good morning. My name is Cordell Jacobs, Design & Construction Manager for the Transmission & Distribution Division.

The Cruz Bay Underground Project is one of the several FEMA funded mitigation projects on St. John. The goal is to make the electrical infrastructure of Cruz Bay less susceptible to windstorm events through the replacement of overhead electrical infrastructure with underground electrical equipment in the Cruz Bay area. The project was engineered and designed by CDR Maguire. The design work promoted reliability and flexibility of operations options.
The project is separated into several phases with the initial work focused on the replacement of overhead infrastructure from the WAPA substation in Frank Bay, along Vester Gade, and up to a point along Northshore Road just past Mongoose Junction. In the second phase, overhead infrastructure will be replaced from the substation in Frank Bay, along Centerline Road up to the Myrah Keating Smith Health Clinic. In the third phase, overhead electrical equipment will be replaced from the substation, along the Southside Road, up to a point just past the Westin Hotel. There will be a future phase, which will replace overhead infrastructure along Northshore Road to Maho Bay. However, this phase was not included in the original design.

Critical facilities to benefit directly from undergrounding initiative include the Myrah Keating Smith Health Clinic and other emergency facilities, the Leander Jurgen Police Command, the fire station, U.S. Customs offices, Virgin Islands Port Authority marine facilities, the Legislature building, various government offices, the Julius E. Sprauve School, VI Waste Management Authority facilities, hotels, banks, and many other Cruz Bay businesses.

**Slide 14**

The first phase of the Cruz Bay Underground Project has been contracted to Haugland Energy. Phase 1 has begun and is expected to take one year to complete. Phases 2 and 3 of the project should go out for bids in June of 2021.
Greetings members of the Senate, I am Marquis McGregor, an electrical engineer for the System Planning Department.

The Authority applied for microgrid solutions under the FEMA 404 grant program. On St. Croix, the project includes the installation of 18MW of ground mounted solar facilities at Estate Adventure and a 20MWh battery energy storage system at the Gregory Willocks Electrical Substation. The overall cost of the system is $126.6 million. This first phase of the project recently received conditional approval from FEMA and $4.4 million has been obligated for the architectural & engineering design. FEMA requires additional information to complete its technical feasibility, cost effectiveness, and environmental reviews prior to making a final determination for complete funding. Once the final determination is made via deliverables provided during the Phase One process, and the Authority is given full approval for the project, we will move forward into Phase Two. The second phase covers construction or ground disturbing activities. The estimated date of completion for the microgrid project is October 2023.
Good morning. I am Odari Thomas, the Interim Director of Project Management.

The Randolph Harley Power Plant (RHPP) New Generation Project will see the installation of 36 megawatts of new, dual-fueled, reciprocating internal combustion engines that will provide both efficient and reliable power generation in the St. Thomas-St. John district.

The project is funded entirely by HUD through the CDBG-DR Infrastructure Program which is administered locally by the V.I. Housing Finance Authority. The contractor, Wartsila North America, is responsible for engineering, procuring, and constructing the power generating facilities and other associated auxiliary equipment. The final construction will be the result of detailed design and engineering by the EPC contractor. The project also consists of the installation of 9MW/18MWh of Battery Energy Storage Systems (BESS) which will ensure stability of the power grid through voltage/frequency regulation. The battery system can provide backup power to critical loads during an outage. The overall project will be designed to withstand the effects of major natural disasters. Today, the project is well underway as major equipment purchases have been made including the engines, step-up transformer, and other components. The four generators have been successfully tested at a manufacturing facility in Vaasa, Finland and the design process continues. The project experienced a brief delay due to the turnaround time associated with
processing payments, however, those payments have been made and target completion is the Fall of 2022.

The Authority also has an engine reservation and engineering agreement with Wartsila North America. Through this agreement, WAPA has secured the availability of two 9L32 diesel-fired generators and commenced certain engineering work to facilitate their installation on St. John. The much talked about generators for St. John will be installed in Cruz Bay and in Coral Bay. The project also encompasses engineering for the installation of a Battery Energy Storage System (BESS) in both towns. While the generators will only be used for emergency back-up, the battery system will be deployed as required to increase service reliability on the island. Preliminary site layouts such as the one shown in the presentation have been prepared for the engine installations. Currently, the geotechnical analysis is on hold pending review and concurrence by both our federal and local partners. Engineering work will continue once the analysis has been greenlighted by all parties.

