Source: Fincantieri

GOVERNMENT OF PUERTO RICO

Puerto Rico Public-Private Partnerships Authority

Desirability & Convenience Study

San Juan, Puerto Rico Megayacht Facilities

October 3rd, 2019

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EXECUTIVE SUMMARY

IMG Rebel and CPM (hereafter referred to as "the Team") were engaged by the Puerto Rico Public-Private Partnerships Authority (P3A) to prepare a Desirability & Convenience study ("D&C") in relation to an unsolicited proposal received from Isla Borinquen, LLC (hereafter referred to as "the proponent") in June 2018. DLA Piper was also engaged to support the Team in connection with the legal aspects of the D&C. The proposal envisions developing a megayacht marina and two megayacht MRO facilities in San Juan (the "proposal"). To do so, the proponent requests a 49-year concession of three properties currently owned and operated by the Puerto Rico Ports Authority (PRPA) and the Maritime Transport Authority (MTA), including Pier 9, Pier 15 and its dry dock, and the MTA ferry shipyard next to Isla Grande airport.

The Team performed a market sounding with a variety of market participants to gauge interest in the various scope elements of the unsolicited proposal. Market participants suggest that the megayacht marina and MRO scope elements are sufficiently distinct that they should be procured separately to maximize competition and potentially tap into different investor markets. Furthermore, the Team's conversations confirm that there are other market players who are well positioned to develop the envisioned facilities in the unsolicited proposal, with the proponent also indicating that there is no unique intellectual property used in its proposal.

The Team finds that procurement of a megayacht marina should be prioritized in the near-term over an MRO facility. The marina is considered more attractive today both to megayacht captains, who are the primary decision makers in where vessels make port call, and to potential bidders. This is partly due to the fact that multiple existing MRO facilities have recently or are currently in the process of expanding their capacity, including in Florida, Martinique, and possibly Ceiba in Puerto Rico itself. Moreover, there is a long lead time of 10+ years in developing the labor skillset and credibility necessary to attract major megayacht repair work, a period during which the MRO would see limited profitability and a heavy reliance on outside expertise. The Team's market sounding also suggests that introducing a megayacht marina first would increase San Juan's visibility to the broader megayacht community, thereby increasing the likelihood that an MRO facility launched later would attract sufficient business to be profitable.

There is strong projected demand for a marina in San Juan given local strengths and broader trends. First, San Juan boasts strategic advantages compared with other ports, including its geographic location close to the rest of the Caribbean and Florida, its protected harbor, its status as a US jurisdiction, and amenities and entertainment options for crews. If properly marketed, a marina in San Juan could capture both incremental new demand, as the global megayacht fleet is expected to continue growing at 3-4% annually, and existing market share from other Caribbean ports, as San Juan currently only receives a small proportion of overall port calls in the region.

The Team believes that a megayacht marina can be financially feasible under a range of demand scenarios and cost sensitivity assumptions. The Team estimates initial investment would be $3.4 million, with essential improvements to bring Pier 9 to a state of good repair and to construct the facilities required for an attractive marina, though bidders may have their own proposals on initial scope and phasing of marina development. The Team would recommend that PRPA and P3A remain open to bidders' proposals to develop alternative sites to Pier 9, given the relative attractiveness of Piers 6-8 in light of the Bahia Urbana development and past interest in those piers from bidders in the 2015 procurement of a similar scope.

Apart from the direct revenues generated, a megayacht marina would create local jobs and new economic activity for San Juan and the broader Puerto Rico economy, generating over $2 million in overall economic benefit within the first few years of operation and an estimated $7 million by the late 2030s, using the Team's medium demand growth projections.

1 OVERVIEW OF UNSOLICITED PROPOSAL AND FACILITIES

P3A received an unsolicited proposal from Isla Borinquen, LLC in June 2018 for a 49-year concession of three facilities in San Juan currently owned and operated by the PRPA and the MTA. The proposal calls for the development of a megayacht marina at Pier 9 and MRO facilities at Pier 16 (including the adjacent dry dock) and at an MTA ferry shipyard next to the Isla Grande airport. An overview of the geographic locations of each of these facilities is in *Figure 1*.

Figure 1: Geographic overview of facilities in unsolicited proposal

For each of these facilities, the proposal outlines a phased approach to investment, beginning with the improvements deemed necessary to begin operations and eventually a "master plan" for each facility that includes additional investments to accommodate additional megayacht volume and additional related businesses.

The proponent confirms that the proposed project does not utilize any unique intellectual property, trade secrets, or licenses, which would have allowed P3A to negotiate a Partnership Contract with the proponent. While the proponent does claim a unique vision and ability to implement that vision given the knowledge and expertise of its members, the Team confirmed through market sounding (discussed further in Section 2) that a variety of market participants are also well-qualified to deliver the envisioned project. Therefore, a project like the proposed should be open to a competitive procurement process.

We describe each facility and the proposal's development plans for each facility in additional detail below.

1.1 Megayacht marina at Pier 9

Figure 2: Overview of Pier 9

= Illustrative (contours are not exact)

Figure 2 displays an overview of Pier 9 in San Juan. Pier 9 is currently used both as a cargo facility (Pier 9 East) and to berth visiting megayachts (Pier 9 West). It is 607 feet long on the western side and 327 feet wide along the southern side. Wharf 2, located between Piers 9 and 10, is also used for cargo and was constructed as a roll-on/roll-off berth. Wharf 1, located between Piers 8 and 9, is expected to host the San Juan Bay Pilots in the near future. According to a MARAD assessment conducted in 2018, Pier 9 was judged to be in fair condition, with some areas in critical condition and therefore in need of repair and improvement due to broken piles and the lack of corrosion protection. The MARAD assessment estimated that capital investments of $2.4 million would be required to bring Pier 9 back to a state of good repair.[1]

The proponent of the unsolicited proposal envisions constructing berthing improvements at Pier 9, including fendering, shore power, water supply, sanitary pumpout, and telecom and wi-fi, enabling megayachts to dock at 1,500 linear feet of space along the pier. The proponent also proposes building amenities deemed necessary to attract megayachts, including a bar and restaurant, health club, business center, recreational facilities, restaurant, and retail outlets such as a ship store and coffee shop for provisioning and crew leisure.

[1] "Above and Below Water Routine Structural Inspection and Assessment – Loose Cargo Piers 9 & 10, Wharf 1 & 2, San Juan, Puerto Rico". DCM Architecture & Engineering. May 2018.

In subsequent phases, the proponent proposes expanding the available berthing space in the marina to 3,500 linear feet by occupying space on Piers 7 and 8 and adding a hotel or luxury apartment complex to the pier. An overview of the investments proposed is in *Figure 3*.

Figure 3: Proposed marina investments by proponent

Cost type	Phase I	Future Phases
Fendering and repairs	$175,000	$200,000
Electrical supply on site	$450,000	$250,000
Water supply on site	$175,000	$125,000
Sanitary collection on site	$75,000	$100,000
Other site improvements	$425,000	$400,000
Yacht club/health club/restaurant/retail/etc.	$1,900,000	$3,550,000
Hotel		$45,000,000
Total	**$3,200,000**	**$49,625,000**

Source: March 5th, 2019 responses by proponent

1.2 MTA ferry shipyard

Figure 4: Overview of MTA Ferry Shipyard

= Illustrative (contours are not exact)

Figure 4 displays an overview of the MTA ferry shipyard in San Juan. This facility is currently used to maintain MTA ferries. The MTA facility contains a warehouse building, office building, several auxiliary buildings, an above ground storage tank area, a graving dock with rail system, and a pier

with approximately 225 feet of mooring area. The facility's ship lift is capable of lifting vessels up to 600 tons in weight out of the water and onto the rail transfer system.

The proponent proposes to upgrade the existing 600-ton ship lift at the site to handle larger vessels up to 1,000 tons, both megayachts and commercial vessels such as passenger ferries. The plan also calls for an expanded boatyard in the undeveloped area to the northwest of the current shipyard. The proponent would first upgrade the ship lift, followed by developing space to work on up to six yachts outside of the water, and it proposes to eventually expand the site in a master plan to handle up to 13 boats at a time. An overview of the investments proposed is in *Figure 5*.

Figure 5: Proposed MTA ferry shipyard investments by proponent

Cost type	Phase I	Future Phases
Replace existing ship lift to 600 tons	$850,000	
Expand lift to 1,000 tons		$1,700,000
Expand yard concrete surface	$400,000	$2,500,000
Add 400-ton mobile trolley		$2,500,000
Upgrade fuel system	$50,000	$500,000
Sitework/security	$200,000	$100,000
Total	**$1,500,000**	**$7,300,000**

Source: March 5th, 2019 responses by proponent

1.3 Pier 16

Figure 6: Overview of Pier 16

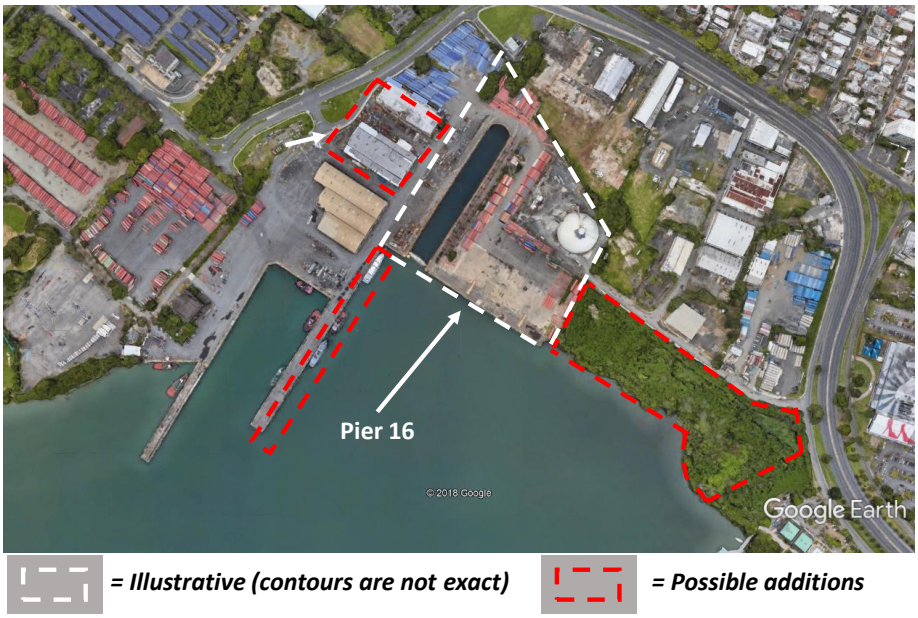


Figure 6 displays an overview of Pier 16 and its dry dock. Pier 16 is currently available for maintenance and repair operations of both private yachts and commercial vessels. The dry dock is comprised of a concrete slab floor with concrete walls. It measures approximately 650ft long by 90 ft wide. A caisson gate is floated into place and sunk at the southern entry of the dock to seal the area and allow water to be pumped out. The caisson gate is currently secured inside the dry dock. The dry dock, constructed in the late 1930s, is not currently operating as key equipment / infrastructure needs to be repaired or upgraded.

