

ST. PETERSBURG PIER ENVIRONMENTAL CONSIDERATIONS

Prepared for:



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1. INTRODUCTION

The City of St. Petersburg tasked Moffatt & Nichol (M&N) to review Federal, State, and local environmental permitting considerations for the City of St. Petersburg Pier design competition. The concepts developed for the competition and the associated concept features may influence the environmental studies required, the duration of the environmental permitting process, and the likelihood of favorable permit determination. This report summarizes permitting agency considerations, field observations for the project site, and additional permit considerations.

2. PERMITTING AGENCIES

The federal agencies with regulatory permitting jurisdiction over the pier are the U.S. Army Corps of Engineers (USACE) and U.S. Coast Guard. The USACE will solicit consultations from the U.S. Environmental Protection Agency, National Marine Fisheries Service, U.S. Fish and Wildlife Service and the State Historic Preservation Office.

The state regulatory agencies include the Southwest Florida Water Management District (SWFWMD) for the Environmental Resource Permit (ERP) (SWFWMD and the Florida Department of Environmental Protection (FDEP) have agreed that the SWFWMD will be the lead State permitting agency for the Pier). The Florida Fish and Wildlife Conservation Commission will be consulted by SWFWMD during the ERP process. The local regulatory agency is the Pinellas County Department of Water and Navigation Authority.

Permits or authorizations will be required by all of the listed regulatory entities and can take up to a year or more for approval. The permitting process can be substantially shortened if the proposed construction activity replaces the existing facility in kind with no significant additional impacts.

The City of St. Petersburg owns the bay bottom in the vicinity of the pier. A State submerged land lease is not expected to be required.



Pre-Application Meetings

The City requested pre-application meetings with the SWFWMD and the USACE to solicit pre-permitting guidance related to the potential replacement of the pier structure. Meeting minutes and notes from the SWFWMD pre-application meeting, held on May 3rd 2011, are included in Attachment A. Meeting minutes for the USACE pre-application meeting, held on June 3rd 2011, are included as Attachment B. In addition, discussions with agencies during efforts to permit the prior concept known as “the Lens” are also included.

Based on these pre-application meetings and discussions, the factors considered to be the most critical for permitting include the following:

- Pier Footprint – location of pier and size of footprint relative to existing structure and seagrass habitat
- Structure Type – pile supported or solid filled
- Justification – is the location and structure type justified or can the structure be constructed in a way that results in less impact
- Building Size – Pinellas County code prohibits overwaters structures with walls or roofs limiting new pier building projected size to match the existing pier buildings

Both the USACE and SWFWMD stressed avoiding solid filled structures and impacts to existing seagrass and essential fish habitat (EFH) to facilitate the permitting process. However, the existing structure is considered by the agencies as an integral component of the St. Petersburg urban waterfront providing water access and entertainment for the public and, as such, the agencies permitting the pier take this into consideration when assessing alternative alignments and structures.

Pier Footprint

The habitat area circumscribed by the existing pier footprint may be considered to already be impacted environmentally. Limiting construction to within the existing footprint and utilizing similar construction methodologies as the existing pier will result in little to no additional



impacts and will present the least permitting concerns for the agencies. Conversely, concepts that impact new areas, either by altering or increasing the footprint, will require additional studies including detailed habitat surveys and alternatives analyses to minimize the environmental impacts.

Aerial photos show existing seagrass beds near the shoreline in the vicinity of the pier. Pier concepts that impact these seagrass beds will require the impacts be justified (see Justification section below) and mitigated using the Unified Mitigation Assessment Method (UMAM).

The water portion of Tampa Bay in the project vicinity is classified as impaired (<http://www.dep.state.fl.us/water/watersheds/assessment/303drule.htm>). Since the project discharges to existing impaired waters, the project must provide a net environmental improvement. Stormwater runoff from the new pier structure may require collection and treatment depending upon the pier programming and resulting pollutant loading. Conversations to date suggest that eliminating existing overwater parking and reducing the number of vehicles accessing the pier could be used to justify reduced pollutant loading and a resulting net environmental benefit.

The pier alignment should also consider navigation impacts to existing boating activities. The Vinoy Marina and St. Petersburg Municipal Marina entrances are to the north and south of the pier alignment respectively. Structures with alignments that approach these channels may require additional signage and lighting to maintain navigation safety.

Structure Type

The environmental impact of the pier depends upon the pier structure type. The existing structure is pile supported and replacement with a pier/pile supported structure rather than solid filled structure is encouraged by the agencies. Pile supported structures, while impacting the bottom in the location of the piles and creating shading, provide some habitat and allow flow through the structure.



