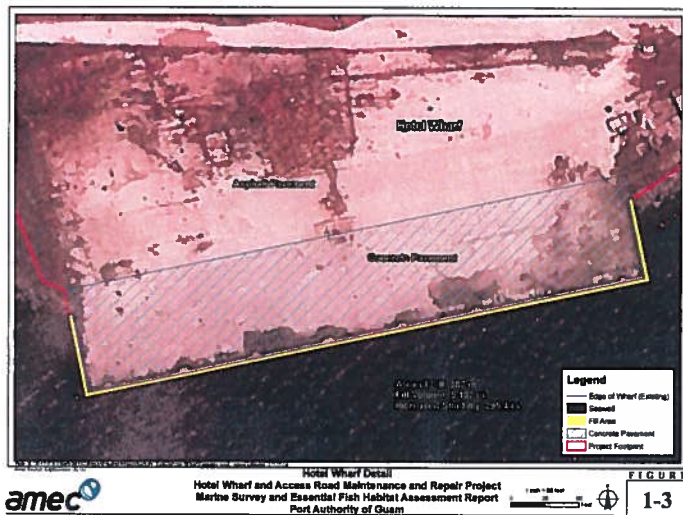


# REHABILITATION OF "H" WHARF

SPONSORED BY

## PORT AUTHORITY OF GUAM



### ABSTRACT

The 2016 TIGER 8 Grant will fund the Rehabilitation of "H" Wharf, at Cabras Island, Piti Guam that serves as a Transshipment Hub to the Western Pacific Region

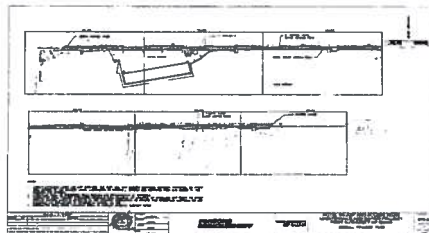
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## 2016 TIGER DISCRETIONARY GRANT APPLICATION

Website [www.portguam.com/2016TIGER](http://www.portguam.com/2016TIGER)



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## I. Introduction

The Port Authority of Guam is applying for funding from the 2016 TIGER VIII grant to rehabilitate the existing “H” Wharf at its current location on Cabras Island, Guam. Although these physical improvements will be made at the Port of Guam, its benefits are far reaching to many remote communities, spread throughout the Micronesian Region. PAG seeks to bring this critical facility into a state of good repair, as it serves as a gateway for the import and export of goods throughout the global economy.

In the continental United States, intermodal options such as railways and freight trucking are available, however, in the islands of the Western Pacific Region, there is no intermodal system and over 90 percent of all goods are landed in the form of ocean freight. The ocean is our railway, the ocean is our highway, and it is our only means of connecting our far-flung islands. The Port Authority of Guam serves as the primary and critical transshipment hub to Micronesia. The only other full service U.S. port that is the closest in proximity to Guam is in the State of Hawaii, which is located over 3,800 miles to the east in the Pacific Ocean.

Guam is a nexus for shipping to the neighboring islands of the Federated States of Micronesia (FSM), the Republic of the Marshall Islands (RMI), the Republic of Palau (Palau), and the Commonwealth of the Northern Mariana Islands (CNMI). Our 390,000 neighboring brothers and sisters rely on the Port of Guam’s services for the delivery of food, medicine, consumable goods, vehicles, construction and building materials, cement, aggregates, and other commodities that are essential to their basic survivability.



For points of reference, Guam has an area of 212 square miles and is the largest island in Micronesia. FSM is made up of four island states, which are Pohnpei, Chuuk, Yap, and Kosrae, totaling 607 small islands and over 20 inhabited islands. All but Kosrae include numerous

atolls. RMI is composed of 29 coral atolls and 5 inhabited single coral islands. Palau is composed of six island groups, totaling more than 300 islands. CNMI consist of fourteen islands, with the three southernmost – Saipan, Tinian, and Rota – being the largest and most populated in the chain.

Our islands are tiny and our populations are not large in comparison to those on the U.S. mainland, yet the magnitude of the investment for the project translates into sustainability of life for all of us. The vast ocean footprint of the Region is comparable in size to the footprint of the entire continental United States.



The Port's impact on the quality and subsistence of life for residents of Guam and Micronesia cannot be overstated. The Port of Guam is truly the lifeline between the region and the rest of the world.

### Project Highlights

- TIGER VIII funding is needed for the rehabilitation of "H" Wharf
- Project Cost of \$20,000,000 is "overmatched" by a \$10,000,000 local match (50%)
- Guam is in a Rural Economically Distressed Area
- Shovel Ready Project
- Benefit-Cost Analysis and Letters of Support by government officials, Port Users, and Associations are included as attachments

## II. Project Narrative

### 1. PROJECT DESCRIPTION

The proposed project involves Rehabilitation of the existing “H” Wharf on Port Authority of Guam Property. This is a former Navy ammunitions wharf that was transferred to the Government of Guam in 1989. “H” Wharf is a waterfront structure constructed in 1948 using dredge-material fill retained by a three-side anchored sheet pile bulkhead which transitions to a rip-rap cover as it approaches the shoreline. The in-water bulkhead is anchored by a “sheet pile and batter pile dead-man wall” located within the fill material and connected to the bulkhead by tie-rods spaced at 6-foot intervals. The proposed project involves replacement of the existing wharf and roadway structures in essentially their current locations on Cabras Island, adjacent to Apra Harbor navigable water. This is intended to restore valuable marine property to safe and efficient operational status. The site layout will remain open and suitable for multipurpose use. Current planned usage is to support overflow and emergency “break bulk” and “bulk” cargo handling operations, container operations on self-sustaining vessels.

Wharf replacement involves construction of a new sheet pile bulkhead retaining wall approximately 3-ft outside of an existing sheet pile bulkhead wall. This would increase the wharf footprint within the water by approximately 2,100 S.F. This is made necessary by having to construct new structural components without causing the existing wharf to be demolished.

Selected demolition, however, is proposed for the removal of surface facilities and dilapidated structures such as fencing, cleats, rubber fenders, and mooring bollards. It also includes the removal of asphalt and concrete pavement, and the partial demolition of the concrete cap atop the existing sheet pile bulkhead.



Existing Access to H Wharf

Additional structural components include mooring bollards on the wharf, two mooring bollards along the roadway’s edge east and west of the wharf, and concrete decking/pavement for the first 100 feet adjacent to the pier head line in the ship unloading zone. Structural fill will be placed in the area between the existing and new bulkheads. All part of the “H” Wharf surface will be impervious with the area outside the 10-ft ship unloading zone consisting of asphalt pavement.



Access Road to "H" Wharf



Front of "H" Wharf Structure



Left Side of H Wharf



Right Side of H Wharf

**CHALLENGES THE PROJECT AIMS TO ADDRESS**

With many areas near capacity, congested or unusable, it was determined that the Port should address the rehabilitation of all waterfront properties in order to accommodate normal business growth, increase flexibility in the use of its facilities, and identify alternative waterfront access when its Public Cargo Terminal is fully encumbered by the cargo handling demands.

Presently, waterfront dock space at the Port is severely limited. Under the existing port configuration, the Port is struggling to support current demands effectively – particularly for break-bulk and project specific cargoes. As an example, it can take up to three weeks to offload vessels transporting aggregate or construction materials due to limited space and scheduling challenges that have consistently plagued the Port.