A cement storage facility sits on-site next to the dry dock, which would be removed prior to concession of the area. The marshland area located to the southeast of the dry dock could be included for redevelopment as part of a concession as well as warehouses located at the western side of the dry dock (marked in red rectangles in *Figure 6*). The east side of Pier 15 could also be used to dock vessels waiting for maintenance, subject to use for other purposes as determined by PRPA.

The proponent proposes to repair the caisson gate to make the dry dock operational, expand the linear footage available for docking through "med moor" style (stern-wise) docking, build above ground storage for yachts, and continue servicing yachts and commercial vessels, including by hosting third-party contractors in woodworking, metal works, fiber glass repair, electrical and mechanical componentry, etc. The proponent eventually envisions hosting a floating dry dock and building a new mobile trolley system for moving yachts above ground. An overview of the investments proposed is in *Figure 7.*

Figure 7: Proposed Pier 16 investments by proponent

Cost Item	Phase I	Future Phases
Repair/upgrade graving dock door	$750,000	
New pumps/wet well	$100,000	$250,000
Boat service buildings construction	$1,200,000	$2,000,000
Purchase & install floating dry dock		$4,000,000
New mobile trolley system		$1,500,000
Security system/fencing/fendering	$200,000	$250,000
Upgrade existing office/warehouse	$250,000	$1,150,000
Total	**$2,500,000**	**$9,150,000**

Source: March 5th, 2019 responses by proponent

2 MARKET SOUNDING AND MARKET OVERVIEW

The Team found through market sounding interviews and market research that the marina and repair components of the unsolicited proposal should be procured separately, with the marina prioritized over a repair facility. There is robust demand for a megayacht marina in San Juan due to strong expected growth in the size of the global megayacht fleet, a shortage of adequate berthing capacity for megayachts in the Caribbean specifically, and strategic advantages of San Juan. Market participants indicated that a repair facility takes many years to develop the skilled labor and reputation necessary to attract megayachts, and there is less immediate need for a repair facility given expanding repair capacity in the region. Lastly, the Team's review of the 2015 procurement for a similar project scope indicated that at least one credible player chose not to bid on the MRO portion of the project, further supporting the idea that the marina and MRO scope elements are sufficiently distinct to be procured separately.

2.1 Market sounding on project scope

The Team conducted market outreach to determine interest in the various scope elements of the unsolicited proposal, including both the megayacht marina and maintenance facilities as described in Section 1. More specifically, the Team reached out to numerous megayacht builders, repair and refit facilities, marina operators, megayacht captains, and others in order to form a more complete understanding of the megayacht market and potential market interest for the proposed project.

For those companies that expressed interest, the Team completed conference calls to share this project's scope, discuss the megayacht market more broadly, and gauge interest in the proposed project or specific scope elements.

In total, the Team spoke to 12 market participants, which include five megayacht repair/refit yards, two marina operators, one terminal operator, and one infrastructure fund. Furthermore, the Team spoke with three megayacht captains, which provided useful insights from a "customer" perspective.

The main findings from this market sounding exercise are:

- There appears to be broad consensus that the envisioned facilities are distinct projects that should be procured separately to ensure maximum market interest and competition. **None of the market participants expressed interest in pursuing the megayacht marina and MRO facility jointly**.
- The MRO facility should preferably be pursued only after the megayacht marina has been developed and has been operating for a few years.

  - Market participants indicate it could take a minimum of 10 years to train the specialized labor that can adequately repair megayachts of the size that could make use of San Juan's large dry dock (which is considered one of the main strategic assets that San Juan has in attracting megayacht repair work). In the interim, the MRO facility would need to rely on expertise flown in from elsewhere.
  - Some megayacht captains believe that combining megayacht and commercial vessel repair at the same facility is unattractive, given the perception that megayachts may not be treated with the same level of care found at facilities that exclusively service yachts.
  - An operating marina with demonstrated demand could also increase San Juan's visibility among megayacht captains and crews, thereby making it a more attractive destination for longer layovers associated with major repair work.
  - Lastly, there is additional MRO capacity either recently built or currently being built in Florida (for instance, Derecktor in Fort Pierce[2]), elsewhere in the Caribbean (for instance, Carenantilles in Martinique[3]), and potentially in Puerto Rico itself (the Roosevelt Roads dry dock in Ceiba[4]) posing direct competition to any new MRO facility to be built in San Juan.
- While there was consensus that megayacht marina facilities should include amenities such as fast wi-fi internet and a health club, there was no perceived need for additional real estate development such as the restaurant and hotel that the unsolicited proposal envisions, given that crews tend to stay on-board their yachts and there are a variety of dining and hotel options available close to Piers 6-9 in Old San Juan.

It is also worth noting that market participants consistently report that captains and crews, not owners, make most decisions about where to make port call between trips out to sea and where to carry out maintenance and repairs. As such, any megayacht marina and/or MRO project should carefully consider their needs.

With regard to the marina itself, market participants mentioned San Juan's attractiveness due to the following features:

- San Juan is strategically located with respect to the other Caribbean islands and the US mainland;
- Apart from hurricanes, San Juan's harbor is considered safe from natural elements;

[2] https://derecktor.com/derecktor-ftpierce-florida/.
[3] https://www.yachtinsidersguide.com/news/new-state-art-superyacht-repairrefit-center-caribbean.
[4] http://rrddllc.com/.

- Puerto Rico falls under US jurisdiction;
- San Juan is easily accessible by air; and
- Amenities for crew and visitors are only a short walk away from the proposed piers.

However, participants also indicated that investing in Puerto Rico brings unique challenges, in particular given recent negative press for the island, and an increase in future megayacht traffic remains uncertain.

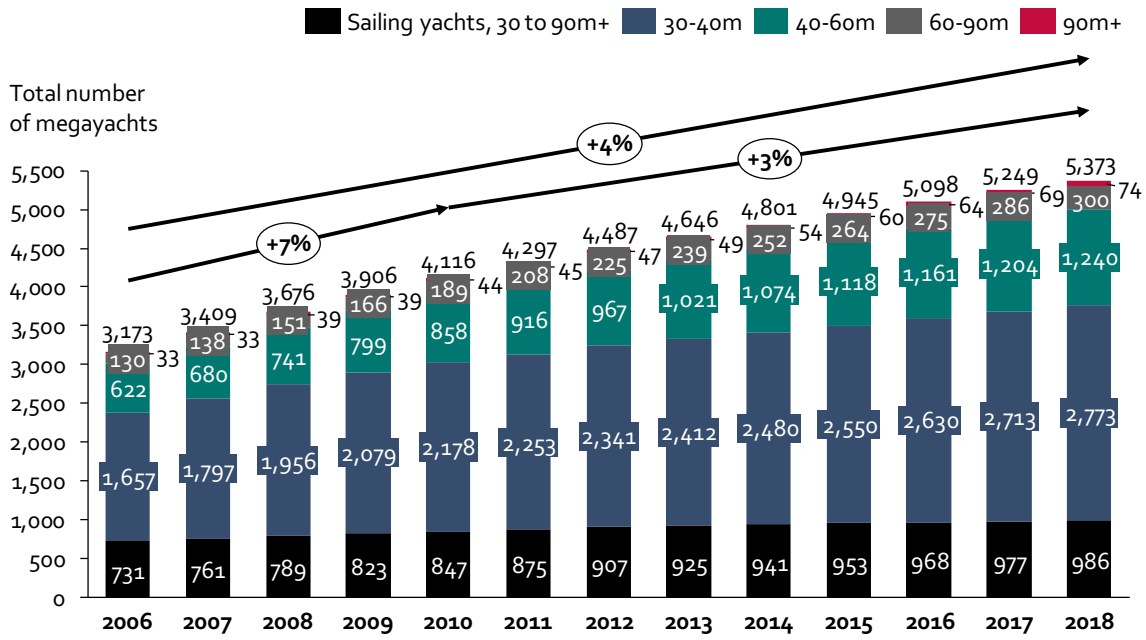
As a result of the Team's finding that the marina should be prioritized over the MRO facility in the near-term and should therefore be procured separately, the rest of this report focuses on the desirability and convenience of procuring the megayacht marina facility as a standalone project.

2.2 Megayacht market growth and demand for marina capacity

"Megayachts" are a class of motor or sailing yachts that have a length overall (LOA) typically above 30 meters or 98 feet.[5] The number of megayachts operating around the world has been steadily increasing, with the number of yachts growing at roughly 4% annually since 2006. While growth was stronger between 2006 and 2010 at 7% annually, growth has remained steady since then, at 3% annually. The average length of new megayachts delivered has also steadily increased over the 2006-2018 time period. *Figure 8* displays the overall market size of megayachts over time, while *Figure 9* displays the average length of new builds since 2014.

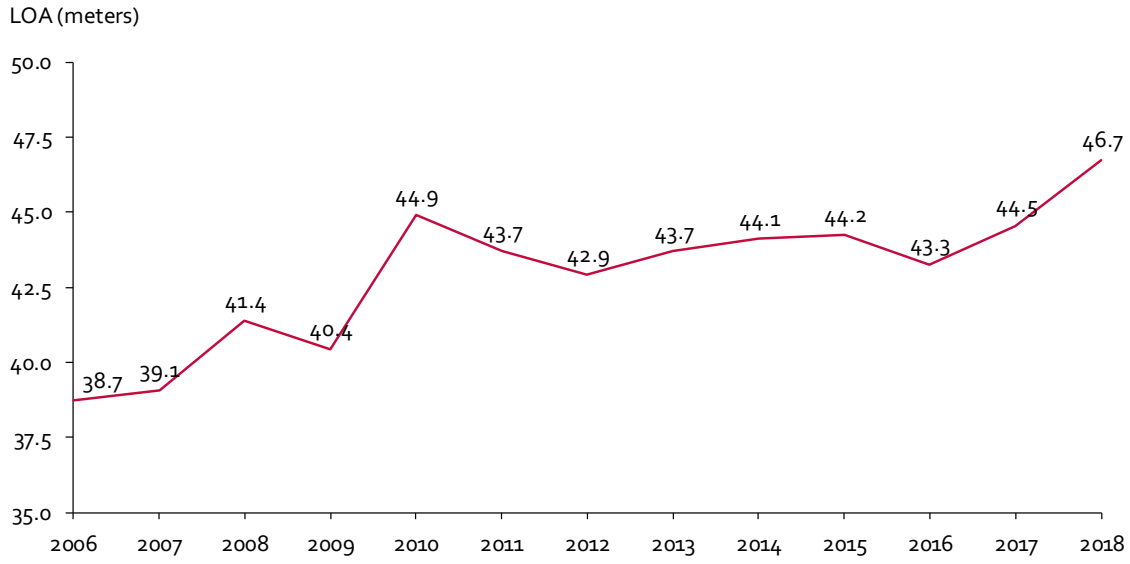
[5] There is no agreed-upon definition of the term "superyacht" or "megayacht". Boat International defines it as any boat over 24 meters long with a professional crew (link here) while Superyacht Intelligence holds a database of all yachts of 30 meters and above (link here). This report uses a cut-off of 30 meters in length due to the availability of data in this category.

