

MEMORANDUM

TO: John Taylor, Planning Manager
Town of Kiawah Island, South Carolina

FROM: Lucas Hernandez, Project Environmental Scientist
Weston & Sampson Engineers, Inc.

DATE: January 5, 2024

SUBJECT: Peer Review: West End at Beachwalker (Parcel ID: 207-05-00-117; 207-05-00-116)
Application for Multifamily Residential Development

Introduction

The Town of Kiawah Island (the Town) requested Weston & Sampson Engineers, Inc. (Weston & Sampson) to provide a peer review of the Multifamily Residential Development Plans for the proposed developments of the West End at Beachwalker and Ocean Pines. The project properties are both located within the R-3/Commercial Zoning District. The West End at Beachwalker property consists of approximately 7.6 acres between two existing parcels (TMS# 207-05-00-116 and 207-05-00-117) of which 6.4 acres will be developed. The Ocean Pines property consists of approximately 7 acres which will be developed on Beachwalker East Parcel 13B - Lot 1 (TMS#- 207-05-00-118). The proposed work will take place in the FEMA F.I.R.M Zone AE for both site locations.

The applicant proposes to construct 12 multi-family residential buildings with access driveways, supporting utilities, and landscaped grounds for the West End at Beachwalker Development. The West End at Beachwalker has a total of 120 proposed dwelling units while Ocean Pines will be limited to 84 dwelling units.

This memorandum summarizes the results of Weston & Sampson's peer review of site plan application documents. We prepared this memo pursuant to our October 13, 2023, peer review proposal and addresses general bylaw compliance, site plan layout, constructability, stormwater, and traffic circulation, which is discussed under general comments. We reviewed the following documents submitted with the common driveway application as summarized below:

- **West End at Beachwalker**
 - KICA – KRA Memorandum of Understanding (Executed 11/20/2018)
 - Beachwalker Multi-Family Landscape Improvement Plans (10/06/2023)
 - Revised Construction Plans (10/10/23)
 - Town of Kiawah Island Site Plan Review Application Comments #SPR23-000003 (09/15/2023)

- Thomas & Hutton Stormwater Management Report (June 2023)
- West End at Beachwalker Letter of Intent (07/06/2023)
- Site Development Plans (07/07/2023)
- West End at Beachwalker C-SWPP (07/05/2023)
- Charleston County Stormwater Program Permitting Standards and Procedures Manual (May 2017)
- Town of Kiawah Island, SC Code of Ordinances – Chapter 12 Land Use Planning and Zoning
- Revised ARDA Rezoning Recommendations Draft (10/19/2023)
- 2013 Amended Restated Development Agreement
- Town of Kiawah Island Future Land Use Map
- Town of Kiawah Island Comprehensive Plan 2015 (2019 Amendment)
- Supporting Documentation:
 - St. Johns Fire District Coordination Letter (10/08/2023)
 - Carolina Waste & Recycling, LLC Coordination Letter (08/23/2023)
 - Kiawah Island Utility, Inc. Coordination Letter (10/08/2023)
 - United States Postal Service Coordination Letter (10/03/2023)

Overview

Weston & Sampson has conducted the review of this application for compliance with the Town of Kiawah Island Land Use Planning and Zoning Ordinance (Article 12) along with Charleston County's Stormwater Program Permitting Standards and Procedures Manual as a supplement to the Town's Stormwater Ordinances (Article 12 Sec. 12-501 through Sec. 12-510). The Charleston County Stormwater Program's Permitting Standards and Procedures Manual was utilized in this review due to its more rigorous requirements as compared to the Town's Stormwater Ordinances and the SC Department of Health and Environmental Control's Standards for Stormwater Management and Sediment Reduction. The Charleston County's Stormwater Program Permitting Standards and Procedures Manual is the most applicable tool to provide as detailed of a review as possible for this project. This review is not a review of applicable building codes. We have determined that the following recommendations would need to be met for the applicant to meet the requirements of Article 12 of the Town's Municipal Code of Ordinances and the Charleston County Stormwater Permitting Standards and Procedures Manual.

Peer Review

As part of the peer review process, Weston & Sampson conducted a site visit to the location of the proposed development on Beachwalker Drive along with the Town of Kiawah Island's Planning Manager. During this site visit, our team took the time to review the plans with Town staff and walk the site to better understand:

- Potential land alterations
- Existing conditions at the proposed entrance to the development
- Alterations to natural drainage patterns
- Proposed drainage tie-ins to existing infrastructure

At this site location, we observed trees designated for removal along with rough outlines of the locations for the structures on the proposed (Figure 1). This site had the presence of at least one depressional area where runoff gathered, which we understand will be preserved according to the plans.