From 2010 to 2015, the Port has averaged approximately 656 port calls per year along 1,950 linear feet of wharf space for cargo vessels. These calls have resulted in congested operating conditions for container ships, break-bulk carrier vessels, cement and aggregate carriers, cruise vessels and yachts, fishing vessels including long liners and purse seiners, research vessels, tankers, tugs, barges, and training vessels visiting the region.

With the growth identified in the Port's recently updated Master Plan, the Port will experience an exponential increase of cargo volume and activity that requires substantial major capital improvements at its Public Cargo Terminal. In meeting these demands, the Port will exhaust its financial ability to make improvements at all the other waterfront properties. U.S. Department of Transportation approval of the Port's TIGER 8 Grant application for the Rehabilitation of "H" Wharf will enable the Port to make repairs to this critical waterfront property that will not be otherwise accomplished once the Port commits itself to addressing Public Cargo Terminal improvements that will affect the only marine intermodal transportation ship-to-truck to the community of Guam, and as a Transshipment nexus for the U.S. Affiliated Islands of Micronesia, to the Commonwealth of the Northern Mariana Islands, Federated States of the Micronesia, the Republic of Palau, and the Republic of Marshall Islands, impacting approximately 390,000 people living in a Rural and Economically Distressed Area.

**HOW THE PROJECT WILL ADDRESS THESE CHALLENGES**

The demand for docking/wharfage space has increased due to the natural progression of normal economic growth, however there has never been an expansion of wharf infrastructures since the Government of Guam exchanged land for wharf space with the federal government in the past five decades.

The Port proposes to revitalize "H" Wharf for the purpose of utilizing its berthing capacity to alleviate the traffic and congestion in its main cargo handling area and to transfer project

specific activities away from its container ships operations. Aggregate and construction materials, excursion vessels, and roll off/roll on operations will be better served at “H” Wharf. Additionally, the increased waterfront space will create diversified business opportunities otherwise not attainable following the Port’s investment in the Public Cargo Terminal.

#### HOW THE PROJECT PROMOTES LADDERS OF OPPORTUNITY

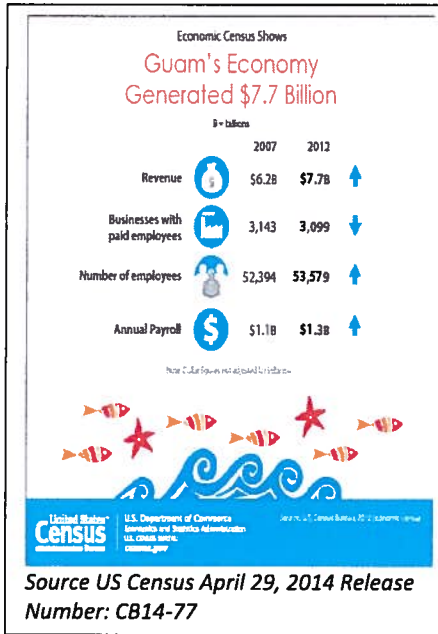
Alfred F. Santos Memorial Scholarship Fund - Established in 2008, the Alfred F. Santos Memorial Scholarship funds one (1) Applicant/Trainee to participate in the “Water Transportation Training” (WTT) program at the Port Authority of Guam Operations Division. Members include, the Association of Terminal Operators, Stevedoring and Shipping Companies of Micronesia (ATOSSCOM), the Port Authority of Guam, Matson Navigation Company, Inc., and Marianas Steamship Agency. Scope of training includes, a four (4) week on-the-job training, covering Agency-Carrier customer service, documentation, vessel operations, administration and accounting. And Port Terminal and Stevedoring day-to-day operations, equipment maintenance, and administration tariff/billing. In the event there are no applicants, the Guam based sponsor members will dispatch an Instructor covering HazMat subjects. To date, four (4) trainees from the islands of Federal States of Micronesia have successfully completed the Water Transportation Training program.

Summer Youth Training Program - Provides employment opportunity for youths, and displaced employees to gain basic knowledge, duties, and responsibilities of port programs, projects, activities and operations in the Finance, Human Resources, Information Technology, Procurement & Supply, Commercial, Engineering/CIP, General Administration divisions just to name a few. Since its inception, 3% have returned and are employed under the Harbor Master Division, Human Resource Division, Operations Division, and Equipment Maintenance Division.

Direct and Indirect Ladders of Opportunities – The project will generate an estimated average of 75 – 100 direct, indirect, and induced jobs per year.

As expected, the construction industry is estimated to receive the largest increase in jobs from the project, almost all of which are direct jobs created. Other industries on the island will see little impact in terms of jobs. Again, this is due to the nature of Guam’s labor force and the need for outside labor and expertise.





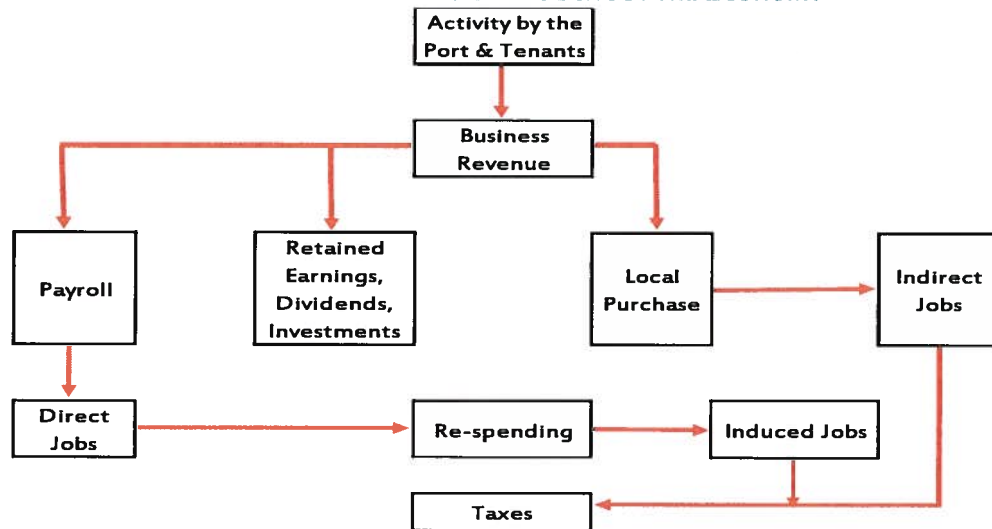
**As of January 1, 2015, the current minimum wage rate is \$8.25**  
 Source Department of Labor Government of Guam

1. **Direct and Indirect Impacts:** Direct impacts represent new spending, hiring, and production by civil engineering construction companies to accommodate the demand for resources in order to complete the program. Indirect impacts result from the quality of inter- industry purchases necessary to support the increase in production from the construction industry experiencing new demand for its goods and services. All industries that produce goods and services consumed by the construction industry will also increase production and, if necessary, hire new workers to meet the additional demands.

2. **Induced Impacts:** Induced impacts stem from the re-spending of wages earned by workers benefitting from the direct and indirect activity within area. For example, if an increase in demands leads to new employment and earnings in a set of industries, workers in these industries will spend some proportion of their increased earnings at local retail shops, restaurants, and other places of commerce, which would further stimulate economic activity.