Figure 8: Number of megayachts globally, 2006-2018



Source: "The Superyacht New Build Report". The Superyacht Report, No. 192. February 2019.

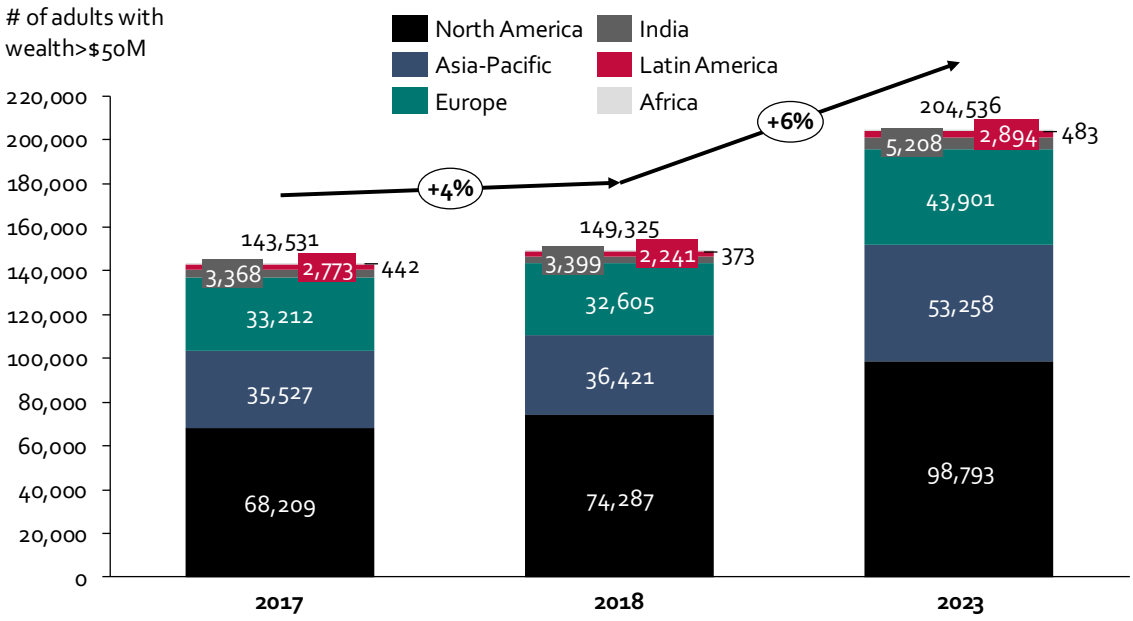
Figure 9: Average length of new megayacht deliveries, 2006-2018



Source: "Are superyachts getting bigger?". Superyacht News. Link here.

Growth in the number of megayachts is driven, in part, by growth in the number of ultra-high net-worth individuals (UHNWIs) who can afford such vessels, and the growth in such individuals is expected to remain robust moving forward.[6] *Figure 10* displays the past and projected growth in the number of UHNWIs through 2023. As this shows, growth between 2017 and 2018 was 4%, while Credit Suisse projects that growth in the number of UHNWIs will accelerate to 6% annually over the next 5 years, for a total of 204,536 individuals by 2023.

Figure 10: Number of UHNWIs, 2017-2023



Source: Credit Suisse Global Wealth Databook 2018

When combining the data on the number of megayachts in 2018 with the number of UHNWIs in the same year, there is a megayacht for roughly every one out of 28 UHNWIs. Therefore, it is possible that the megayacht market will grow to over 7,300 megayachts by 2023.

The above analysis demonstrates that the market for megayachts should continue growing steadily moving forward. While macroeconomic conditions could dampen demand for new builds, such as a global recession or localized downturns in developed markets with a high concentration of UHNWIs, past data on megayacht deliveries from the 2008-2009 global

[6] Ultra-high net-worth individuals are defined as those with assets above $50 million.

financial crisis and immediately thereafter suggests that growth will continue. Furthermore, the existing fleet of megayachts will continue requiring berthing capacity.

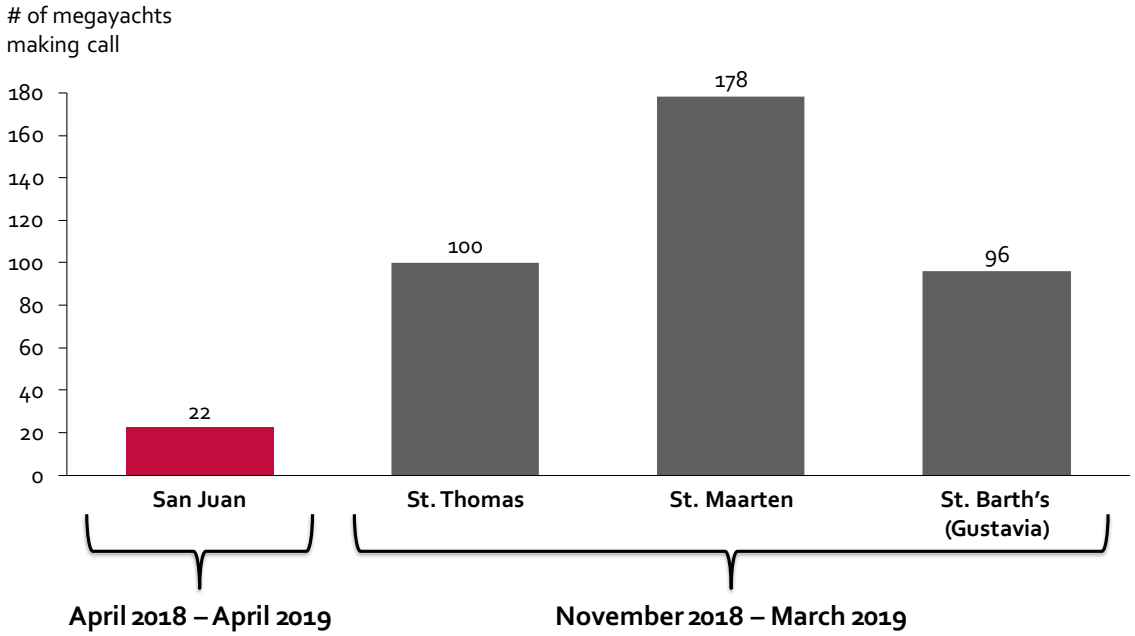
To evaluate the demand for a megayacht marina, the number of megayachts cruising globally must be further narrowed into the number that cruise through the Caribbean each year and may therefore choose Puerto Rico, and specifically San Juan, as a destination for making port call. Many megayachts typically migrate to the Caribbean during the winter months in Europe. While exact figures are not available, estimates on the number of megayachts cruising through the Caribbean and the East Coast of the US each year range from 1,500 to 3,000.[7] This represents roughly 25% to 50% of all megayachts globally.

San Juan currently captures a small proportion of overall megayacht traffic in the Caribbean. Using publicly available data, San Juan hosted approximately 22 unique megayachts for the full year from April 2018 through April 2019.[8] This compares to between 96 and 178 megayachts making call at popular Caribbean ports during the winter months alone, from November 2018 through March 2019. *Figure 11* displays this information.

[7] Presentation from OdySEA Hospitality International (November 2018) and interviews with market participants (April 2019).

[8] Using data from marinetraffic.com. Filtered on yachts above 150 tons in gross tonnage (as proxy for yachts above 30 meters in LOA). "Unique" megayachts refers to the number of individual vessels making any number of port calls in a given time frame. Two other unique vessels (i.e. did not visit San Juan) made call at Puerto del Rey marina in Fajardo between April 2018 and April 2019.

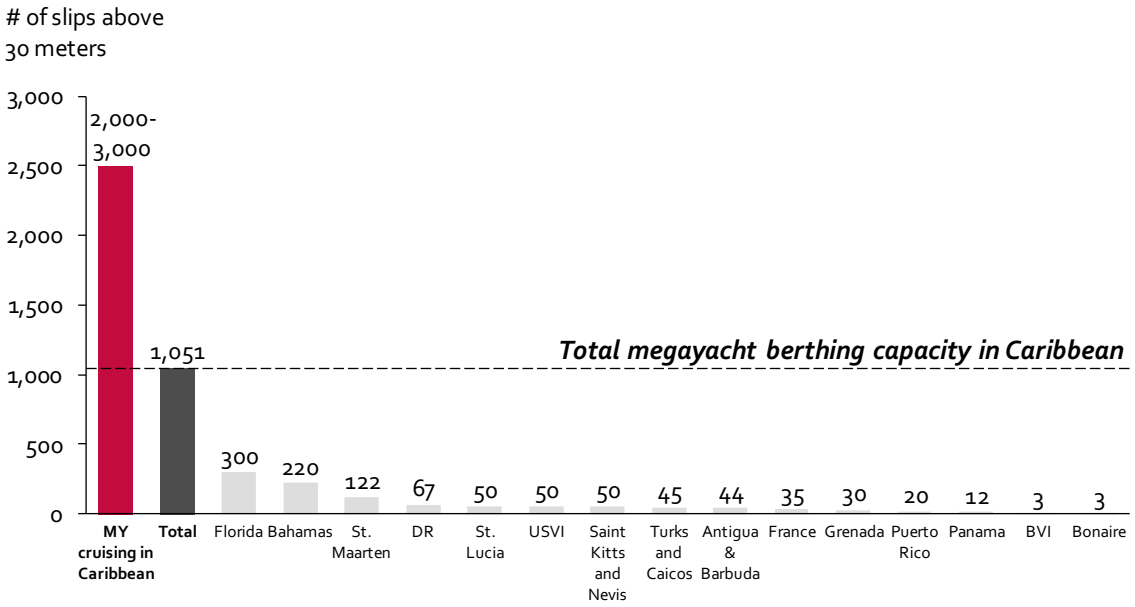
Figure 11: Number of unique megayachts making call at select Caribbean ports, 2018-2019



Source: Marinetraffic.com

However, there is likely a shortage of adequate berthing capacity for megayachts in the Caribbean, as confirmed both through the Team's analysis of publicly available data as well as through market sounding conversations with megayacht captains. *Figure 12* displays the capacity of Caribbean megayacht marinas in comparison with the number of megayachts traveling through the region. Note that marina berthing capacity is lower than traffic as a proportion of yachts are at sea at any given time and therefore not actively using a berth.