Figure 1. Maritime Forest Currently Located at Site of Proposed Development

Additionally, we investigated the proposed drainage at the site to determine how it will impact the existing drainage system. According to the most recent set of plans, stormwater will not be directly connected to the existing pipe network along Beachwalker Drive. The proposed outfall for the development will be routed to Pond 001 behind the Kiawah Island Community Association's Commercial Pass Office, before entering the tidal creek located between Sunlet Bend and Pepper Vine St.

Weston & Sampson provided peer review of the applicant's submission and conformance to the Town of Kiawah Island's Comprehensive Plan, Land Use Planning and Zoning Ordinance, and Executed Development Agreements with the Kiawah Island Golf Resort and Kiawah Partners. The format of each reviewed item is the *italicized applicable standard and enforceable policy (paraphrased)*, our evaluation and analysis, and an underlined request or action for the applicant. Our peer review scope provided on October 13, 2023, limits our review to the standards cited above.

General Bylaw Compliance

Weston & Sampson reviewed the applicant's submission for compliance with general Town bylaws and policies. We found no concerns related to the Town's general bylaws, except as noted below. We recommend that the engineer address these items as noted.

Health and Safety (Code of Ordinance, Article 8)

In general, Article 8 of the Code of Ordinances requires participation in solid waste management. The West End at Beachwalker proposes dumpsters and, apparently, solid waste collection. The proposal was approved by the Town; therefore, we surmise that the proposed developments are in accordance with Article 8. No recommended change.

Use of Sewers, Public Utilities (Code of Ordinances, Article 10)

In general, Article 10 of the Code of Ordinances requires use of public sewers (i.e., the sanitary sewer system or approved onsite wastewater management systems). The West End at Beachwalker proposes connection to the sanitary wastewater collection system. The proposal was approved by the Town; therefore, we surmise that the proposed developments are in accordance with Article 10. No recommended change.

Parking Prohibitions, Traffic Control (Code of Ordinances, Article 13)

In general, Article 13 of the Code of Ordinances prohibits parking on certain public roads. The West End at Beachwalker proposes parking at the ground level of each proposed residential building and does not propose parking on public roads. The proposed off-street parking appears to be adequate; therefore, we find the proposed development to be in accordance with Article 13. No recommended change.

Flood Damage Prevention (Code of Ordinances, Article 14, Chapter 1)

In general, Article 14 of the Code of Ordinances requires developments to avoid potential damage due to flooding. The West End at Beachwalker proposes parking at the ground level and elevated living space. No living space is sited at the elevation of flood waters; therefore, we find the proposed developments to be in accordance with Article 14. We would note, however, that some of the parking proposed at the West End at Beachwalker is within the AE Zone, but this does not appear to be conflict with local enforceable policy. No recommended change.

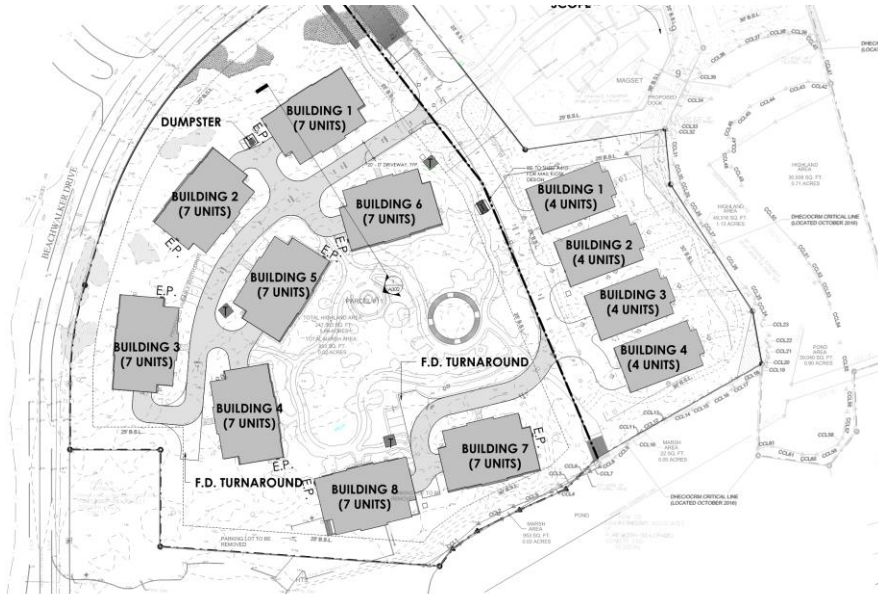
Zoning—Residential Uses (Zone R3/C)