Passenger and air cargo activity at an airport, waterborne activity at a seaport, and real estate activity all contribute to the local and regional economy by generating business revenue to local and national firms. These firms, in turn, provide employment and income to individuals.<sup>1</sup>

FIGURE 1-1 FLOW OF IMPACTS THROUGHOUT THE ECONOMY



<sup>1</sup> Jose D. Leon Guerrero Commercial Port of Guam Master Plan 2013 Update, page 6-35

Activity at a seaport (i.e., manufacturing, the handling of cargo and the servicing of vessels) initially creates business revenue to firms providing those cargo handling and vessel services.

This revenue is in turn used for several purposes and are as follows:

- Hiring of employees to provide the services;
- Paying stockholders dividends, retire debt, and invest;
- Buying goods from other firms; and
- Paying federal, state, and local taxes.<sup>2</sup>

Guam's economy is largely driven by consumer and government spending. Net exports (exports minus imports) reduce statistical measures of GDP, as the island's economy is highly dependent on imports.<sup>3</sup>

## 2. PROJECT LOCATION

Guam is an unincorporated territory of the United States. It is approximately 30 miles in length with a variable width, ranging from 12 miles to 4 miles at its narrowest point. The largest island in Micronesia, Guam has a total land mass of 212 square miles. Guam is a designated Rural Economically Distress Area, as per U.S. Census Bureau.

Latitude: 13° 27' 46.34" North

Longitude: 144° 39' 55.90" East

MAP 1-1 U.S. TERRITORY OF GUAM AND MICRONSIAN ISLANDS



The proposed project and geospatial data Guam is located in the western Pacific Ocean and is the southernmost island in the Marianas Island chain. Located approximately 1,500 miles

<sup>2</sup> Jose D. Leon Guerrero Commercial Port of Guam Master Plan Update 2013, page 6-41

<sup>3</sup> Jose D. Leon Guerrero Commercial Port of Guam Master Plan Update 2013, page 6-22

south, southeast of Japan and 1,200 miles east of the Philippine Islands, the Marianas Islands constitute the boundary between the Philippine Sea and the Pacific Ocean. Situated along the top of the Marianas ridge, the Marianas islands, comprise a classic island arc structure associated with a region of active tectonic subduction. The subduction zone is coincident with the Marianas Trench, parallel and east of the Marianas Island. At this location, oceanic crust of the Pacific Plate is being subjected beneath the Philippine Plate. Guam represent the south end of the island arc system, and as such, the tectonic activity at the end may involve subduction tectonic activity and a component of strike-slip deformation, as the western edge of the Pacific Plate steps further westward toward the Yap Trench and Palau Trench.

The Jose D. Leon Guerrero Commercial Port of Guam (“Port”), is currently owned, operated, and managed by the Port Authority of Guam (“PAG”), a legal public corporation and an autonomous agency of the Government of Guam. The PAG controls over 1,000 acres in the Apra Harbor area including the Port with six water front berths, F1 through F6, two fuel piers, a 500-foot long “H” Wharf, marine industrial terminal that includes oil tank farm and cement silos, fishing facilities, seaplane ramp, marinas, and a harbor of refuge.

The “H” Wharf, which was returned to PAG control, is located beside the road in the Glass Breakwater area, between Golf Pier and the Family Beach. The Wharf consists of an old seawall structure with a newer modernized center section.

The Port is located on the west side of Cabras Island just north of the Orote Peninsula. The Port was built as an extension of Cabras Island, a naturally occurring carbonate platform associated with the reef facies of the Mariana limestone. The Port facilities include a breakwater extending to the west on the north side of the harbor just over 2 miles from the western end of Cabras Island.

According to the 2010 US Census, the population of Guam stood at 159,358. Almost half of Guam’s population identifies as Chamoru. Other Asian ethnicities account for 32 percent of the population, people of Caucasian descent make up 7 percent of those living on Guam.

Median household income in Guam for 2010 was \$39,052. This is significantly lower than the 2010 level for the US mainland of \$50,046 (28 percent lower). The same year on the mainland, 7.6 percent of households reported having an annual income less than \$10,000. On Guam this figure was 11.6 percent; 5.6 percent reported having no annual income.

As an isolated island community, sea transportation remains the only economically viable option for the movement of goods into and out of the island. It is estimated that over 90% of all goods move through Guam’s only commercial port. With tourism as its main industry and an annual average of over 1.3 million visitors, there are over 3,000 tourists on island at any given day. The island also serves as a transshipment nexus for the U.S. Affiliated Islands of Micronesia, to include the Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, the Republic of Palau, and the Republic of the Marshall Islands, servicing an additional estimated 390,000 people who live in this Rural and Economically Distress Area (spread out over 1.5 million square miles of Open Ocean).

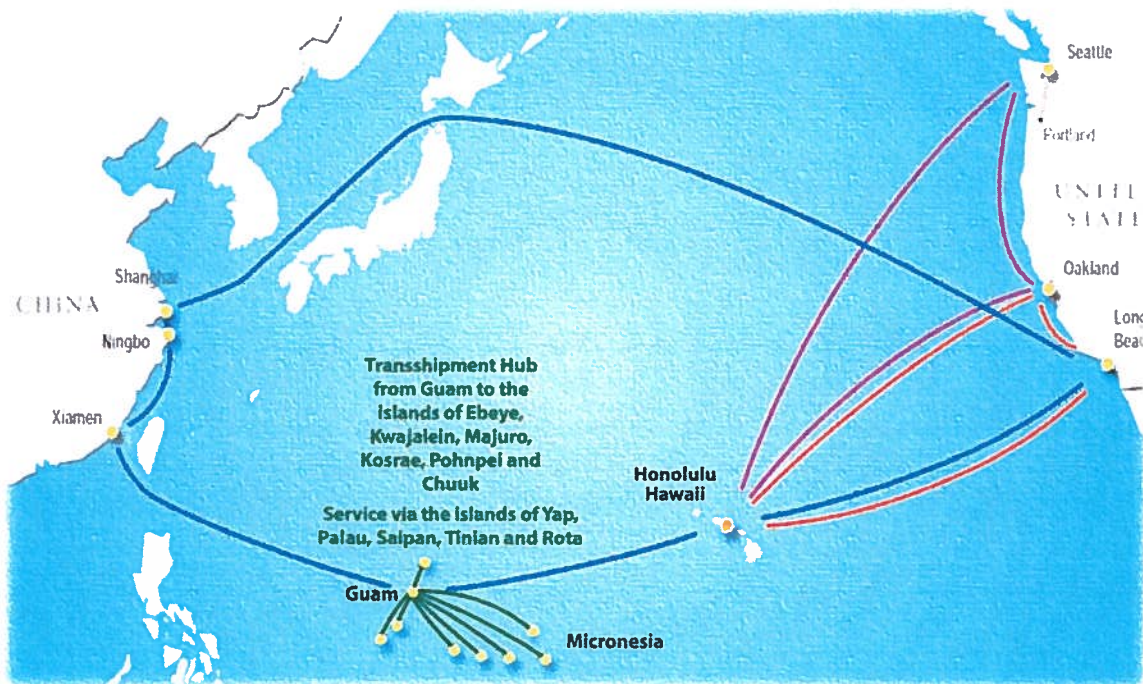
**ARRIVAL SUMMARY**  
 Guam has achieved another fiscal year milestone recording over 1.3 million visitors for the second consecutive year.