Figure 12: Current estimated megayacht demand and berthing capacity in Caribbean (2019)



Source: Individual marina websites; Superyachts.com

Considering the data on port calls at regional ports and projected growth, in combination with existing marina capacity, the Team believes there is room for San Juan to capture existing traffic to the Caribbean with the right value proposition to megayacht captains and crews, which this report discusses further in the next section.

3 PROJECT SCOPE

Based upon the Team's market sounding conversations, the critical scope elements of a marina would include refurbishments and improvements to existing berthing on Pier 9 as well as new amenities for crews, discussed in further detail below. In line with the unsolicited proposal, the initial location for the marina is envisioned to be Pier 9, though this section outlines why Piers 6-8 could be more attractive locations to launch the marina. Assuming Pier 9 is selected, the projected indicative initial capital investment is $3.4 million, although this number could increase depending on final design, refurbishment methods, and if additional non-critical facilities are to be developed as part of the project.

3.1 Critical scope elements of a marina

Based upon the Team's market sounding conversations with existing marina operators and megayacht captains, the Team determined that certain basic facilities are considered critical to a megayacht marina. These facilities include shore power and water hookups, sanitary pumpout, fast wi-fi internet, and facilities for crews such as a fitness center / health club. Certain other amenities, which the unsolicited proposal includes, were not considered critical, such as a restaurant and coffee shop, given the location of the piers near shops and restaurants along Calle Marina and Old San Juan.

Pier safety and suitability for berthing is expected by captains, including adequate fendering, mooring, etc. The MARAD-commissioned assessment in 2018 discussed earlier in this report[9], observed that Pier 9 is in a fair condition with isolated areas in critical condition. The critical areas primarily relate to a total of nine broken piles on the east berth.

Refurbishment of the broken piles and other minor repairs like replacement of mooring hardware and installation of a corrosion protection system on the east berth are recommended in order to restore the original structural and operational capacity of Pier 9.

Section 3.3 discusses the capital investments in greater detail.

3.2 Location options for the marina

As mentioned above, Pier 9 is the proposed site for the initial marina berthing by the unsolicited proposal, with eventual expansion proposed to Piers 7 and 8 as additional traffic comes to San

[9] "Above and Below Water Routine Structural Inspection and Assessment – Loose Cargo Piers 9 & 10, Wharf 1 & 2, San Juan, Puerto Rico". DCM Architecture & Engineering. May 2018.

Juan. Pier 9 West is already used for megayachts, and substantial space is available on this pier for buildings and facilities, given the absence of permanent structures currently. Pier 9 South is also available, given no dedicated tenant currently.

There are a variety of reasons why Pier 9 may be suboptimal as the first pier in scope for this project. Firstly, Pier 9 East is currently used for cargo operations, and it overlooks additional cargo operations housed on Wharf 2 and Pier 10. Industrial settings are not typically adjacent to megayacht marinas at other ports and may deter megayachts from calling in San Juan. Therefore, to increase Pier 9's attractiveness, PRPA would need to consider relocating cargo operations. Secondly, as mentioned earlier, Pier 9 currently needs refurbishment to allow for suitable mooring. Lastly, PRPA has recently determined that the San Juan Bay Pilots will be relocated, at least in the short term, to Wharf 1, located between Piers 8 and 9, which could create bottlenecks in the channel between these two piers.

In contrast, Piers 6, 7, and 8 have been recently refurbished due to the Bahia Urbana development, though vessels do not appear to currently dock alongside the majority of available area, both due to the lack of mooring available along Pier 8 and due to the pedestrian bridge connecting Piers 7 and 8, which limits access to the channel in between these piers. The available area along Piers 7 and 8 piers could be utilized for megayacht docking, thereby making use of existing investments, presenting a more attractive environment for megayacht crews and visitors, and allowing crews more convenient access to restaurants along Calle Marina and walking routes to Old San Juan. Using these piers would also prevent the need to consider relocating existing cargo operations at Piers 9 and 10. *Figure 13* presents an overview of Piers 6-10, demonstrating the aesthetics of the Bahia Urbana development along Piers 6-8 in contrast to Pier 9.

Figure 13: Overview of Piers 6-10

While the Team does not formally recommend an alternative site to Pier 9, the Team has understood from market sounding conversations and from reviewing both the unsolicited proposal and past proposals from the 2015 procurement of a megayacht marina that Piers 6, 7, and 8 are considered more attractive locations to potential developers of a marina project, which could help drive demand and reduce investment needs. Award of alternative piers may require transfer of control from other agencies that currently manage Piers 6-8.

3.3 Investment required

The initial scope of the project is currently assumed to be a buildout of Pier 9 West and South, based upon the capacity that would be necessary to serve projected demand in a medium-growth scenario, as outlined in Section 4.1. The two pier sides total 935 linear feet of docking space. An overview of the investment required for this initial scope is presented in *Figure 14*. It is important to note that the Team excludes certain scope elements that were included in the unsolicited proposal, such as a yacht club/restaurant and coffee shop, given market sentiment that they are not critical. The ultimate capital investment may be higher if additional facilities are to be included. Construction of the marina would be expected to take 12 months, with operations to commence immediately thereafter.

Figure 14: Indicative capital investment required for marina

Cost category	Cost
Rehabilitation capital expenditure (per MARAD)[10]	$1.6M
Megayacht facilities capital expenditure (including a health club, business center and office, retail store, and other sitework)	$1.3M
Berthing improvement capital expenditure (shore power, water, pumpout, and TV/Wi-Fi)	$0.5M
Total indicative capital expenditure for marina at Pier 9 West and South	**$3.4M**

The Team describes its demand projections in further detail under Section 0, which outlines the financial feasibility and business case for the project. The marina could be expanded in phases to match growth in demand, covering a combination of Piers 6 through 10 and different mooring styles, provided that the use of Pier 10 does not interfere with Pier 11 use by cruise ships. Expanding in phases would limit initial investment while preserving the ability to capture future demand. This would, of course, require additional capital investment that is not included in the estimate above, and the upfront cost of mobilization for any amount of construction could incentivize a developer to "future-proof" a marina from the beginning by building greater capacity than needed for the short-term. Therefore, the ultimate capacity built from the marina's inception will depend upon the winning bidder's proposal.

As explained in Section 3.2, there are reasons to believe that developers may prefer developing a megayacht marina on / around Piers 6, 7, and 8 and that doing so will help drive traffic. As such, the capital investment required will depend not only on the facilities and capacity being offered by the developer but also on the exact location of the marina. For the purpose of the financial feasibility analysis in Section 4, the Team used the investment requirement estimate outlined above for Pier 9.

3.4 Technical and functional feasibility of the project

3.4.1 Technical feasibility and risks

The refurbishment of pier 9 is to be undertaken by a specialist marine contractor familiar with similar works. Similarly, the proposed design and installation of a corrosion protection system

[10] The MARAD assessment indicates that $2.4 million would be necessary to refurbish all of Pier 9, while the Team reduces this estimate proportionate to the linear footage that Pier 9 West and South represent of the overall pier.

needs to be performed by specialist firms and it is recommended to install a sacrificial cathodic anode system to minimize operational cost.

Installation of the shore power connection system requires careful design to minimize impact on the existing bulkhead as well as the existing utilities.

The MARAD survey included a Level II inspection on 10 percent of the below water elements and a Level III inspection which consisted of ultrasonic thickness measurements on the steel sheet piles taken at waterline, mid-depth, and mudline locations. During refurbishment works other defects may be found which could result in additional cost and delay of completion of the works.

Access on and off megayachts is typically by gangways that extend from the starboard or port side of the vessels and by passerelles that extend from the stern of the vessel. The passerelles are used exclusively in Med-moor berthing arrangements, while the gangways and passerelles are used while berthed at fixed and floating pontoons.

The selection of the berthing system depends on several factors: water depths and water level fluctuations, wind and wave conditions, access, available water area, operational requirements and regional preferences. As the tide in San Juan Harbor is relatively small (the mean tide range is 1.11 ft and the spring tide range is 1.57 ft) and the site is relatively sheltered a fixed dock solution may be feasible. In case that floating pontoons are considered these should have sufficient width and float and able to resist the wind and current loads on the vessels through the mooring lines and/or by direct contact to fixed and floating docks.

3.4.2 Operational feasibility and risks

One of the key requirements in the planning and design of the megayacht berthing area is to provide a basin that is protected from waves. The proposed location in the San Antonio channel is well protected from the sea, though waves generated by passing cruise and ferry vessels can impact the safe maneuvering and mooring at Pier 9.This requires careful design consideration, especially considering that Piers 11-14 are anticipated to be repaired and improved for expanded cruise vessels docking capacity, including home porting.

Similarly, the layout of basin and channel geometry is crucial to the safety and efficiency of maneuvering the megayacht vessels within a confined water area. The width and depth of the basin and waterways, as well as the slip dimensions, are a function of the vessel characteristics; as well as local environmental conditions. Typically, in confined areas a few superyachts in a small-craft marina do not provide efficient use of the area, as large navigational areas are required for a small percentage of the vessels.

Tank capacities aboard superyachts for fuel, wastewater and sewage and potable water may affect the infrastructure requirements at the marina for efficient filling and/or discharging of these tanks. Refueling at the site may result in stringent safety requirements and availability of special equipment to tackle possible spills. The large capacity tanks on board the yachts for holding wastewater and sewage may require specialized pumps and fittings to adequately discharge the wastewater and sewage (i.e. "pumpout"), though such services could also be provided by service vessels.