Based on a review of the Town of Kiawah Island Zoning Map (October 5, 2010, as amended), the proposed development of the West End at Beachwalker is sited in the Residential R3/C Zone in Beachwalker Park area. Residential uses are allowed by right in accordance with Exhibit 13.1 of the Development Agreement between the Town of Kiawah Island and Kiawah Resort Associates. This includes certain multi-family units. Regarding multi-family units, Item 1(a) “Residential Uses, Permitted Uses” on page 6 of the development agreement specifically notes that R-3 may include “permitted by type[s] of residential development listed in Exhibit 13.1 with up to seven (7) dwellings per building...not to exceed twelve (12) dwelling units per acre.” The Third Amendment to the Development Agreement, which superseded this document, states on page 7 (item 32) that the maximum number of dwelling units allowable shall not exceed 100. No recommended change.

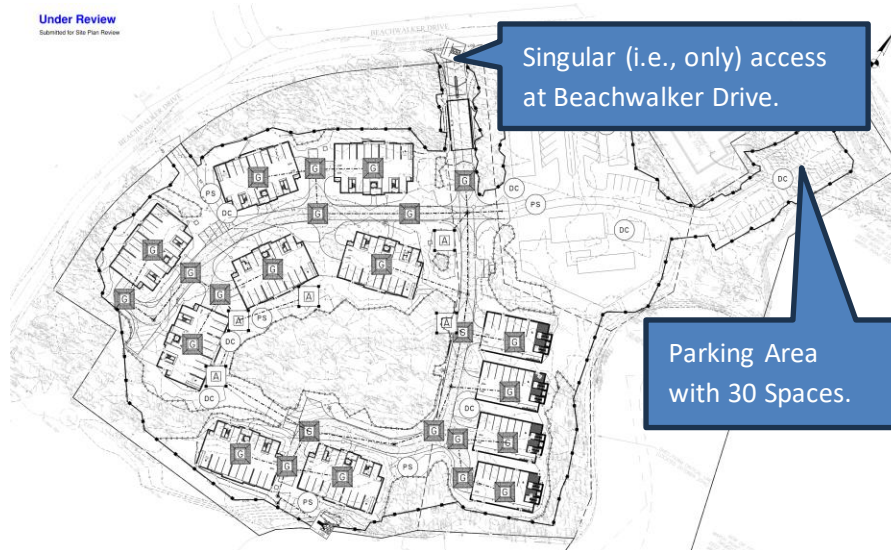
The proposal for the West End at Beachwalker appears to fully comply with Item 1(a).

The table below presents a summary of each proposed development with development density dwelling units per acre and number of units per building.

| Development Name | Density (Dwelling Units/Acre) | Units per Building |
|-------------------------|---------------------------------------|--|
| West End at Beachwalker | 9.47 units/acres (72 units/7.6 acres) | Buildings 1 – 8, 7 units each Buildings 1 – 4, 4 units each |
| | | |



West End at Beachwalker (Source: Site Development of the West End at Beachwalker, Sheet A100)



West End at Beachwalker (Source: Site Development of the West End at Beachwalker, Sheet EC3.1)

Compliance with the Charleston County Stormwater Program Permitting Standards and Procedures Manual

Weston & Sampson reviewed the applicant's proposed stormwater management design for compliance with the Charleston County Stormwater Program Permitting Standards and Procedures Manual. We recommend that the engineer address these items as noted.

West End at Beachwalker Development

3.3 Hydrologic Computation Methods (3.3.1 Inputs)

Design storm precipitation data from the South Carolina State Climatology Office is provided for use on projects in Charleston County, however the applicant has used precipitation data obtained from the South Carolina DHEC Stormwater Management BMP Handbook in the supplied stormwater calculations, which utilize lower rainfall amounts during the more frequent 2-year and 10-year storm events. It is recommended that the applicant provide updated stormwater calculations utilizing the precipitation data provided by the State Climatology Office for Charleston County to demonstrate how the stormwater management system functions during these more frequently occurring storm events.

3.4 Water Quantity / Quality Control Standards (3.4.3(3.) Water Quality Design Standards)

All BMPs must have a maintenance plan depicting routine maintenance schedules and activities. It is recommended that the applicant demonstrate compliance with this requirement.