**HARD WORK PAYING OFF**  
 Other markets that also saw growth in September include the U.S. mainland by 59.9%, Hawaii by 37.5%, Australia by 24% and the Philippines by 3.9%

*Exercise Valiant Shield contributed to September’s upward trend, with Armed Forces Air Arrivals increasing by 127.3%. Civilian Sea Arrivals also grew by 175%*

Source: Guam Visitors Bureau  
 FY2014 Citizen Centric Report

MAP 1-2 MAP OF TRANSSHIPMENT ROUTES (IN GREEN) FROM GUAM TO OUTER ISLANDS



3. PROJECT PARTIES

The parties who have a role in the Project approvals and delivery are as follows:

Port Authority of Guam (PAG): PAG is the owner and operator of the Port and it is also the official sponsor of the Project as well as the TIGER Grant applicant. PAG has the authority to act on behalf of the Government of Guam.

Office of Economic Adjustment (OEA): OEA provided funds for the completion of the A/E Design and Environmental Studies for “H” Wharf.

Department of the Interior Office of Insular Affairs (DOI OIA): DOI OA provided funds for the completion of the A/E Design and Environmental Studies for “H” Wharf.

United States Coast Guard, Guam Sector (USCG Guam Sector): Coast Guard Sector Guam's area of responsibility includes Guam, the Commonwealth of Northern Mariana's Islands, The Republic of Palau, and the Federated States of Micronesia (Kosrae, Pohnpei, Chuuk, and Yap). Primary missions include: Search and Rescue, Law Enforcement, Ports Waterways and Coastal Security (PWCS), Marine Inspection, Mariner's Licensing and Documentation, Port Safety and Marine Environmental Protection.

United States Maritime Administration (MARAD): Administered and completed the Guam Commercial Port Improvement Project on December 9, 2015, worth \$50 million in infrastructure improvements that created jobs and boosted the local economy.

Government of Guam (GovGuam): Is responsible for providing local approvals. This includes the Guam Legislature, the Governor of Guam, and agencies that report to the Governor.

Guam Economic Development Authority (GEDA): Is responsible for issuing private activity project revenue bonds.

Guam Public Utilities Commission (PUC): PUC is an independent regulatory commission, separate from the Executive and Legislative branches, which has been created by Guam law pursuant to requirements in Federal law. PUC is governed by seven commissioners who serve six year terms under appointment by the Governor and confirmation by the Legislature. PUC's enabling legislation is contained under Guam Code Annotated Title 12.

#### 4. GRANT FUNDS AND SOURCES/USES OF PROJECT FUNDS

Table 1-1 provides a project funding summary outlining funding sources and how the funds will be utilized.



TABLE 1-1 PROJECT FUNDING SUMMARY

Project	Project Cost	OEA & DOI Grants (%)	Port Funds (%)
A/E Design & Environmental Reports	-\$1,153,880	-\$616,880 (53%)	-\$537,000 (47%)
<b>Total OEA &amp; DOI Grant Funding</b>	<b>-\$1,153,880</b>	<b>-\$616,880</b>	<b>-\$537,000</b>
Project	Project Cost	TIGER Funds Requested (%)	Port Funds (%)
Rehabilitation of "H" Wharf <sup>4</sup>	\$20,000,000	\$10,000,000 (50%)	\$10,000,000 (50%)
<b>Total</b>	<b>\$20,000,000</b>	<b>\$10,000,000</b>	<b>\$10,000,000</b>

With Port Authority of Guam's commitment to 50% Match of the total project, PAG will incorporate *Buy America* provisions into the procurement documents, ensuring that transportation infrastructure projects are built with American-made products and are able to support an entire supply chain of American companies and their employees.

## 5. SELECTION CRITERIA

### 5.1. PRIMARY SELECTION CRITERIA

Several key components of the modernization effort have already been completed as a result of PAG's agreement with the U.S. Maritime Administration (MARAD), which partnered with PAG in implementing the "Guam Commercial Port Improvement (GCPI) Program". The GCPI program ushered in capital improvement projects needed to accommodate organic growth.

The Rehabilitation of "H" Wharf is a separate port capital improvement project that provides additional infrastructural support to the port modernization program described above. While the GCPI projects will increase yard capacity, it does not increase wharf capacity. The Port currently has three berths to accommodate containerships, general and unitized cargo vessels, and passenger ships. Wharves F-4, F-5 and F-6 are adjacent to the Port's container yard and breakdown laydown areas, measuring 1,950 linear feet, alongside dredge depths of averaging 35 feet. Use of the wharves average 5 days per week, and 52 weeks per year. Containers handled at this waterfront annually average 90,000 containers handled, which represents 90% of total revenue tons.

<sup>4</sup> Please refer to Attachment 5, H Wharf Cost Estimate

The proposed “H” Wharf project, through its significant location on the waterfront, will eliminate the conflicting mix of vessels presently using the main cargo handling waterfront.

The primary focus of the “H” Wharf project will address this incompatible use of the Port’s only full-time-use industrial waterfront facility, and provide alternative offload and staging areas for specific project cargos (aggregates and imported construction materials), provide flexible cargo handling acreage as the Port transitions between different modes of operation at the main cargo terminal, provide for easier management of cargo spikes. Also, it will provide a much needed relief valve that will be of significant value if construction problems are encountered during reconfiguration of the Public Cargo Terminal.

**a) STATE OF GOOD REPAIR**

The “H” Wharf Project supports a State of Good Repair by re-habilitating an existing wharf structure and the upland facilities. The project will mitigate future losses at the island’s critical waterfront asset resulting from major disasters. Guam is in an active seismic zone in the Pacific, and is prone to sizeable earthquakes. In 2002, a magnitude 7.0 earthquake caused over \$8 million in damages to port property.

Guam is also located in an area referred to as “Typhoon Alley”, and has experienced numerous Super Typhoons (Category 5 hurricane with sustained winds greater than 157 mph). The last major typhoon, Typhoon Chataan, which struck the island in 2002 with wind speeds of 110 mph, resulted in \$3 million worth of damages to the Port. Because of the island’s isolated location, damages to the Port have the potential to adversely impact every component of Guam’s economy.

The “H” Wharf Project supports a State of Good Repair by re-habilitating an existing wharf structure and the upland facilities. This project will alleviate conflicting uses of the waterfront designed for cargo operations, and a portion of current and future vessel traffic and storage area congestion at the Port of Guam. It will also help in solving current scheduling challenges that will be further magnified due to increasing cargo flow. Although strategically located on the Port waterfront, these benefits will not be realized unless it is improved.

Since its construction in 1948, having been utilized as an ammunition wharf during the Vietnam War, and subsequently transferred by the US Navy to the Government of Guam in 1989, “H” Wharf has never undergone a major upgrade. It is in dire need of significant improvements, in order to repair and rehabilitate the condition of the wharf and associated upland area. It also suffered damages during Typhoon Omar in early 1993. A typical structure similar in construction has a useful life of 30-40 years. Thus the structure and the upland area have exceeded the intended useful life. The project will

re-habilitate the wharf structure as well as upland facilities. Following this immediate replacement, the Port of Guam will allocate annual maintenance and replacement capital for these assets.

The new bulkhead structure and upland facilities will be of higher quality and be able to withstand natural (e.g. typhoon and seismic event) and unnatural wear far better than the structure constructed 60 years ago. The higher quality and longer life of the facility will reduce maintenance and repair costs. Furthermore, the economic benefits and additional revenues that it will generate from the abovementioned uses will improve the PAG's financial stability through increased operational activities and reduced operating costs. The new facility will also increase operating flexibility and revenue generating potential to better serve Guam's island residents, the private sector, and the surrounding islands in the Pacific Region by providing flexibility in cargo handling and vessel berth availability at the Port of Guam. Once complete, the improved value of the facility can serve as leverage for proposed future improvement or expansion requirements.

