

Preliminary Regulatory and Engineering Overview

For the Isle of Palms Marina

Isle of Palms, South Carolina

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Introduction

As part of the comprehensive redevelopment master plan study for the Isle of Palms Marina site, Applied Technology & Management, Inc. (ATM) conducted a cursory overview of regulatory and engineering factors that may impact redevelopment on the site. This report separately addresses the analysis for the upland areas of the site and the waterside areas of the site. The following sections provide a summary of our findings.

Regulatory Factors

Upland

Zoning

The Isle of Palms Code of Ordinances currently zones the subject site as a General Commercial District (GC-1). In general, this zoning designation is consistent with the current and proposed uses of the subject site.

An important factor related to this site zoning designation is a maximum building height of 40 feet. This would impact the potential for drystack development on the site. ATM has considered this height restriction in the planning efforts. The proposed height of the drystack structure is 35 feet.

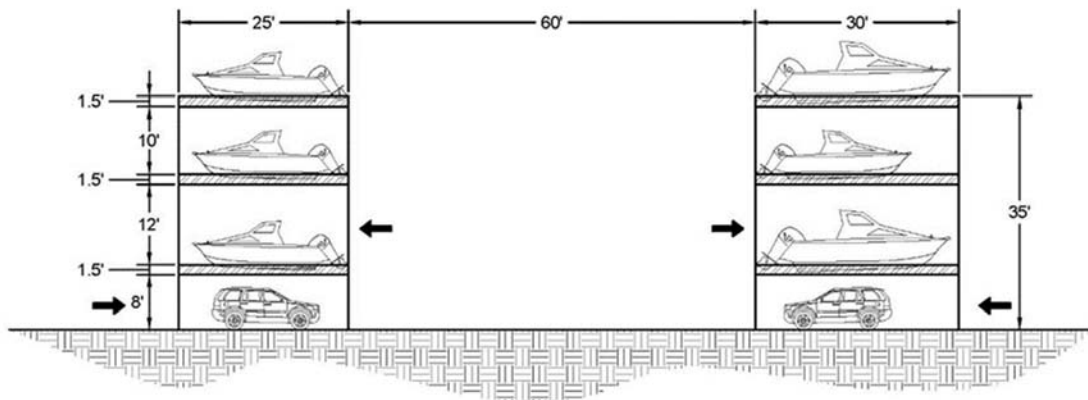


Image 1 – Potential “park-under” drystack arrangement.

Other zoning factors related to site redevelopment include consideration of appropriate buffers and setbacks, including a 20-ft. setback from the OCRM critical line for “all impervious driveway, parking pad, or other paved surface.” Also, appropriate buffers will have to be maintained and will vary based on abutting property use (e.g. residential vs. commercial).

An ancillary, but nevertheless important, requirement of development in GC-1 area is that “refuse containers shall be screened from public view with materials that are compatible with principal structure or landscaping.” Although refuse containers are not screened currently at the onsite restaurant, screening is considered in the redevelopment plans.

Roadway, parking, and turning radii have been generally considered in the development of the conceptual redevelopment plans and can be verified during plan refinement/engineering design efforts. Parking requirements have been discussed extensively in a previous portion of ATM’s overall site study.

Fuel Infrastructure

The upland portion of the site includes the fuel storage tanks that serve not only the upland fuel dispenser, but the marina fuel dispensers as well. ATM's Condition Assessment for the site identified that the existing tanks are older, single-wall units that are reported to frequently accumulate sludge. These tanks are nearing the end of their service lives.

Through our research and information provided by the City, ATM understands that new double-walled tanks or a substantially more robust monitoring program for the existing single-wall tanks will be required by the end of 2018. Since the proposed redevelopment plans indicate that the upland fueling area should be relocated, ATM suggests that this work be conducted prior to the end of 2018 to comply with the forthcoming regulations.

Marine

ATM reviewed the current marine regulatory restrictions at the subject site with representatives from the U.S. Army Corps of Engineers (USACE) and the South Carolina Department of Health and Environmental Control-Ocean and Coastal Resource Management (OCRM). The following sections provide a brief summary of the discussions that focused on key restrictions to marina/dock redevelopment. Intended site (dock/marina) uses are anticipated to remain similar to the existing uses.

Allowable Limits of Dock Extending into Morgan Creek and AIWW

USACE

ATM spoke with Scott Glass, Chief of Navigation at the USACE's Charleston District regarding dock encroachment into the Atlantic Intracoastal Waterway (AIWW). Mr. Glass indicated that USACE is primarily concerned with navigation in the AIWW because it is a federally maintained waterway that is used for commercial transit. In a marina redevelopment permit application, USACE's focus would remain on the AIWW and only secondarily on Morgan Creek [not federally maintained, limited commercial traffic (Deweese Ferry)]. The USACE provided the following Google Earth file showing dock setbacks for AIWW based on the latest information Mr. Glass had available.



Based on ATM's review of the provided file and discussion with Mr. Glass, it appears:

- The mooring piles for the Intracoastal Dock are directly on the setback line
- The marina docks on Morgan Creek that extend out to the AIWW terminate at the setback line
- The Watersports Dock appears to be partially over the line, with piles that come through the center of the floating docks, directly on the setback line
- The JetDocks for the JetSkis at the Watersports Dock appear to encroach into the setback, though it is noted that the provided image is for reference only and does not represent a survey-quality document.