Fill structures completely remove habitat within the structure footprint which is a significant impact that often result in secondary impacts including areas with reduced flow (stagnation) and sediment impoundment. Concepts that introduce significant filling of submerged lands, either via beach nourishment or filled structure foundations, are unlikely to be permitted. No large scale direct fill project has been completed in the Tampa Bay area, outside of port related projects, since the 1970's.

Pinellas County code (Sec 166-281) outlines nine (9) criteria for permit consideration. Code requires the permit application be denied or modified if the proposed structure violates any of these nine permit criteria. In addition, County Code Sections 166-332 through 166-334 outline design criteria for docks within the County. Projects that violate any of these criteria may be subject to a public hearing before the County Commission and a vote by the Commission to approve or deny a variance to the code.

Justification

To be permitted, proposed construction over water is required to have reduced or avoided environmental impacts where possible and to justify the need for any impacts that do occur. The applicant is typically required to demonstrate through alternatives analyses that the proposed structure results in the least possible impact area. For example, the applicant must be able to demonstrate that an alignment that impacts seagrass is the least impactful and that the impacts cannot be avoided. Where impacts cannot be avoided, mitigation is required. Economic and aesthetic benefits are typically not allowed as justification for a structure or alignment.

Boating Related Activities

The existing pier includes slips for boat docking. Concepts that increase the number of boats are likely to require a flushing study to demonstrate that the project meets the state guidelines for circulation to prevent a water quality violation. Depending on water depths, boating activities may impact bottom habitat or may require dredging. The area impacted by dredging



will require environmental survey and analysis of alternative configurations to justify the need for the dredging.

Building Size

Pinellas County code prohibits overwater structures with roofs or walls; the existing pier predates this code and is considered permitted. As such, a new pier building may project up to the same area as the existing pier building and still fall under the existing variance. A building that exceeds the projected area of the existing pier building will require a variance hearing before the County Commission.

3. EXISTING SITE CONDITIONS

Scheda Ecological Associates performed concept level environmental data collection and field observations. The analyses in this report are based on existing, publicly available maps and information and data collected during underwater field surveys in the project area for the presence/absence of submerged aquatic vegetation (SAV) and Essential Fish Habitat (EFH). The study area is located within Tampa Bay, immediately east of the St. Petersburg urban core area waterfront, in Pinellas County, Florida (Figure 1). The area reviewed for this analysis includes the area immediately around and adjacent to the existing St Petersburg Pier as well as the near shore habitat from the north shore of the entrance to the Vinoy (North) Basin to the south end of the north jetty of the Municipal Marina Central and South Basins' entrance. The future pier alignment will not be constrained by the City to coincide with the existing pier footprint and, as such, closer examination of the proposed pier footprint will be required for permitting.

The existing habitat conditions were investigated to provide site condition information for use in the preparation and evaluation of potential design alternatives for a replacement pier facility.

Data Collection

Available Geographic Information System (GIS) maps and literature specific to the project area were compiled and reviewed to determine previously documented and potential habitat for



SAV and benthic communities within the project area. Data sources used in this evaluation included:

1. Florida Fish and Wildlife Conservation Commission (FWC) Fish and Wildlife Research Institute's (FWRI) Center for Spatial Analysis Gulf Seagrass coverage maps (1987-2007);
2. Southwest Florida Water Management District's (SWFWMD) 2010 seagrass maps,
3. National Oceanic and Atmospheric Administration (NOAA) Bathymetric maps; and
4. Labins Aerial Imagery (2004).

Review of the data sources did indicate that seagrass communities were present along the shoreline both north and south of the pier approach.

Field Observation Methods

Scheda scientists conducted the SAV and EFH surveys on April 27 and May 12, 2011. Potential sub aqueous communities were identified and delineated utilizing a GPS unit with Side Imaging™ sonar and confirmed using in water diving with diving mask and snorkel and an underwater video camera. These communities were marked with temporary weighted floats, which were adjusted to the demarcated limits of the community, utilizing the direct observations obtainable via direct observation. These limits were then mapped utilizing a GPS unit. In areas where water depths and visual clarity allowed scientists to observe the seagrass from the surface, direct visual delineations of seagrass bed boundaries were made, again using the GPS unit.

The side-scan sonar was used to survey areas deeper than 10 feet for hard bottom communities, which, if found, were then investigated visually utilizing either diving or the video camera. These communities were also mapped utilizing the GPS unit.