#### b) ECONOMIC COMPETITIVENESS

The redevelopment of the "H" Wharf will improve both near and long-term efficiency, reliability and cost-competitiveness in the movement of goods to and from Guam, and throughout the surrounding area, servicing a total population of almost 390,000. As the island's only commercial seaport, it services Guam's local population of 159,358, in addition to the 53,833 people in the Commonwealth of the Northern Mariana Islands (CNMI), a commonwealth of the U.S., the 103,000 people in the Federated States of Micronesia (FSM), the 19,907 people in the Republic of Palau, and the 52,840 people in the Republic of the Marshall Islands (RMI). Without this Project, the supply of cargo to the local population and the region will be severely constrained because the PAG will have no means of alleviating potential congestion on water-side (for ships) as well as land-side (for storage of cargo).

The berthing space at the main cargo terminal consists of three berths for handling container and break-bulk cargo and one berth for fishing cargo and activities. Currently, the berth utilization exceeds typical industry rates of 60% utilization, beyond which efficiency typically decreases. However, during the peak cargo years, it is anticipated that this utilization will increase to around 75% at the main cargo terminal resulting in severe bottlenecks with ships having to wait out in the harbor for long periods of time, thereby disrupting effective cargo movement through the Port. Since there are no other cargo import alternatives available other than the Port, vessel delays will significantly and negatively affect private businesses on the island. If "H" Wharf is rehabilitated with USDOT TIGER funds, it will greatly reduce the constraints at the berths of the main cargo terminal by bringing down the berth utilization rates to much more manageable and efficient range of 60-65%.



The project will also create approximately 2 acres of additional cargo storage area. This would allow project cargoes to be stored at the facility and hence increase the storage availability at the main cargo terminal by the same amount. This additional space will result in much more efficient and safe handling of cargo. Guam residents (local, private, and federal), and neighboring islands will be able to receive their goods in a much timelier manner.

#### Operational Cost Savings

The redevelopment of “H” Wharf will significantly improve the efficiency of the Port of Guam. It will reduce the delays due to congestion at the berth but also provides job retention and economic benefits.

#### c) QUALITY OF LIFE

As isolated chains of island communities dispersed geographically and for the 300,000 people that live in this rural region (covering over 1.5 million square miles), the Port of Guam is the hub and the largest port in the region. In addition, it serves as the critically link to ocean transportation from West Coast, Hawaii, Micronesia, and Asia. The improvements achieved through the Project will ease congestion at the main cargo terminal and thus improve access to consumer goods (including medical supplies and prescription drugs that come through the main cargo terminal). This will also have an impact on reducing the cost of services in the region (because almost all goods must be shipped to Guam, changes in shipping costs and Port efficiency can impact consumer prices for both goods and services). In an Economically Distressed Area such as Guam, where the unemployment rate is 6.7 percent, up 1.7 percent from the national average, this vital service link takes on added significance. Statistics also reflect that Guam ranks second in the nation, after Washington DC, for total welfare caseloads, with 6.397 per 100 people receiving public assistance. Guam’s per capita income is \$28,700, compared to U.S. average of \$53,041.

#### d) ENVIRONMENTAL SUSTAINABILITY

Port facilities is a heavy industrialized zone, with no urban encroachment. The Port is located in an air quality non-attainment area that exceeds National Ambient Air Quality Standards (NAAQS).<sup>5</sup> As a result, the potential for Port-related emissions savings are particularly important.

One positive impact of the Project is that vessels will spend shorter time at the Port since the amount of time spent waiting at anchor for the availability of berthing space at the main cargo terminal will be dramatically reduced. Because of this, it is likely that

<sup>5</sup> The area exceeds NAAQS standards for the SO<sub>2</sub> pollutant.

this impact will reduce emissions and fuel consumption due to the reduction in waiting time.

e) **SAFETY**

The project investment will greatly improve the overall operational safety at “H” Wharf. As noted previously, the bulkhead structure at “H” Wharf is five decades old and reflects the lower design standards of the time. It has been subject to harsh natural conditions and is at risk of failure under a natural disaster such as earthquakes and typhoons that have damaged Port facilities. The rehabilitated structure as part of the project will be built to withstand such events.

This project will alleviate conflicting uses of the waterfront designed for cargo operations, and a portion of current and future vessel traffic and storage area congestion at the Port of Guam. It will also help in solving current scheduling challenges that will be further magnified due to increasing cargo flow. Because completion of this project will result in additional docking space for the Port of Guam, it will remove congestion and bottlenecks at the main port facility and will alleviate hazardous working conditions like working in a constricted space with heavy equipment.

The “H” Wharf has not been US Coast Guard approved for use as a designated waterfront facility for several years.

**5.2. SECONDARY SELECTION CRITERIA**

a) **INNOVATION**

As noted previously, the “H” Wharf facility was designed in 1948 and very few investment or upgrades have been made since then. The wharf design and materials will incorporate the latest technologies in wharf construction, and provide berthing infrastructure, which is currently not in place, to accommodate today’s ocean going vessels.

Accordingly, the technical advancement of the Port associated with this Project will be an extraordinary one at the facility, leading to the efficiency gains that are so critical to accommodating future demand. The Project incorporates innovative approaches to enhance the value of this capital investment and reduce the costs of operations and maintenance.

Specific technological innovation examples are as follows:

- **Terminal Management**

The Port's existing Terminal Operating System is antiquated. While it provides some benefits, it is older, obsolete, cannot be upgraded, and lacks essential interface features for use in-house and with Port users. The Port has initiated a \$4.1 million contract with consultants to develop and install upgraded software for terminal operations with a number of capabilities to include: tracking and monitoring container cargos; capturing revenue potential of cargo movements; allow for easier and more efficient data collection for statistical records; and integrate data with the Port's financial management system. Estimated completion date of the project is July 2016.

- **Terminal Wharf Structure**

The current wharf structure is a steel sheet pile bulkhead built in 1948. The project will replace the existing structure with a new concrete bulkhead with a modern mooring and fendering system. This new structure will be designed with modern seismic design loads, and will be able to provide safe and efficient service to various cargo operations use along with reducing the costs to maintain the facility.

Both the wharf construction and road construction will involve the construction of or replacement of underground utilities, waterline replacement, storm water piping, with stub outs for future installation of oil water separators, and conduits to provide for future communications and electronics connections.

"H" Wharf will be designed and constructed using guidelines that are well established and proven to provide a safe, reliable, and dependable facility. As preliminary engineering and final design progresses, efforts will be made to incorporate energy-efficient features such as lighting and building materials whenever feasible to do so.

## b) PARTNERSHIP

Although the PAG leases out to several private sector businesses and is the lead in its tenants and stakeholders' Port Users Group, there will be no supplemental funding from these entities. However, the Port of Guam has overwhelming support by its users as demonstrated in the letters of support, which are provided as an attachment to this application.

Because the PAG is the owner of all Port assets, on its own it will seek, apply, and acquire any and all available financing and federal funding that can assist in its accelerated effort to modernize all waterfront facilities.