Mr. Glass suggested that any marina or dock redevelopment on the AIWW stay within the indicated setback line, but that variances to extend beyond the line are an option. However, such variances "are very tough and not guaranteed," according to Mr. Glass.

OCRM

ATM spoke with Mr. Bill Eiser of OCRM about potential marina redevelopment at the subject site. Mr. Eiser referred ATM to the South Carolina Code of Regulations that apply to dock and marina development.

Specifically, Mr. Eiser said that no marine or dock development should restrict reasonable navigation or public use of State lands or waters.

This is clearly less specific than the feedback received from the USACE. Mr. Eiser emphasized that there is no defined offset line for dock development on the AIWW or Morgan Creek from OCRM's perspective, but any redevelopment or additional encroachment would have to be justified. He suggested that redevelopment within the existing marina footprint would be "easier" from a regulatory review perspective, but that he felt an argument could be made for extending docks further into Morgan Creek, if necessary.

In addition to speaking with Mr. Eiser about dock development at the subject site, ATM also discussed potential improvements to the drainage ditch adjacent to 41st Avenue at the subject site. Specifically, these discussions revolved around filling, piping, or otherwise impacting the ditch for road or parking improvements.

Mr. Eiser indicated that the foremost concern about potential impacts to this ditch was to determine if it was considered "critical area." This would be determined through a critical area/line determination, which would also be needed for any marina/dock permit applications if no current (less than 5 years old) such survey of the site were available.

Mr. Eiser again referred ATM to the State Code of Regulations and suggested that if the ditch is critical area, then any proposal to impact it would have to argue a legitimate public benefit/interest in the project. Further, some form of mitigation would likely be required.

Lastly, Mr. Eiser indicated that redevelopment of the marina site and a permit application would have to include a stormwater management plan for the subject site.

Engineering Factors

ATM conducted a rudimentary overview of the feasibility of site redevelopment from an engineering perspective. In general, since the proposed site redevelopment uses are largely consistent with the existing uses on the site, it is anticipated that the implementation of the proposed master plan elements will be feasible from an engineering perspective. A detailed engineering analysis is beyond the scope of this contracted assignment, but should be conducted in conjunction with redevelopment design work.

Upland

General upland engineering considerations include:

- The restaurant and marina store buildings are to remain in the current master plan alternatives. Site improvements should consider the placement and potential impacts to these buildings.
- In the current master plan alternatives, the upland fuel dispenser and underground storage tanks are relocated. Due to the age of this infrastructure and pending regulatory requirements for fuel storage and distribution, the relocation of the fuel infrastructure, including lines to the marina system (which shares storage tanks) should be prioritized.
- The interior roadways on the subject site should be paved and appropriately striped to help direct patrons through the site. Appropriate traffic and parking signage should be provided.
- Parking areas should be clearly marked, but may be gravel instead of asphalt to help reduce overall project costs and facilitate stormwater management on the site.
- The development of drystack storage on the subject site should carefully consider geotechnical conditions and the design of the existing seawall at the proposed launch area. A relieving platform or other support to the seawall may be required to properly accommodate forklift/vessel loads.
- Stormwater management must be carefully studied as the project moves forward to ensure functional, sustainable redevelopment at the subject site.
- Impacts to site electrical distribution, sewage/lift station, water distribution and other utilities should be carefully studied and addressed during redevelopment design work.
- Access compliant with the Americans with Disabilities Act (ADA) will have to be carefully implemented throughout the site.

Marine

General marine engineering considerations related to site redevelopment include:

- As contemplated in the Limited Conditions Assessment that ATM previously submitted, full replacement of the floating dock system on Morgan Creek is recommended and included in site redevelopment plans. In general, the larger slips associated with the docks along Morgan Creek

have been shifted out/waterward slightly. This shift may reduce the need for maintenance dredging on the interior/shore-side of the marina.

- The Intracoastal Dock is shown as relocated in redevelopment plans, with finger piers and mooring piles removed in one scenario. To realize this relocation, some dock modification will be required. Pilings will have to be removed and re-driven. Existing piles may be re-used pending condition review, geotechnical, and water depths. The entire Intracoastal Dock should be maintained (bolts tightened, replaced as needed, etc.) during this process.
- The Watersports Dock remains in the proposed redevelopment plans. No improvements are recommended at this time.
- New utilities on the floating docks along Morgan Creek are contemplated as per the Limited Conditions Assessment.
 - New utilities (lighting, shore power, potable water) may also be considered on the Intracoastal Dock if this structure is to be used to accommodate overnight berthing.
- The redevelopment master plan includes an updated boat ramp approach and a reduction in ramp launch lanes from three to two. Along with this reduction is the incorporation of new, larger boat ramp staging docks that will “ground out” along the slope of the ramp. These staging docks will have provided dedicated, ADA access for boat ramp users.
- Shoreline stabilization shall remain, but will be evaluated during engineering design to ensure it can properly accommodate newly proposed loads (gangways, drystack launch/relieving platform, etc.).
- ADA-compliant access will be provided throughout the redeveloped marina facility.



Example of Ground-Out Floating Dock

Summary/Conclusions

Based on the proposed redevelopment master plan concepts and ATM's review of the subject site, no apparent regulatory or engineering red flags exist that will prohibit or substantially hinder redevelopment at the subject site. There are, however, a myriad of factors that will have to be considered during the final planning and design process to ensure compliance with local, state, and federal codes and guidelines.