Field Observations

Submerged Aquatic Vegetation (SAV) communities are located within the study area (Figures 2 through 5). The principal SAV beds consist of a mixture of shoal grass (*Halodule wrightii*) and



manatee grass (*Syringodium filiforme*). The seagrass appears healthy, with low to moderate epiphyte load, typical blade lengths for the species, and high relative shoot densities. The SAV communities did not extend under the pier structure due to sunlight shading.

Also present were EFH communities, principally existing as sessile communities attached to man-made material. This material consisted of the pier pilings, scattered pieces of concrete associated with the pier structure, rubble riprap placed at the base of the seawall both south of the pier and along the entrance to the Vinoy (North) Basin, and on the submerged granite boulders that make up the jetty protecting the Municipal Marina Central and South Basins' entrance (Figure 2-5). Otherwise, the sea floor within this area was comprised almost entirely of sand bottom with broken shell.

Pockets of detrital sea grasses were occasionally present, but these are detached, non-living pieces of seagrass that have floated in from other areas. Also present in these accumulations were pieces of drift algae. The algae was present on the sand of the swimming area north of the pier, along the east seawall north of the pier, and along the east toe of the north jetty of the Municipal Marina Central and South Basins' entrance. Due to the drifting nature of this species, collections are mobile and will occur in various locations due to prevailing currents and seas.

Fauna observed during the investigation episodes included striped mullet (*Mugil cephalus*), scaled sardine (*Harengula jaguana*), threadfin herring (*Opisthonema oglinum*), pinfish (*Lagodon rhomboids*), needlefish (family Belonidae), sheepshead (*Archosargus probatocephalus*), blue crab (*Callinectes sapidus*), gag grouper (*Mycteroperca microlepis*), Brown Spiny Sea Star (*Echinaster spinulosus*), sea whip (*Leptogorgia virgulata*), barnacle (*Balanus sp.*) and oyster (*Crassostrea sp.*).

The environmental evaluation of the project area revealed a total of 1.84 acres of seagrass community within the project study area. The principle seagrass beds are located within the shallower, subaqueous zones adjacent to the shoreline, both north and south of the existing pier footprint. Although the limits of the seagrass beds are in close proximity to the existing



pier, pier shading precludes the establishment of seagrass within the existing horizontal limits of the pier.

The EFH communities exist on protective riprap, scattered concrete material deposited on the bay bottom (0.45 acres), and the pier structures itself. The impact of new pier construction to the barren bay bottom, other than the seagrass communities, should result in minimal impacts to the EFH communities. EFH habitat lost during demolition of the existing pier structure will require mitigation. This habitat may be replaced by the new structure depending on structure type, size, and configuration.

4. ADDITIONAL PERMIT CONSIDERATIONS

Design alternatives should take in to account the existing SAV and EFH communities, and strive to avoid or minimize impacts. A structure that is within the existing footprint and results in less than or equal environmental impacts can potentially be permitted in less than a year. If impacts are unavoidable, strong justification of the impacts and reasoning that demonstrates minimization of these impacts in the design will need to be presented. Unavoidable impacts are typically due to human safety, stringent design requirements, or other similar reasoning. If unavoidable impacts are justified by the regulatory agencies, then appropriate mitigation will need to be offered to satisfy permitting conditions. Concepts that limit the amount of new environmental impacts may be permitted in 1 to 1-1/2 years, while concepts that impact additional areas or increase the amount of impact to an area are expected to take up to twice as long to permit due the required coordination with the federal commenting agencies (National Marine Fisheries Service, the U.S. Fish & Wildlife Service, and EPA) during the USACE permitting process as well as the State and local permitting agencies. Concepts with significant filling of submerged lands are unlikely to be permitted.

The existing Inverted Pyramid and glass elevator are supported by five (5) pile supported concrete caissons that each measure 20ft x 20ft square. Removal of these structures would likely require blasting using explosives. Due to the potential shock wave and resulting impacts to marine mammals and protected species, blasting requires extensive environmental field



investigations, documentation, and planning prior to permitting. Permitting blasting would likely add significant time to the permitting schedule. Consideration should be given to integrating the existing caissons into future pier designs.



APPENDIX A

SWFWMD PRE-APPLICATION MEETING MINUTES AND NOTES

APPENDIX B

USACE PRE-APPLICATION MEETING MINUTES

APPENDIX C

CITY OF ST. PETERSBURG SUBMERGED LAND DESCRIPTION