## 6. RESULTS OF BENEFIT-COST ANALYSIS

The “H” Wharf and Access Road Repair Project will positively impact the overall operations at the Port of Guam by providing additional berthing space to accommodate an increased need for overflow and contingency operations during Port reconfiguration and increasing cargo flow. Furthermore, completion of this project will facilitate a more safe, efficient and attractive operation.

**TABLE 1-3 BENEFIT-COST ANALYSIS PROJECT MATRIX**

Current Status/Baseline & Problem to be Addressed	Change to Baseline/ Alternatives	Type of Impacts	Population Affected By Impacts	Economic Benefit	Summary of Results
Limited waterfront dock space  Increasing demand for docking space	Repair & restore deteriorated “H” Wharf structure & Access Road	Continuous delivery of goods to the people of Guam and the Western Pacific Region.  Additional berth space for overflow & contingency operations during Port reconfiguration & increasing cargo flow	Guam - 159,358 FSM – 103,000 Republic of Palau – 19,907 Rep. of the Marshall Islands – 50,840 CNMI – 53,883  Break-bulk Vessels Self-sustaining cargo vessels (ship-board crane)	Uninterrupted delivery of goods to the Western Pacific Region  Revenues generated for Operations at the facility	Survival of estimated 390,000 individuals  Break-bulk Revenue Forecast Container Revenue Forecast

The volume of traffic for future use of the “H” Wharf is not precisely known and cannot be based on historical projections. To quantify the Benefit-Cost Analysis for the proposed project, information extracted from the Port’s FY2015 Financial Statements and Independent Auditors’ Report were utilized. Revenue benefits were estimated based on the cargo projections outlined in the Port of Guam Master Plan Update 2013 Report. Slight increases in operating and maintenance costs were applied over the years.

A total population of approximately 390,000 people will be directly affected by the completion of this project. Any disruption to the delivery of goods to Guam and the islands in the Western Pacific Region, will lead to catastrophic outcomes. The Port of Guam is critical to the survival of approximately 390,000 people as our islands are reliant on imported goods.

It is assumed that the completed project would allow for twenty percent (20%) of container operations that would otherwise be handled at the main cargo terminal, will be handled at “H” Wharf. This accounts for the containers that come in on self-sustaining vessels (equipped with ship-board crane). In addition, twenty percent (20%) of break-bulk operations and one hundred percent (100%) of cruise operations will also be handled at “H” Wharf. Benefits were

estimated to begin in 2018 (after construction is completed) and extend through 2033. Revenues assumed to be generated were derived from the cargo projections outlined in the Port’s 2013 Master Plan Update Report. Supporting documentation (excel spreadsheets) are attached to the application.

- Micronesia Population statistics

Population data provided for Guam and the Commonwealth of the Northern Mariana Islands is based on the 2010 U.S. Census. Information provided on the other islands is from the respective government websites.

- Break-bulk Revenue Forecast

The Break-bulk Forecast Breakdown (in tons) for a full (high) buildup as outlined in the 2013 Master Plan Update Report was used for the analysis. (Appendix 3-1; Page 3-1.4) An average of the current Port Break-bulk fees was used for this analysis. It is anticipated that 20% of the total break-bulk operations per year will be handled at “H” Wharf.

- Container Revenue Forecast

The Container Forecast Breakdown for a full buildup (high) scenario as outlined in the 2013 Master Plan Update Report was used for the analysis. (Appendix 3-1; Page 3-1.3) An average of the current Port container fees for inbound containers was used for this analysis. It is anticipated that 20% of the total container operations (on-board self-sustaining vessels) per year will be handled at “H” Wharf.

The proposed project indicated a benefit cost ratio of 2.26 at 7% and 3.59 at 3% discounted rates.

**TABLE 1-2 COST BENEFIT RATIO AT 7%**

Project Year	Actual Year	Initial Costs	Total Benefits Undiscounted	Total Benefits Undiscounted with (O&M included)	Discount Factors for 7%	Present Value of Benefits (7%)
1	2013	\$ 1,153,880.00	\$ -	\$ -	0.93	\$ -
2	2014		\$ -	\$ -	0.87	\$ -
3	2015		\$ -	\$ -	0.82	\$ -
4	2016		\$ -	\$ -	0.76	\$ -
5	2017	\$10,000,000.00	\$ -	\$ -	0.71	\$ -
6	2018	\$10,000,000.00	\$ -	\$ -	0.67	\$ -
7	2019		\$ 15,812,086.53	\$ 8,493,547.20	0.62	\$ 5,289,354.33
8	2020		\$ 16,915,809.82	\$ 9,454,558.98	0.58	\$ 5,502,639.41
9	2021		\$ 18,761,060.57	\$ 11,154,315.34	0.54	\$ 6,067,208.49
10	2022		\$ 19,726,902.56	\$ 11,971,825.80	0.51	\$ 6,085,869.17
11	2023		\$ 18,628,162.19	\$ 11,024,309.42	0.48	\$ 5,237,569.99
12	2024		\$ 13,528,319.90	\$ 6,072,742.27	0.44	\$ 2,696,370.19
13	2025		\$ 13,629,924.35	\$ 6,028,962.95	0.41	\$ 2,501,805.28
14	2026		\$ 13,732,286.34	\$ 5,983,106.19	0.39	\$ 2,320,351.74
15	2027		\$ 13,835,405.89	\$ 5,935,116.73	0.36	\$ 2,151,159.43
16	2028		\$ 13,939,377.68	\$ 5,885,032.88	0.34	\$ 1,993,464.25
17	2029		\$ 14,044,201.72	\$ 5,832,797.19	0.32	\$ 1,846,514.22
18	2030		\$ 14,149,878.00	\$ 5,778,351.09	0.30	\$ 1,709,605.58
19	2031		\$ 14,256,311.84	\$ 5,721,540.15	0.28	\$ 1,582,053.53
20	2032		\$ 14,363,692.61	\$ 5,662,492.88	0.26	\$ 1,463,295.76
21	2033		\$ 14,471,830.94	\$ 5,600,957.81	0.24	\$ 1,352,704.61
<b>TOTAL</b>		<b>\$21,153,880.00</b>	<b>\$ 229,795,250.92</b>	<b>\$ 110,599,656.88</b>		<b>\$ 47,799,965.98</b>