3.5 Risk assessment

There are risks assumed by the developer that are inherent to the operation of a marina. Most of these relate to the maintenance and upkeep of the facility to prevent safety incidents. Risks include vessel collision, fire, damage to vessels, and injury to crews especially during embarking and disembarking and to marina staff in the execution of their duties. Marinas may also be liable for violating environmental regulations caused by pollution from fuel and oil leakage, storm-water runoff or use of hazardous materials at the marina.[11] Most of these risks can be mitigated through adequate maintenance and insurance coverage.

Puerto Rico is also susceptible to extreme weather such as hurricanes, which can bring heavy winds and storm surge, exacerbated by potential future sea level rise. The $1.6 million in rehabilitation capital improvements for Pier 9 West and South should provide adequate resiliency against natural disasters, per the MARAD assessment, including elevated wind and storm surge. The same assessment outlines an additional $3.2 million[12] in fendering and mooring hardware investments that would meet future operational needs. However, this report assumes that base rehab capital expenditure is sufficient to meet resiliency needs for the time period of a contract.

[11] https://www.marinersins.com/common-risk-exposures-marinas/.

[12] Proportional share for Pier 9 West and South; $4.8 million for the whole pier.

4 FINANCIAL FEASIBILITY ANALYSIS

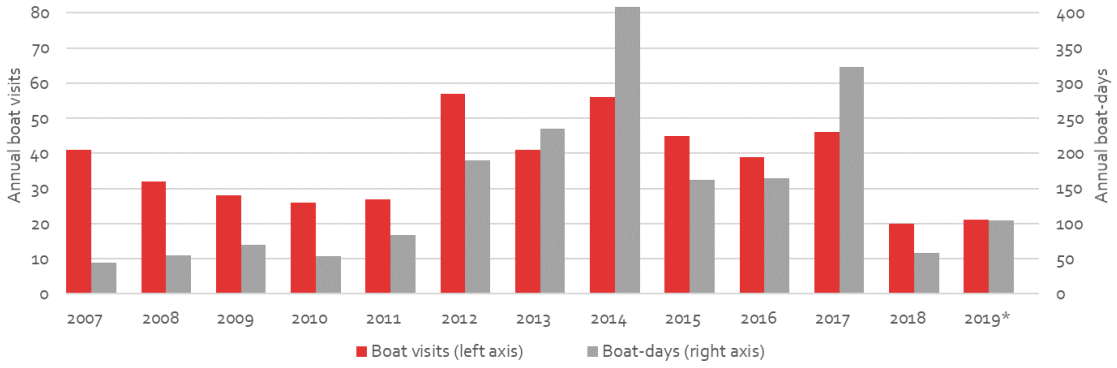
This section focuses on the financial feasibility of a megayacht marina as a standalone project. The Team's analysis concludes that a marina project is expected to be financially feasible and attractive, achieving or exceeding a potential developer's project IRR hurdle rate, estimated to be 12%.

The Team considered a series of inputs in assessing financial feasibility. For its analysis, the Team assumed that megayacht traffic in San Juan would grow rapidly in the initial two to three years, as the improved marina and facilities help make San Juan a more attractive megayacht destination. Following the initial demand expansion, the Team anticipates lower but still robust medium- to long-term growth that eventually converges to growth in the overall megayacht fleet. Megayachts will bring three primary sources of revenue: berthing fees, markups charged on fuel sales, and markups on electricity. Operating costs include the labor required to manage and operate the marina, security, insurance, and other incidental costs. As analyzed by the Team, financial attractiveness holds under stressed scenarios of higher capital and operating costs or lower operating revenues.

4.1 Demand

In order to estimate demand for a megayacht marina in San Juan harbor, the Team evaluated PRPA's data on historic megayachts visits to San Juan. *Figure 15* shows the number of boat visits as well as the overall number of boat-days for visits of yachts with a length of at least 100 feet.[13]

Figure 15: Past megayacht visits and days to San Juan port



*Source: PRPA internal data; *2019 traffic is only through April 2019.*

[13] Data provided by PRPA.

The impact from Hurricane Maria on the number of megayacht visits and boat-days spent in San Juan can clearly be seen in 2018, with only 20 yachts over 100 feet visiting the harbor for a total of 58 boat-days. There has already been a recovery in 2019 when compared to 2018, with more visits and boat-days realized through the first four months compared to all of 2018.

To evaluate demand for megayacht berthing capacity in San Juan, the Team used a five-year average (2013-2017) of megayacht demand as a starting point. During this period, the average number of visits to San Juan was 45.4 visits per year and 258.6 boat-days per year. The average duration of a yacht visit to San Juan harbor is 5.7 days.

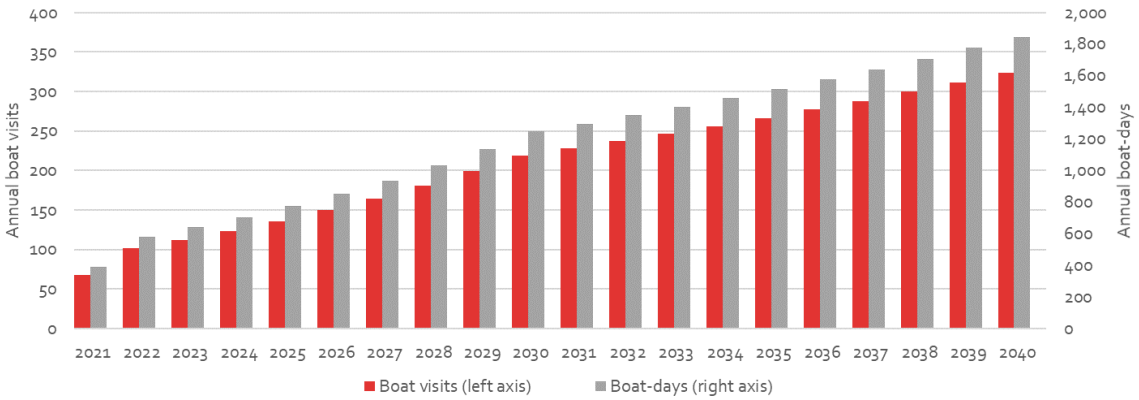
The above figures reflect demand based on the current condition of the berthing facilities in San Juan harbor. Market participants conveyed confidence that demand for megayacht berthing capacity will grow substantially if a dedicated megayacht marina with appropriate facilities were to be developed in San Juan. As the exact growth in demand is hard to predict, the Team developed three scenarios that describe potential growth rates over time, shown in *Figure 16*.

Figure 16: Annual growth rates for demand

Demand growth scenario	Low	Medium	High
Early expansion: Year 1-2	30%	50%	70%
Consolidation: Year 3-10	8%	10%	12%
Long-term growth: Year 10+	3%	4%	5%

As relatively few megayachts currently visit Puerto Rico, the Team expects very strong growth in early years as megayacht captains and owners learn about the opening of a new marina in San Juan. Given the uncertainty around this initial expansion, the Team evaluated a wide set of annual growth rates, ranging from 30% in the low scenario to 70% in the high scenario. After a strong initial expansion, the Team would expect a consolidation period, during which robust continued growth is justified as San Juan increasingly becomes known as a megayacht destination. In the long-term, the Team would expect demand to follow overall growth in the number of megayachts built, about 4% annually over the past 12 years. In practice, demand for berthing capacity in San Juan could outpace growth in megayacht builds as relatively few marinas can offer berths to very large megayachts. Applying the medium growth rates scenario to the average number of megayacht visits and number of boat days over the 2013-2017 period results in the projected demand displayed in *Figure 17*.

Figure 17: Projected megayacht traffic to San Juan port under medium growth scenario



To confirm the reasonableness of its assumptions and overall demand projection, the Team reviewed the past marina proposals that PRPA received in 2015 as well as marine traffic data for other marinas in the Caribbean. Under the medium growth scenario, San Juan marina would see a similar number of annual megayacht port calls in 2040 as St. Thomas and Gustavia currently receive. Although ambitious, the Team believes that the forecasts are realistic, assuming that a quality megayacht marina is developed.

4.2 Revenues

The marina will generate revenues principally from the following three sources:

- **Berthing revenue:** Berthing revenue is determined by the length of the vessel, the number of days the vessel stays at the marina, and the berthing fee per linear foot per day. To calculate revenues, the Team used the demand scenarios outlined earlier in conjunction with the linear footage of upgraded piers, an assumed average yacht length, and an average stay based on the data on megayacht visits to San Juan historically.
- **Markup on fuel sales:** Megayachts will be able to refuel at the marina, which allows the marina to earn a markup on fuel sales. To evaluate fuel sale revenue, the Team estimated the number of port calls per year as well as the average annual fuel consumption per megayacht and a markup based on the experience of other marinas in the US.
- **Markup on electricity sales:** Similar to fuel sales, the marina will be able to charge a markup for electricity, provided that in a resale of electricity structure, all applicable regulatory requirements are met to provide that service. To estimate revenues, the Team estimated the daily electricity consumption per megayacht, assuming an average yacht length and markup on electricity sales.

It is important to acknowledge that the base case berthing fee assumption is conservative, as berthing fees are significantly higher in certain other Caribbean marinas. The justification for this is that low fees will help to attract additional megayachts to San Juan and could be a long-term competitive advantage for this megayacht marina. Depending upon the structure of the procurement, either PRPA or the developer may adjust this fee over time as demand becomes more apparent, in an effort to maximize overall berthing revenue.

The Team did not consider any other revenues, such revenues from water supply, retail sales, (markups on) small maintenance, or other incidentals.

4.3 Capital and operating expenditures

Capital expenditures include initial construction cost and ongoing capital maintenance costs. As discussed in Section 3.3, an indicative capital expenditure estimate for Pier 9 West and South is $3.4 million to develop a marina which includes shore power and pumpout as well as facilities for crews such as a health club, business center, and retail outlet. Ongoing annual capital maintenance costs are estimated at 2% of construction costs based upon generally accepted benchmarks of global port infrastructure.

For operating expenditure, the Team adopted a bottom-up approach, identifying the following high-level cost categories:

- **Labor:** These are the costs associated with personnel to operate the marina, including a senior marina manager and junior marina operator.
- **Security:** The Team included an annual fee for security services, including an on-site security guard and an alarm system.
- **Insurance:** The Team included an annual fee for insurance.
- **Other:** The Team included an overhead buffer for additional operating expenditure (including on-site utilities, IT, minor maintenance, administration, and sundries).