**Station Service Hardening – Slide 17**

Good morning, my name is Cyril Andrew. I am an Electrical Engineer in the Automation Generation Department.

The Harley and Richmond power plants operate a localized 480V station service distributed bus throughout each facility. The bus is a critical infrastructure used to power many auxiliary equipment required for power production, the balancing of plant operations, and in the event of power restoration. The 2017 hurricanes caused
extensive damage to equipment associated with the 480V bus. The project includes the installation of a 480V double ended switchgear and a black start generator. The project will also include a new battery system that will provide uninterrupted power in the event of failure.

The benefits of the hardening project include isolation without physical removal of joined cables, decrease failure points by removing unused interconnected equipment, additional 480 VAC station service routes, increased ability to operate post failures, redundant backup generators with synchronizing capabilities and decreased plant restart time after a total electrical service interruption. The project has been submitted to FEMA for project review and funding.

Project Challenges & Solutions – Slide 18

Navigating the complexities of the funding requirements has been challenging for all the territorial agencies. All grants require a significant amount of documentation and reporting to remain in compliance. Once a project begins, there are additional conditions for environmental compliance and preservation, permitting, cost reasonableness, scheduling, and coordination. The rising cost of industry materials is also affecting cost projections and scheduling leading to delays and contract amendments. The processing of the grants and availability of funding is further bogged down by the relief efforts for the COVID-19 pandemic. Staff members that focused solely on the operations of the Authority pre-2017 are now tasked with project design, project oversight, planning, participation in bid review committees,
budgeting, reporting, collaboration and many more tasks in addition to their daily roles. This is the same throughout many of the agencies.

With the aid of the different funding types, the Authority has hired engineering firms, project management specialists, industry experts and continues to build out its disaster recovery division to aid in the successful execution of these projects. We also participate in many collaboration and coordination efforts throughout the agencies to include weekly coordination meetings with Public Works, Office of Disaster Recovery, VITEMA, FEMA, and other stakeholders. We will continue capacity building and planning to be able to successfully execute these projects.

I will now turn it over to Mr. Don Gregoire to provide an overview of the Water projects.

**Slide 19**

Thank you, Ashley, and greetings, to everyone. As mentioned, I am Don Gregoire, Interim Chief Operating Officer for Water Systems at the Virgin Islands Water and Power Authority.

I am pleased to offer insight into ongoing water infrastructure projects funded by grants received through the Department of Planning and Natural Resources and on pending mitigation projects funded through FEMA/HUD in the St. Thomas-St. John and St. Croix Districts.
WAPA currently provides potable water service to approximately 13,000 customers across the territory. In both districts, the water distribution system is owned and operated by WAPA and is comprised of water tanks, pump stations, booster stations and miles of distribution piping.

WAPA receives its potable water supply from the Seven Seas facilities located at both power plants. Seven Seas uses a reverse osmosis process to purify seawater before distribution to our customers. The island of St. John is unique as it receives potable water via a submerged six-inch line from St. Thomas.

WAPA’s potable water system is a critical piece of infrastructure since the Authority is the major distributor of drinking water in the territory. Total water storage capacity stands at 35 million gallons on St Thomas, 1.3 million gallons on St. John and 22 million gallons on St Croix.

In September of 2017, Hurricanes Irma and Maria severely impacted an already fragile water system infrastructure, mainly on St. Croix, where most of the original ductile and galvanized water piping that is now in service has existed from the 1940’s and 50’s. Most of the existing water infrastructure has far exceeded its life expectancy and is simply obsolete. As a result, maintenance crews are tasked with addressing leaks almost daily.

The water system experienced extensive damage from debris removal, planting of replacement utility poles and the work of private contractors. While the damage to components above ground were visible early on, subsurface damage to the water distribution infrastructure has become more evident due to the increased frequency of water main leaks on St. Croix since the storms of 2017. WAPA’s water
distribution department has made every effort to utilize the “Drinking Water Capital Improvement Grant” funding made available through the EPA, DPNR and the V.I. Public Finance Authority to fund several rehabilitation and mitigation projects.