Net Present Value - 7% \$ 2.26

Table 1-3 Cost Benefit Ratio at 3%

Project Year	Actual Year	Initial Costs	Total Benefits Undiscounted	Total Benefits Undiscounted with (O&M included)	Discount Factors 3%	Present Value of Benefits (3%)
1	2013	\$ 1,153,880.00	\$ -	\$ -	0.97	-
2	2014		\$ -	\$ -	0.94	-
3	2015		\$ -	\$ -	0.92	-
4	2016		\$ -	\$ -	0.89	-
5	2017	\$10,000,000.00	\$ -	\$ -	0.86	-
6	2018	\$10,000,000.00	\$ -	\$ -	0.84	-
7	2019		\$ 15,812,086.53	\$ 8,493,547.20	0.81	6,906,031.13
8	2020		\$ 16,915,809.82	\$ 9,454,558.98	0.79	7,463,516.17
9	2021		\$ 18,761,060.57	\$ 11,154,315.34	0.77	8,548,853.91
10	2022		\$ 19,726,902.56	\$ 11,971,825.80	0.74	8,908,162.73
11	2023		\$ 18,628,162.19	\$ 11,024,309.42	0.72	7,964,195.69
12	2024		\$ 13,528,319.90	\$ 6,072,742.27	0.70	4,259,299.24
13	2025		\$ 13,629,924.35	\$ 6,028,962.95	0.68	4,105,430.40
14	2026		\$ 13,732,286.34	\$ 5,983,106.19	0.66	3,955,538.04
15	2027		\$ 13,835,405.89	\$ 5,935,116.73	0.64	3,809,525.58
16	2028		\$ 13,939,377.68	\$ 5,885,032.88	0.62	3,667,357.93
17	2029		\$ 14,044,201.72	\$ 5,832,797.19	0.61	3,528,938.23
18	2030		\$ 14,149,878.00	\$ 5,778,351.09	0.59	3,394,172.27
19	2031		\$ 14,256,311.84	\$ 5,721,540.15	0.57	3,262,914.40
20	2032		\$ 14,363,692.61	\$ 5,662,492.88	0.55	3,135,185.02
21	2033		\$ 14,471,830.94	\$ 5,600,957.81	0.54	3,010,790.82
TOTAL		\$21,153,880.00	\$229,795,250.92	\$ 110,599,656.88		75,919,911.54

Net Present Value - 3% \$ 3.59

#### a) CURRENT INFRASTRUCTURE BASELINE

At present, there is limited and incompatible use of the Port's only waterfront space at the main terminal. While the demand for docking/wharfage space has increased, there has never been an expansion of wharf infrastructures. With no additional berthing space, it is anticipated that the demands associated with the increase of cargo volume and activity due to organic growth will result in congested operating conditions and extensive delays.

#### b) PROPOSED PROJECT DESCRIPTION

Design and environmental reports for the proposed project have been completed and were funded in part by other federal grants and local PAG funds. These reports document the design requirements for the repair/replacement of "H" Wharf and the section of Route 11 between the Mobil Tank Farm and "H" Wharf. Furthermore, this information will guide engineering and design efforts during the production of drawings and specifications to be utilized for future construction. This report may be supplemented in the future to address any new Guam Agency requirements received during the process of obtaining construction permits. Due to size of files, CD Copies of "H" Wharf Final Design may be made available upon request.

Requested TIGER funding will enable the repair of the existing “H” Wharf and adjacent access roadway on Port Authority of Guam Property. This is intended to restore valuable marine property to safe and efficient operational status. The site layout will remain open and suitable for multipurpose use.

- Wharf replacement involves construction of a new sheet pile bulkhead retaining wall approximately 3-ft outside of an existing sheet pile bulkhead wall. This would increase the wharf footprint within the water by approximately 2,100 S.F. This is made necessary by having to construct new structural components without causing the existing wharf to be demolished.
- Selected demolishing is proposed for the removal of surface facilities and dilapidated structures such as fencing, cleats, rubber fenders, and mooring bollards. It also includes the removal of asphalt and concrete pavement, and the partial demolition of the concrete cap atop the existing sheet pile bulkhead.
- Additional structural components include mooring bollards on the wharf, two mooring bollards along the roadway’s edge east and west of the wharf, and concrete decking/pavement for the first 100 feet adjacent to the pier head line in the ship unloading zone. Structural fill will be placed in the area between the existing and new bulkheads. All part of the “H” Wharf surface will be impervious with the area outside the 10-ft ship unloading zone consisting of asphalt pavement.

#### **c) PROJECT JUSTIFICATION AND ECONOMIC BENEFITS**

The proposed project will repair “H” Wharf and its access road and serve as one of the solutions to existing Port challenges. As a stand-alone project, it will complement and enhance the ongoing Guam Commercial Port Improvement Projects. Restoring the facility and road to full functional usefulness will provide flexibility to how cargo will be handled during economic growth, and equally important, accommodate passenger cruise vessels that call the Port of Guam, thereby reducing the strain on berth utilization at the main cargo terminal. Also, it will provide a much needed relief valve that will be of significant value if construction problems are encountered during reconfiguration of the Public Cargo Terminal.

#### **d) JOB CREATION AND ECONOMIC STIMULUS**

The “H” Wharf rehabilitation project will provide for short and long term jobs. The short term jobs are primarily related to the construction of the project while the long term jobs are related to the operation and maintenance of the facility through the PAG Apprenticeship Program established and approved in November 15, 2007 by the State Director, Hawaii / Pacific Area.

- Short Term Jobs (project construction)

75-100 full-time multi-disciplined workers to complete the Project in a period of twenty-four (24) months as discuss in the *Ladders of Opportunity*

- Long Term Job Recruitment & Retention based on PAGs 2016 Staffing Pattern:

Executive Secretary, Harbor Master, Security Guard Armed, Port Police Supervisor, Port Police II, Port Police III, Planner Work Coordinator, Environmental Specialist, Safety Inspector I, Management Program Analyst, Administrative Assistance, Port Marketing Administrator, Program Coordinator IV, Winch Operator, Stevedore, Equipment Operator III, Equipment Operator II, Crane Mechanic II, Preventive Maint. Mechanic Leader, Preventive Maint. Mechanic, Heavy Equip. Mech. Supervisor, Heavy Equip. Mech. I, Carpenter I, Maintenance Custodian Leader, Maintenance Custodian, Electrician Supervisor, Refrigeration Mechanic I, Electrician I, Maintenance Planner, Clerk III, Personnel Services Administrator, Personnel Specialist IV, Personnel Specialist III, Personnel Specialist I, Buyer II, Buyer I, Supply Supervisor, Supply Technician II, Engineer III, Engineer Technician II, Commercial Specialist II, Commercial Specialist I, Systems Programmer, Program Analyst, Financial Affairs Controller, Administrative Aide, Account III, Accounting Technician II, and Accounting II.

PAG will continue to coordinate and participate with the Guam Trades Academy and the Guam Community College will provide project exposure to future qualified individuals that may have the opportunity to be employed by participating contractors and future job openings at the PAG.

Department of Labor that local manpower resources from this Economically Distressed Area must first be utilized.

Provided for your information are the links to Guam Trades Academy Website <https://gcatradesacademy.org/> and Guam Community College Website <http://www.guamcc.edu/Runtime/companypartnerships.aspx> for detail program description.

## 7. PROJECT READINESS

This project is shovel-ready. Upon approval of the project funding, the Port has prepared for submission to appropriate local and federal agencies permit application packages with applicable environmental requirements. These are: Guam Coastal Management Program (GCMP) Federal Consistency Determination; US Army Corps of Engineers (USACE) Department of the Army Permit; Guam Environmental Protection Agency (GEPA) Water Quality Certification; and U.S Environmental protection Agency (USEPA) Notice of Intent (NOI) for use of National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP).



## a) TECHNICAL FEASIBILITY

The Project calls for rehabilitation of an existing facility. All construction will be focused on facility upgrades, essentially in their present locations, not the construction of a new structure. Based on the *Final Geotechnical Design Report, Structural Calculations, Geotechnical Calculations*, and the *Marine Habitat and Essential Fish Habitat Report* (all reports are current, dated February 2014), all studies and findings supported the development of the 100% *Final Design Submittal*, also dated February 2014. (Please refer to ATTACHMENTS 7, and 8).