Values for each of the above categories were taken using local benchmarks and the Team's past experience on projects of this nature. All cost for services rendered to the yachts themselves, for instance shore power, is assumed to be passed through to the end-customer, with a markup taken as described in Section 4.2. Furthermore, in order to evaluate the project's financial feasibility, the Team assumed that the developer would pay no annual lease or concession fee to PRPA. The exact structure of any payments to PRPA (and/or the level of revenues retained by PRPA) can be determined once the overall project structure has been decided upon.

It is worth noting that the unsolicited proposal assumes that operating expenditures represent a flat 33% of gross revenue. The Team believes that this cost assumption may be low in early years, given the relatively high fixed costs of operating a marina.

4.4 Financing

To finance the required investments, the Team assumed that 50% of all capital expenditures (excluding ongoing capital renewal) will be financed through debt, with the remainder financed through equity. As the ultimate financing structure will largely depend on the project's contracting structure, the Team evaluated financial feasibility by focusing mainly on the pre-tax project IRR, rather than equity IRR, as the former is unaffected by leverage. As such, the Team assumes a project developer would need to achieve an overall 12% project IRR to achieve sufficient return on capital to be able to attract debt and equity financing.

4.5 Feasibility results

The results of our financial analysis demonstrate that the project, as modified to include only the marina, is financially feasible. A project developer would be able to achieve the 12% IRR hurdle rate within a 20-year timeframe under medium-growth demand assumptions for megayacht traffic. Financial attractiveness (as measured by project IRR) increases with a longer timeframe. The feasibility of making additional investments in marina capacity to accommodate future growth also increases under a longer- term agreement.

The Team also performed sensitivity analyses on capital and operating expenditures as well as berthing fees to determine if financial attractiveness holds with higher costs or lower berthing rates. The project is still feasible under such stressed scenarios.

5 SOCIAL, ENVIRONMENTAL, AND LOCAL IMPACT

A megayacht marina in San Juan would generate substantial economic impact on the local economy. There are six major categories of benefits described in this section, which would produce nearly $2 million of economic impact in the initial years of the project, ramping up to $7 million by the end of the 20-year term under the medium growth scenario. These benefits scale linearly with traffic. As such, a 50% increase in traffic above the medium growth forecast would lead to a 50% increase in economic benefits to the broader local economy. In addition to social and local impact, this section also describes the potential environmental impact of the project, as well as an overview of the permit process.

5.1 Social and local impact of the project

The project presents a variety of economic benefits to San Juan and the broader Puerto Rican economy as a result of megayacht visits to a new marina. There are six categories of revenue or economic benefits that the marina would provide:

- **Provisioning of megayachts**: Each megayacht visit would generate additional business for agents and for their local contractors who supply food, beverages, and other provisions for megayachts.
- **Local spending by guests and crew**: The passengers and crew on board visiting megayachts would inject money into San Juan's local economy through visits to restaurants, bars, shops, and other establishments.
- **Marina operating expenses**: Operating costs for the marina, including salaries for the senior marina managers and junior operators, utility costs, maintenance costs, etc. would all benefit local individuals and businesses in San Juan and Puerto Rico.
- **Maintenance & repairs**: While most maintenance for megayachts would not occur at a marina, minor repairs may be performed while megayachts are docked at the marina, such as repairs to interior furniture, carpeting, and emergency repairs to electronic systems, etc. The Team estimates that, out of the $1 million in repairs that an average 55-meter megayacht incurs annually, 5% would be spent at local marinas including in San Juan.
- **Fuel revenues**: The refueling activity of megayachts would generate revenue for marine fuel suppliers in San Juan, thereby contributing to sales for local businesses.
- **Electricity revenues**: The electricity consumption of megayachts connected to shore power would generate additional demand for PREPA or the applicable utility at the time, directly contributing to revenues for the utility.

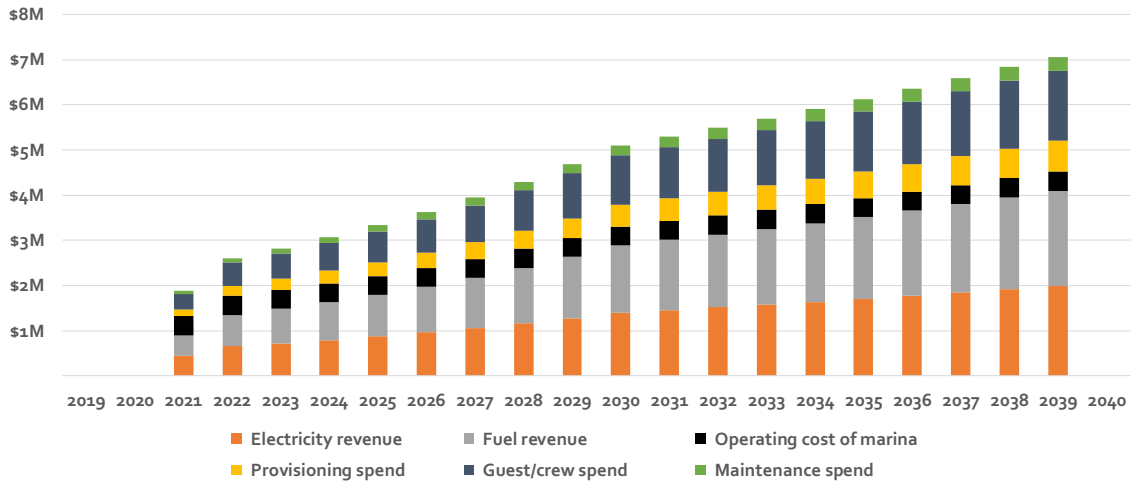
The Team conducted an analysis of the magnitude of economic impact. Estimates of provisioning spend, local spending by guests and crew, and maintenance & repairs come from a 2012 study conducted by Superyacht Intelligence, which is referenced by multiple sources that the Team has reviewed. A summary of this study is seen in *Figure 18*.

Figure 18: Annual economic impact estimate of a megayacht

Source: Economic Analysis of the Superyacht Industry, Superyacht Intelligence

The Team combined estimates of indirect economic impact from this study with estimated megayacht traffic based on demand projections outlined in Section 4.1. Annual economic impact in the medium-growth scenario is strong from the inception of a marina project, at roughly $2 million in real terms and scaling to over $5 million by 2030 and subsequently $7 million by the end of the 20-year period under consideration. *Figure 19* displays economic impact by year.

Figure 19: Economic impact on Puerto Rico (2019 dollars) under medium growth scenario



The analysis assumes that any existing non-megayacht activity at relevant piers will not be displaced and will instead be relocated elsewhere within San Juan Bay. The Team believes that the recently relocated pilot boats should not materially impact the megayacht marina's operations, although their presence could reduce the overall perceived attractiveness of the marina, as discussed in Section 3.2.

In addition to the local business impact that megayacht traffic would generate, local capital investors may be able to participate in the development and financing of the marina. For instance, the Team understands that a local bank has been approached for debt capital purposes for similar projects in Puerto Rico.

5.2 Environmental impacts and permitting

The potential capital expenditures scope of work envisioned for the project comprises structural repairs, mechanical and electrical system upgrades, site improvements, construction of amenities, and potential future pier expansions or replacements. Given this scope of work, it is possible that the improvements needed will be developed in phases. Based on this general description of the work, the Team has preliminarily identified a number of principal potential environmental impacts that could be anticipated from the development and operation of this project and potential measures to mitigate. Whereas the analysis below explicitly focuses on Pier 9, similar environmental impacts could be anticipated if the project is developed on one or multiple of the surrounding piers.

5.2.1 Potential impacts during construction

- **Potential impacts from soil erosion and sedimentation due to excavation and movement of earth, which would be incidental to the construction work.** These are typical impacts from construction work for which there is a simplified permitting process. The project will be required to obtain a Single Incidental Operational Permit issued by the Office of Management of Permits ("OGPe" by its Spanish acronym) which imposes requirements to prevent or minimize impacts from erosion and sedimentation from construction activities including the preparation of an erosion and sedimentation plan. This permit also contains requirements to avoid or minimize impacts from fugitive dust emissions, the generation of wastes, the incidental extraction or movement of earth, and the cutting, pruning, and transplanting of trees that may be required for the construction work. In addition, the project will be required to seek coverage under the Environmental Protection Agency's ("EPA") NPDES General Permit for Discharges from Construction Activities (CGP) which contains conditions to prevent or minimize contamination of stormwater due to construction activities and requires the preparation and implementation of a Stormwater Pollution Prevention Plan.

- **Potential impacts to existing terrestrial flora or fauna, if any.** Pier 9 is currently used both as a cargo facility and to berth visiting megayachts and has been historically used for cargo facility operations. Therefore, it is already developed and impacted. Consequently, impacts to flora or fauna are anticipated to be minimal or nonexistent. If wildlife is identified at this property, which is unlikely, the project will be required to prepare a Habitat Categorization Plan which identifies the types of wildlife habitats present at the property and the category of the habitats (which depends on the perceived value of the habitat). This plan must be submitted to the Department of Natural and Environmental Resources ("DNER") for their review and certification, which certification would include the applicable mitigation measures. No such mitigation measures are anticipated in this case due to the lack of flora or fauna at the site. With respect to trees, in particular, there appear to be few or none at Pier 9. If there were any, the project would be required to obtain the Single Incidental Operational Permit from OGPe described above, which would include the applicable requirements or conditions to mitigate or compensate any impacts due to cutting, pruning, or transplanting trees.

- **Potential impacts from the generation of air emissions due to fugitive dust and construction equipment generated by the construction activities.** These impacts are anticipated to be temporary and of short duration, limited to the construction work stage only. The project will be required to obtain the Single Incidental Operational Permit from OGPe described above, which contains conditions to avoid, minimize, or control fugitive

dust and other air emissions from construction activities, which may include the requirement that areas with soil be sprayed with water, trucks carrying soil be covered to avoid the generation of dust, and idling of trucks and equipment be minimized, among other things.

- **Potential impacts from the generation of solid wastes from construction activities.** The construction activities are anticipated to generate mostly non-hazardous solid wastes. The project will be required to manage and dispose of these wastes in accordance with applicable laws and regulations. In addition, the project will be required to comply with the solid waste management requirements in the Single Incidental Operational Permit discussed above. Any hazardous wastes generated by the project would have to be managed and disposed of in accordance with applicable hazardous waste regulations. Depending on the number of construction employees, the project may be required to prepare a Solid Waste Reduction, Reuse, and Recycling plan that must be submitted to and approved by the DNER.

- **Potential impacts from the generation of noise due to operation of construction machinery.** Noise during construction should be similar to the noise generated by any typical construction operation of similar magnitude. Any noise is anticipated to be of short duration and limited to a daytime schedule and would be required to comply with applicable noise control regulations.