3.4 Water Quantity / Quality Control Standards (3.4.11 Stormwater Manufactured Treatment Devices)

Manufactured treatment devices listed on the South Carolina DOT Qualified Products List 78 are the only approved MTDs allowed unless approved by the Public Works Director. The proposed Baysaver 3K Bay separator is not listed on the Qualified Products List 78. We have no engineering objections to the use of this water quality device; however, it is recommended that the applicant seek written approval from the Public Works Director for the use of this proposed Type 1 MTD.

3.4 Water Quantity / Quality Control Standards (3.4.11 Stormwater Manufactured Treatment Devices)

Tailwater conditions must be accounted for in the MTD design however it is not clear if the outlet pipe from the MTD is submerged. It is recommended that the applicant confirm the water surface elevation of the receiving water body and that the outlet pipe will not be submerged.

3.5 Stormwater Drainage System Design Standards (3.5.1(c.) Storm Drain Pipes)

The proposed storm drain pipe design contains very shallow pipe slopes, ranging from 0.10% - 0.20% slopes. Unless specifically approved in writing by the Public Works Director, the minimum allowable pipe slope for storm drainage pipe shall be 0.40% or be able to provide a minimum flow velocity of 3 feet per second at all flow levels. It is recommended that the applicant either provide written approval from the Town of Kiawah Island Public Works Director, provide flow velocity calculations which demonstrate a minimum flow rate of 3 feet per second at all flow levels, or revise the design to provide adequate pipe slopes.

3.5 Stormwater Drainage System Design Standards (3.5.1(f.) Storm Drain Pipes)

A minimum of 1-foot of cover shall be required for all RCP storm drainage pipes under unpaved roads in which no roadway or other structure is to cover the pipe or as otherwise stated by the pipe manufacturer. For pipes under any paved surface, the minimum cover is 6-inches, excluding base and surface course depth. It is recommended that the applicant confirm adequate pipe cover is maintained over all proposed RCP pipes or request written approval from the Public Works Director for the use of RCP Class IV or Class V pipe with reduced pipe cover requirements.

3.5 Stormwater Drainage System Design Standards (3.5.1(l.) Storm Drain Pipes)

Hydraulic grade line and head loss calculations shall be performed for all system connections. It is recommended that the applicant provide these calculations for the proposed system.

3.5 Stormwater Drainage System Design Standards (3.5.1(m.) Storm Drain Pipes)

Per section 3.2.13(a.), the appropriate design storm for the storm drain system is the 25-year storm event. It is recommended that the applicant provide calculations to demonstrate that the storm drain system was sized using the appropriate storm event.

3.5 Stormwater Drainage System Design Standards (3.5.5(a.) Storm Drain Pipes)

When a catch basin or junction box exceeds 4-feet in depth, rungs or steps shall be provided for ascent and descent. It is recommended that the applicant confirm the proposed structures meet this requirement and revise the construction details to include this information.

3.5 Stormwater Drainage System Design Standards (3.5.5(c.) Storm Drain Pipes)

All pipes entering or leaving a catch basin, yard inlet, manhole or junction box shall not protrude more than 4-inches into the box. It is recommended that the applicant revise the construction details to include this information.

3.5 Stormwater Drainage System Design Standards (3.5.5(p.) Storm Drain Pipes)

For very flat flow lines, flow velocities shall increase progressively throughout the system. Upper reaches of the pipe system may have flatter slopes than the lower end of the system. The proposed design is such that upper reaches possess steeper slopes than the lower pipe reaches. It is recommended that the applicant revise the design to provide progressively steeper slopes throughout the pipe system.

3.5 Stormwater Drainage System Design Standards (3.5.4 Energy Dissipation)

All outlets shall be sufficiently stabilized, and calculations shall be provided justifying the design and material proposed. Additionally, level spreaders, plunge pools, etc. shall be properly designed and installed at the proposed outlets. No outlet stabilization is proposed at the system outlet downstream of the water quality device. It is recommended that the applicant provide calculations justifying the design or revise the design to provide an energy dissipation device to prevent scour and erosion at the pipe outlet.

3.7 Erosion Prevention and Sediment Control Standards (3.7.2.7(a.) Design Standards)

Stabilized construction entrances are to be located at all points of ingress/egress to the construction site. There are two stabilized construction entrances proposed along Beachwalker Drive on the northeast portion of the project site, while there appears to be a potential third point of access located further to the west for proposed utility work. It is recommended that the applicant confirm that no ingress/egress to the construction site will be provided at this third location and that controls will be put in place during construction to ensure this location will not be used for site access.