## b) FINANCIAL FEASIBILITY

The *Jose D. Leon Guerrero Commercial Port of Guam Master Plan Update 2013 Report* utilized cargo forecasts in the development of a financial model that calculated the size of the Port's potential debt capacity. Using growth projections, the primary objective of the analysis was to establish tariff rates that would support capital improvement projects aimed at sustainability (aside from modernization). Based on the calculations, and the implementation of the Plan's proposed Five-Year tariff petition schedule, the Port would be in a position to provide for continuous long term repair and maintenance of the rehabilitated and repaired facility. (Please refer to website, TIGER 8 Link)

## c) PROJECT SCHEDULE

If funded, the PAG will work expeditiously to ensure that Project construction activities commence immediately upon receipt of the grant award. Local GSA procurement procedures and Department of Public Works requirements will be strictly followed. Because it is critically important that the PAG addresses its operational challenges immediately, the following aggressive construction schedule has been developed to ensure that the project's full implementation is achieved within the two year construction period. Specifically, if funded, the Port anticipates the completion of this Project two years from the date of awarding the Contract to the successful bidder.

TABLE 1-2 PROPOSED PROJECT SCHEDULE

Item:	Timeline / Milestones	Duration Days Estimates	2017	2018	2019
0100	Notification of Grant Award by USDOT		■		
0200	Procurement Process by PAG (Advertisement, Evaluation, Selection of Bidder, Selection of CMS, Port Legal Counsel & Attorney General Contract	153d		■	

Review/Approval, PUC Review/Approval, Board Review/Approval, Award of Contract, NTP			
0300	Pre-Construction Submittals Including Review	60d	
0400	Construction Phase - Submittal Processing and Procurement	150d	
0500	Mobilization	14d	
0600	Pavement Markings Access Road	60d	
0700	Marine Structures Work	540d	
0800	Storm Water Modification	180d	
0900	Closeout and Demobilization	14d	

(Please refer to ATTACHMENT 5 and 6)

#### d) REQUIRED APPROVALS

##### i.) OTHER ENVIRONMENTAL REVIEWS AND APPROVALS

The identification and development of the Project's environmental components have been carefully considered to address potential environmental impacts. The following documentation and studies for the "H" Wharf Final Design component have been prepared for interagency review:

- Final Plan
- Final Specifications
- Final Basis of Design
- Final Cost Estimate
- Schedule of Values and Bid Tab
- Geotechnical Design Report
- Structural Calculations
- Geotechnical Calculations
- Miscellaneous Calculations
- Environmental Permits (prepared applications)
- Marine Habitat and EFH Survey Report
- Unexploded Ordinance Survey Report

## ii) LEGISLATIVE APPROVALS

The *Jose D. Leon Guerrero Commercial Port of Guam Master Plan Update 2013 Report* (MPU) was officially submitted to the Speaker of the 32<sup>nd</sup> Guam Legislature on February 21, 2014. Subsequent to a Legislative public hearing held on March 13, 2014, Acting Governor Raymond Tenorio signs into law Public Law 32-155, "An Act to Approve and Adopt the Capital Improvement Projects (CIP) Schedule and Land Use Designation in the *Jose D. Leon Guerrero Commercial Port Master Plan Update 2013 Report*. The Port's Master Plan Update, provides a comprehensive view of the Port's current condition, and identifies elements of continuous improvement and sustainability. An Implementation Plan was developed in conjunction with the 2013 Master Plan Update that evaluated Port improvement and sustainability requirements, and determined a balance approach for meeting these requirements. The Port's 2013 Master Plan Update also contains a Financial Analysis and Economic Impact Assessment that provides a five-year near-term emphasis on improvements to both Port efficiency and the creation of additional cargo handling capacity as well as a 20-year long term focus on additional improvements targeted towards achieving operational and financial sustainability.

The "H" Wharf Revitalization project was specifically identified in the MPU as a potential TIGER Grant project.

## iii) STATE AND LOCAL PLANNING

As per Title 5, Chapter 1, Guam Code Annotated, Comprehensive Planning, PAG conducted a public hearing for *The Jose D. Leon Guerrero Commercial Port of Guam Master Plan Update 2013 Report* (MPU) on December 23, 2013.

On January 22, 2014, the Director of the Bureau of Statistic and Plans, after soliciting input from Government of Guam network agencies which provide federal consistency review (Guam Environmental Protection Agency, Guam State Historic Preservation Office, Department of Land Management, the Division of Aquatic and Wildlife Resources, and the Department of Public Works), forwarded the MPU to Guam Governor Edward J.B. Calvo, recommending approval. On February 21, 2014, Governor Calvo submitted the document to Speaker Judith Won Pat, 32<sup>nd</sup> Guam Legislature for final adoption.

Additionally, in compliance with Quitclaim Deed N62742-93-RP-00079, which transferred Department of the Navy port assets to the Government of Guam, it is required that the Secretary of the Navy approve the Port's master plan. On January 21, 2014, Rear Admiral T.D. Payne, Commander Joint Region Marianas, provided this approval on behalf of the Secretary.

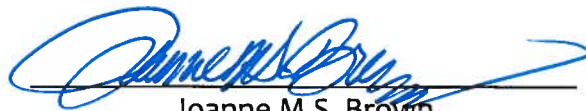
**e) ASSESSMENT OF PROJECT RISKS AND MITIGATION STRATEGIES**

The Port has extensive experience in the procurement, execution, and project management of capital improvement projects. Risks will be minimized by contractual requirements prescribing the performance, delivery, and completion of the tasks identified in the project's Scope of Work. Because of Guam's distant location from U.S. Mainland suppliers, delivery schedules will take into account shipping and long-distance manufacturing challenges. Any contract extension must provide adequate justification to avoid the effectuation of liquidated damages.

**8. FEDERAL WAGE RATE CERTIFICATION**

**Certificate of Compliance  
Federal Wage Rate Requirements**

Upon receipt of a Transportation Investment Generating Economic Recovery (TIGER) VIII Grant from the United States Department of Transportation, the Port Authority of Guam agrees to comply with all federal wage rate requirements including subchapter IV of chapter 31 of title 40, United States Code (Federal wage rate requirements), as required by the FY 2016 Continuing Appropriations Act.



Joanne M.S. Brown  
General Manager

**9. INDEX OF LINKS TO RELATED DOCUMENTS****a) LIST OF ATTACHMENTS SUBMITTED TO GRANTS.GOV**

1. SF424C
2. Application Narrative & Federal Wage Rate Certification
3. "H" Wharf Final Plans
4. Final "H" Wharf Basis of Design
5. "H" Wharf Final Cost Estimate
6. Schedule of Values and Bid Tab
7. "H" Wharf Final Geotechnical Report
8. Final Marine Survey Report
9. Benefit-Cost Analysis Excel

10. Letters of Support
11. Underwater Survey
12. Field Operations Report
13. Hydrographic and Geophysical Survey
14. Final Specifications
15. TIGER 2016 Project Information on Excel

**b) THE FOLLOWING DOCUMENTS CAN BE FOUND ON THE PORT AUTHORITY OF GUAM'S WEBSITE, <http://www.portguam.com/modernization/2016TIGER8>**

1. Jose D. Leon Guerrero Commercial Port of Guam Master Plan Update 2013 Report, Final Report November 2013
2. Port Authority of Guam Independent Auditor's Reports on Internal Control and on Compliance Year Ended September 30, 2015
3. Port Authority of Guam Financial Statements and Additional Information and Independent Auditor's Report – September 30, 2015 and 2014
4. Letters of Support

10. APPENDIX A