- **Potential impacts to cultural, archaeological, or historical resources that could exist in the subsurface or underwater.** Consultation will be required, during the local permitting process, with the Institute of Puerto Rican Culture and, during the federal permitting process, with the State Historic Preservation Office ("SHPO"). As a result of these processes, any cultural, archaeological, or historical resources that may be present in Pier 9 would be identified and studied with the input of these agencies and measures to document, protect, or preserve these resources, as applicable, would be established by these agencies. The selected proponent will be required to comply with any measures required by these agencies.

- **Potential increase in traffic in the area due to exit and entrance of trucks and vehicles related to the construction.** This impact is also anticipated to be similar to other typical construction operations of similar magnitude, which generally are not considered significant given the limited number of vehicles generally required for this type of construction work. The environmental document prepared for the project should include an estimate of the increased traffic due to these activities and the impacts of this increase on existing road, if any. As part of this process, the project may be required to prepare a

traffic study analyzing the current transportation infrastructure in the area of Pier 9 and service level, the potential traffic generated by the project during construction and operation, the potential impacts to the existing transportation infrastructure, and measures to address any deficiencies. In addition, as part of the local permitting process, recommendations must be sought from the Puerto Rico Highway and Transportation Authority.

- **Potential impacts to water and sewer and electricity infrastructure due to construction activities.** In the area of Pier 9, there are existing water and sewer facilities and electricity infrastructure, which may potentially be used for the construction activities. The needs of the construction work are not anticipated to be significant in comparison with the overall use or needs of this area, which is an urban area. A more detailed analysis of the available infrastructure, demand from the project, and measures to address these, if any, should be conducted as part of the environmental review process.

- **Potential impacts from construction, dredging, or filling activities on the water for the rehabilitation, repair, or expansion of existing pier facilities.** It is important to note that the area of Pier 9 has been historically used as a pier for marine vessels and has been previously impacted with the development of the existing pier infrastructure. The pier rehabilitation, repair, or expansion work will require securing a permit or authorization from the United States Army Corps of Engineers ("USACE") under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. This permit process requires an environmental review of the potential impacts from these activities and consultation with other agencies, including the United States Fish and Wildlife Service ("FWS") and the National Marine Fisheries Service ("NMFS") (in connection with potential impacts to protected species and habitats under their jurisdiction), the Puerto Rico Planning Board (in connection with the project's consistency with the Coastal Zone Management Plan), and SHPO. In addition, as part of this process before the USACE, a Water Quality Certificate ("WQC") from the DNER must be obtained, which should contain conditions to protect the quality of the affected water body. The final permit or authorization issued by the USACE should include conditions imposed by the USACE, the WQC, and the agencies consulted during the permitting process to avoid and minimize impacts due to the construction, dredging, and filling activities.

- **Potential impacts to protected marine species and benthic systems.** As mentioned, the area of Pier 9 has been historically used as a pier for marine vessels and has been previously impacted with the development of the existing pier infrastructure. In addition, the area of the San Antonio Channel and significant areas of the Bay of San Juan have been subject to periodic dredging. Therefore, a significant presence of sensitive benthic

systems in the aquatic areas adjacent to Pier 9 is not highly likely. Nevertheless, impacts to these systems and protected marine species would be assessed during the USACE permit or authorization process described above, which would include consultation with the NMFS and include recommended measures to avoid or minimize impacts on these species or systems, if any. As part of this process, the project may be required to prepare a Marine Benthic Study to identify the relevant species and systems in the project impact area.

5.2.2 Potential impacts during operation

- **Potential impacts from accidental discharges or spills of fuel, oil, or other materials handled at the marina as a result of vessel fueling, maintenance, or minor repairs.** This is a potential environmental risk associated with the operations of a marina, which may impact the water quality of adjacent water bodies and adversely affect associated ecological systems. The selected proponent would be required to develop and implement an Environmental Management Plan containing management measures and operating procedures to ensure the appropriate handling and disposal of these materials and prevent or minimize the potential of accidental discharges or spills. This plan should also include a cleanup and contingency plan to address spill or discharge events.

- **Potential impacts from generation of wastes.** This project, as any other commercial operation, will generate solid wastes as a result of its operations, the majority of which are anticipated to be non-hazardous solid wastes. The project will be required to manage and dispose of these wastes in accordance with applicable laws and regulations. Any hazardous wastes generated by the project will be required to be managed and disposed of in accordance with applicable hazardous waste regulations. Depending on the number of project employees, the project may be required to prepare a Solid Waste Reduction, Reuse, and Recycling plan that must be submitted to and approved by the DNER.

- **Potential impacts from air emissions.** Based on the current limited information of the components of the project and assuming no significant repair operations are conducted at the marina, the only potential stationary sources of air emissions anticipated in connection with the operation of the marina or other components of the project are emergency backup generators. The project will be required to obtain a General Permit from OGPe for an emergency generator for the construction and operation of these sources, which imposes operational requirements to control the air emissions from these sources, including a requirement that these generators not operate for more than 500 hours in a year.

- **Potential impacts due to increased traffic.** Given the lack of a specific design, there is not sufficient information to estimate the potential land traffic that would be generated by this project. The environmental document for the project should include an estimate of traffic that may be generated by the project and potential impacts on existing road infrastructure, if any. As part of this process, the project may be required to prepare a traffic study analyzing the current transportation infrastructure in the area of Pier 9 and service level, the potential traffic generated by the project during construction and operation, the potential impacts to the existing transportation infrastructure, and measures to address any deficiencies. In addition, as part of the local permitting process, recommendations must be sought from the Puerto Rico Highway and Transportation Authority.

- **Potential impacts due to increase in marine traffic.** The proposed marina would be in the Bay of San Juan, in an area designated as a Port Zone by the Puerto Rico Ports Authority. Therefore, the area is currently subject to significant marine traffic. Depending on the estimated additional marine traffic to be generated by the project, and if significant, the project could potentially be required to conduct a marine traffic study to assess the impacts of this additional traffic in the current Bay operations and propose measures to mitigate potential impacts, as part of the environmental review of the project.

- **Potential impact to water and sewer and electricity infrastructure due to operation activities.** As mentioned, in the area of Pier 9 there are existing water and sewer facilities and electricity infrastructure. Therefore, new infrastructure development may not be required. However, upgrading or expansion of existing infrastructure could potentially be required to address the project's demands. A more detailed analysis of the available infrastructure, demand from the project and measures to address these, if any, should be conducted as part of the environmental review process. In addition, as part of the local permitting process, recommendations from infrastructure agencies must be sought, which should indicate whether the existing infrastructure can address the demands of the project and the recommended measures to address any deficiencies.

The foregoing is a preliminary identification of potential impacts of the project based on the current general description of the scope of work. The project will be required to undergo an environmental review process as a precondition to securing the applicable development permits, which requires the preparation of an environmental document (in this case, potentially an environmental assessment ("EA") or an environmental impact statement ("EIS")). This document and review will be based on a more specific design and description of the project. Based on this more specific design and description, additional or different impacts from those listed above may

be identified. The selected proponent will be required to comply with all applicable environmental and laws and regulations.

5.3 Applicable laws and regulations

Based on the general scope of work described above, the Team has preliminarily identified the following principal federal and environmental laws and regulations that will or could apply to the construction or operation of project:

5.3.1 Federal laws and regulations

- National Environmental Policy Act, 42 U.S.C. § 4321 *et seq.*, as amended, which requires federal agencies to assess the potential environmental impacts of their proposed actions prior to making a decision on those actions, and its implementing regulations and executive orders.

- The Clean Water Act, 33 U.S.C. § 1251 *et seq*., as amended, which governs discharges of pollutants into waters of the United States, including the provisions of the Oil Pollution Act of 1990, 33 U.S.C. §§ 2701-2761, and their implementing regulations, including: 40 C.F.R. Part 122, National Pollutant Discharge Elimination System (NPDES) Permit Program (including stormwater discharges); 40 C.F.R. Part 112, Oil Pollution Prevention; and 33 C.F.R. Part 323, Permits for Discharges of Dredged or Fill Material into Waters of the United States.

- The Clean Air Act, 42 U.S.C. §§7401 *et seq.,* as amended, which governs emissions of air pollutants, and its implementing regulations.

- The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*, which governs the generation, storage, handling and disposal of solid wastes, including hazardous wastes.

- The Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601 *et seq.*, which governs cleanup and remedial actions to address contaminated sites, and its implementing regulations.

- Rivers and Harbors Act of 1899, 33 U.S.C. § 403, as amended, which regulates the construction of new or modified structures in navigable waters of the United States and its implementing regulations codified at 33 C.F.R. Part 322, Permits for Structures or Work in or Affecting Navigable Waters of the United States.

- Coastal Zone Management Act of 1972, as amended, 16 U.S.C. § 1451 *et seq.*, as amended, which establishes requirements applicable to federal assistance or permits for activities

affecting any coastal use or resource, its implementing and the Puerto Rico Coastal Zone Management Plan approved by the Puerto Rico Planning Board.

- Endangered Species Act of 1973, 16 U.S.C. §1531 *et seq.*, as amended, establishing requirements to provide for the conservation of federally listed plant and animal species and their habitats, and its implementing regulations codified at 50 C.F.R. Part 402, Interagency Cooperation- Endangered Species Act of 1973, As Amended.

- Magnusson-Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1801, *et seq.*, which establishes a program for the conservation and management of fisheries resources, among other things, and its implementing regulations codified at 50 C.F.R. Part 600, Magnuson-Stevens Act Provisions.

- Marine Protection, Research and Sanctuaries Act of 1972, 33 U.S.C. § 1401, *et seq.*, as amended, which regulates ocean dumping of wastes, and its implementing regulations codified at 33 C.F.R. Part 324, Permits for Ocean Dumping of Dredged Material.

- National Historic Preservation Act of 1966, 54 U.S.C. § 300101, *et seq.*, as amended, which requires that historic property preservation concerns be taken into account in connection with federal undertakings (including federally issued permits), and its implementing regulations codified at 36 C.F.R. Part 800, Protection of Historic Properties.

5.3.2 Puerto Rico laws and regulations

- The Puerto Rico Environmental Public Policy Act, Act 416-2004, as amended, the principal statute in Puerto Rico governing environmental protection, pollution control and remediation of contamination, and its implementing regulations, which are implemented or enforced by the Department of Natural Resources ("DNER") (succeeding the former Environmental Quality Board), including the following regulations:

    - Regulation for the Environmental Assessment Process, Regulation 8858, as amended, governing the environmental review process required for approval of permits or other government actions.