WAPA has partnered with Witt O'Brien to compile and analyze water systems data required for validation by FEMA and HUD. The validation is necessary for the replacement of significant portions of the water system on St. Croix. The Office of Disaster Recovery (ODR) continues to assist with providing prudent updates on the status of many projects. The increase in mainline water breaks since the 2017 storms, other pre-existing conditions (pressure data, water loss, pipe age, non-industry standard material) and other analyses are key factors that the Authority hopes to mitigate through coordination with other local utilities. The water distribution team is also currently working with key members of the Naval Postgraduate School to identify utility vulnerabilities and develop specific recommendations for improving the resilience of the water system infrastructure for specific disaster scenarios.

**Slide 20**

**St. Croix**

**Christiansted Rehabilitation Phase II** - Completed March 17, 2021 - $2.8 Mil.
Drinking Water Capital Improvement Grant

**Frederiksted Rehabilitation Phase II** – In progress Comp. Date May 31, 2021 - $3.8 Mil.
Drinking Water Capital Improvement Grant
Public Finance Authority (PFA) Grant

**Clifton Hill Rehabilitation** – Proposed Start 3rd Quarter 2021- $3.5 Mil.
Drinking Water Capital Improvement Grant

**Hannah’s Rest Rehabilitation** – *In Design*, Proposed Start 4th Quarter 2021- $ TBD.
Drinking Water Capital Improvement Grant
Campo Rico Rehabilitation – In Design. Proposed Start 4th Quarter 2021- $ TBD.
Drinking Water Capital Improvement Grant

Strawberry & Baron Spot Waterline Extension (HUD) Tranche 3
HUD – Waiting for Tranche 3 applications to be available – $16.4 Mil.

System Wide Water Line Replacement – St Croix
FEMA – Pending Data Validation
Estimated 150 miles of water infrastructure piping, primarily ductile iron pipe, upgrade to industry standard C-900 PVC pipe.

Slide 21

St. Thomas

Anna’s Retreat Waterline Extension Ph 2. (HUD) Pending Tranche 2
• HFA is Drafting sub-recipient agreement for WAPA.
• On April 27, 2021, HFA met with WAPA Water detailing additional action items that needs to be completed.

Smith Bay & Frydendal Waterline Extension (HUD) Pending Tranche 2
• HFA is Drafting sub-recipient agreement for WAPA.
  • On April 27, 2021, HFA met with WAPA Water detailing additional action items that needs to be completed.

Slope Stabilization (HUD Pending) Tranche 3
• This project entails completing a geotechnical study and the design of a retaining wall to stabilize both Tanks #3 & 4. The project also includes coating the interior of the tank up to AWWA and API standards

Nazareth Waterline Extension (HUD) Tranche 3
HUD – Waiting for Tranche 3 applications to be available – $4.2 Mil.

Bolongo Waterline Extension (HUD) Tranche 3
HUD – Waiting for Tranche 3 applications to be available – $2.2 Mil.

Wintberg Waterline Extension (HUD) Tranche 3
HUD – Waiting for Tranche 3 applications to be available - $5.7 Mil.
Members of the 34th Legislature, I end this presentation by thanking the 76 men and women of the water distribution department. They are some of the unsung heroes of the Virgin Islands Water and Power Authority. These employees work in various divisions including Operations, Maintenance, Engineering, Water Environmental Lab, and Administrative services.

Their level of continued dedication and hard work is never ending and without reproach. Despite the loss of some key personnel over time, the remaining employees strive daily for excellence. In the words of one of our exemplary supervisors, Mr. Herman Marcus, “Water Distribution is Second to None.”

This concludes my testimony on the Water Systems, I now return the presentation to Ms. Ashley Bryan.

**Slide 19 – Thank You**

Thank you, Mr. Gregoire.

Senator Sarauw and members of the 34th Legislature, this concludes our prepared presentation on the projects that WAPA is pursuing to bring about enhanced electrical and water services to our customers. Through these projects, we envision a future WAPA that is reliable, resilient, and efficient. The increased efficiencies we strive for will translate into lower operating costs which in turn will reduce the cost of service to our customers. We are working diligently each day to take advantage of the unique opportunity we have been afforded through the millions of dollars in federal funding to transform this 50-plus year-old water and power utility into a company we can all be proud of.
In closing, I would be remiss if I did not salute the more than 500 men and women who make up the Virgin Islands Water and Power Authority. We are some of the most dedicated and committed employees you will find anywhere in the public or private sector workplace. Without hesitation, I can tell you that our team strives each day to build a brighter future for all of us. My team and I thank you for this opportunity and we are now available to answer any questions you may have.