    - Regulation for the Control of Atmospheric Pollution, Regulation 5300, as amended, which establishes requirements governing sources of air pollutants.

    - Non-Hazardous Solid Waste Management Regulation, Regulation 5717, as amended, which governs the generation, collection, storage, management and disposal of non-hazardous solid wastes, including used oil and discarded tires.

- Regulation for the Control of Hazardous Solid Wastes, Regulation 2863, as amended, which governs the generation, management, treatment, storage and disposal of hazardous wastes.

- Underground Storage Tank Control Regulation, Regulation 9035, as amended, which governs underground storage tank systems storing petroleum products and other regulated substances.

- Puerto Rico Water Quality Standards Regulation, Regulation 8732, as amended, which establishes general water quality standards for discharges into bodies of water in Puerto Rico.

- Regulation for the Control of Erosion and Prevention of Sedimentation, Regulation 5754, as amended, which establishes requirements to control erosion from human activities and prevent sedimentation and contamination of water bodies.

- Regulation for the Processing of General Permits, Regulation 7308, as amended, for the expedited processing of certain minor permits for the control of erosion and sedimentation, air emission sources, solid waste generating activities, lead-based mitigation activities and used oil collection activities.

- Regulation for the Control of Noise Pollution, Regulation 8019, as amended, which establishes policies and requirements to governing noise pollution.

- Regulation for the Control and Prevention of Light Pollution, Regulation 8786, as amended, which establishes policies and requirements governing light pollution.

- The Organic Act of the DNER, Act 23 of June 20, 1972, as amended, which creates the DNER and authorizes it to establish the public policy for the protection of natural resources in Puerto Rico and regulate the use of these natural resources, and the following laws and regulations also implemented and enforced by the DNER:

  - The New Wildlife Act of Puerto Rico, Act 241 of August 15, 1999, as amended, which requires the establishment of measures for the protection, conservation, distribution, restoration and management of wildlife in Puerto Rico.

  - The Sand, Gravel and Stone Act, Act 132 of June 25, 1968, as amended, which governs activities involving extraction, excavation or removal of components of the earth's crust in Puerto Rico.

- The Regulation Governing the Conservation and Management of Wildlife, Exotic Species and Hunting, Regulation 6765, as amended, governing the protection, conservation and management of wildlife species and modifications of natural habitats, among other things.

- Regulation to Govern Threatened or Endangered Species in the Commonwealth of Puerto Rico, Regulation 6766, establishing requirements for the preservation of listed threatened or endangered species.

- Regulation Governing the Extraction, Excavation, Removal and Dredging of the Components of the Earth's Crust, Regulation 6916, as amended, establishing requirements for the extraction, excavation, removal and dredging of sand, gravel, rock, soil and other components of the earth's crust.

- The Act for the Reduction and Recycling of Solid Wastes, Act 70 of September 18, 1992, as amended, which establishes the public policy and requirements to promote the reduction and recycling of solid wastes, and its implementing Regulation for the Reduction, Reuse and Recycling of Solid Wastes in Puerto Rico, Regulation 6825, as amended.

- Puerto Rico Code for Human Safety and Protection against Fires, Regulation Number 7364, which establishes requirements for the protection of life and property against fire risks, explosions and hazardous conditions.

- The Act for the Protection, Conservation and Study of Subaquatic Archaeological Sites and Resources, Act Number 10 of August 7, 1987, as amended, which governs certain activities affecting subaquatic archaeological sites and resources in Puerto Rico and the Act for the Protection of the Terrestrial Archaeological Patrimony of Puerto Rico, Act 112 of June 20, 1988, as amended, which declares archaeological resources as Puerto Rico patrimony and establishes related obligations relating to any excavation, construction and reconstruction work in Puerto Rico, and their implementing regulations.

- The Puerto Rico Permit Process Reform Act, Act 161-2009, as amended, which establishes requirements governing the permitting process for development, land use and certain business operations in Puerto Rico, and the following laws and regulations governing land use and zoning:

  - The Planning Board Organic Act, Act 75 of June 24, 1975, as amended, which created the PRPB and established land use and zoning requirements applicable to Puerto Rico.

- Act to Control Buildings in Flood Prone Zones, Act 13 of September 27, 1961, as amended, which provides for the designation of flood prone zones and the establishment of restrictions and requirements on development in these zones.

- Autonomous Municipalities Act, Act 81 of August 30, 1991, as amended, which governs the process for delegation of certain central government functions to Municipalities, including those related to land uses and certain public services.

- Puerto Rico Planning Board's Joint Regulation for the Evaluation and Issuance of Permits Related to Development, Land Use and Business Operations, Regulation 9081, establishing requirements for the permitting process for construction and development and business operations in Puerto Rico.

- Special Flood Hazard Areas Regulation, Regulation 7797, as amended, establishing security measures regulating buildings and development in areas designated in risk of flooding.

- The Municipality of San Juan Territorial Ordainment Plans and Regulation.

- Excavation and Demolition Center Act of Puerto Rico, Act 267 of September 11, 1998, as amended, which governs coordination procedures for certain excavations in Puerto Rico, and its implementing Regulation for the Creation and Functioning of the Center for Coordination of Excavations and Demolitions, Regulation 7245, as amended.

- The Department of Health's General Regulation for Environmental Health, Regulation Number 7655, as amended, establishing requirements for the issuance of sanitary licenses to commercial facilities, among other things.

5.4 Territorial and urban planning aspects

The current zoning designation in Pier 9 as per the Land Zoning Maps of the Autonomous Municipality of San Juan ("MSJ") is Commercial-Touristic 3 ("CT-3").[14] The CT zoning was established to classify and promote an aesthetic and orderly development in commercial and

[14] *See* MSJ Zoning Map, Leaf 2A, adopted by Puerto Rico Planning Board on August 27, 2013, effective March 2, 2014 and MSJ Zoning Map, Leaf 2B, adopted by the PRPB on October 9, 2002, effective March 13, 2003.

residential areas in Tourism Interest Zones.[15] The CT-3 designation, in particular, covers "lands that due to their location [and] infrastructure availability, may be developed or have been developed at a high density" and is established "for activities that support, complement or do not undermine tourism activity."[16] Recently, the Puerto Rico Planning Board, by means of the recently enacted Joint Regulation for the Evaluation and Issuance of Permits Related to Development, Land Use and Business Operations, Regulation 9081 ("Joint Regulation"), converted the CT-3 zoning into a CT zoning designation, which groups other types of CT designations.[17] The CT zoning under the Joint Regulation has the same purposes as those established for the CT-3 zoning described above.

In addition, Pier 9 is located within the Port Zone of the Bay of San Juan. The Bay of San Juan and adjacent lands were designated a Port Zone by the Puerto Rico Ports Authority with the approval of the Puerto Rico Planning Board pursuant to Section 6.01 of the Dock and Harbor Act of 1968.[18] According to the PRPA's Regulation for the Administration, Control and Imposition of Charges in the Port Zone of the Bay of San Juan, Regulation 8892 of December 29, 2016 ("Regulation 8892"), the Port Zone delimitation has the purpose of protecting and promoting the potential expansion of the Port of San Juan by means of industrial and touristic activities and economic activity that complements these activities and promotes the mercantile and commercial development of the area.[19]

The proposed project is consistent with both the CT zoning, as it supports, promotes and complements tourism activity, and with the Port Zone designation, as it expands the economic and tourism activities of the Port of San Juan. In addition, the proposed project is consistent with the historic use of Pier 9 for maritime related operations.

[15] MSJ's Territorial Ordainment Plan, adopted by the PRPB by Resolution JP-PT-18-1 of October 9, 2002, as amended, Section 8.03(a).

[16] *Id.*

[17] Joint Regulation, Section 6.1.1.4.

[18] *See*, Executive Order OE-2016-002 issued on January 26, 2006 and Planning Board Resolution JP-2015-ZPSJ issued February 6, 2016.

[19] *Id.* at Section 1.4.

6 CONCLUSIONS AND RECOMMENDATIONS

This Desirability & Convenience study was conducted to evaluate an unsolicited proposal for a megayacht marina and MRO facility in San Juan. Based on the research and analysis conducted for this study, the Team concludes that the two envisioned scope elements (megayacht marina and megayacht MRO) are perceived by market participants to be distinct and that a separate procurement of each would generate stronger market interest, with greater interest in the marina in the near-term. The Team believes the marina is financially feasible based upon its assumptions on scope of required capital investment and projected demand, though developers may propose a different scope or have different views on future megayacht demand, which will impact their assessment of financial attractiveness. Lastly, the Team's market conversations confirm that there is no compelling basis sustained by the law to enter into a Partnership Contract with the unsolicited proposal's proponent, given that no unique intellectual property, trade secrets, or licenses are being used and that there are a variety of qualified market players that could successfully execute this project, requiring a competitive process to be undertaken.

Based on the study's findings and conclusions, the Team recommends the following:

1. The megayacht marina and MRO facility should be procured separately to generate interest from qualified market players in each sector.
2. The megayacht marina should be procured first, given greater interest in its scope and its potential to make a San Juan-based MRO facility more attractive in the future.
3. PRPA/P3A should not directly enter into a Partnership Contract with the unsolicited proposal's proponent, given the lack of unique intellectual property for the project and the existence of multiple players that are well-qualified to develop the envisioned facilities
4. PRPA/P3A should consider the possibility of selecting alternative sites to Pier 9 as the initial location for a megayacht marina, allowing bidders to propose their preferred sites in an effort to improve the overall attractiveness of the project, which will impact future demand, and possibly reduce costs. For that purpose, PRPA/P3A should identify which of the following piers would potentially be available and be the best option for the megayacht marina: Pier 6, 7, 8, 9, and 10.

APPENDIX I LIST OF RELEVANT ACRONMYS

CT	Commercial-Touristic
DNER	Department of Natural and Environmental Resources
IRR	Internal rate of return
LOA	Length overall
MARAD	United States Maritime Administration
MRO	Maintenance, Repair, and Overhaul
MTA	Maritime Transport Authority (also known as "ATM" – Autoridad de Transporte Marítimo)
NMFS	National Marine Fisheries Service
OGPe	Office of Management of Permits (Oficina de Gerencia de Permisos)
P3A	Public-Private Partnerships Authority
PRPA	Puerto Rico Ports Authority
SHPO	State Historic Preservation Office
UHNWI	Ultra-high net-worth individual
USACE	United States Army Corps of Engineers
WQC	Water Quality Certificate