TIA update requested per 7/12 Planning Commission conditions

BIHL ENGINEERING

**Memorandum**

To: Todd Richardson, Synchronicity

From: Jennifer T. Bihl, PE, PTOE, $RSP_{2I}$

Date: July 28, 2023

Re: Andell Peak Occupancy Scenario Transportation Review

This memo provides additional information regarding the expected peak occupancy for the Andell site as requested by planning commission. For the purposes of this peak occupancy usage analysis, a combination of the peak period of generator and the peak period of the adjacent roadway network was assumed. It should be noted that in actual practice, these events will not occur at the same time: the peak period of generator will likely occur on a Saturday during an event, while the peak period of the adjacent roadway network is observed to be in the weekday PM peak period.

The April 2023 traffic study for the project projects 15 AM peak hour weekday trips (14 entering, 1 exiting), 34 PM peak hour weekday trips (22 entering, 12 exiting) and 46 Saturday peak hour trips (26 entering, 20 exiting).

*Development of Peak Occupancy Trip Generation*

There are three main facilities on site that will generate trips: the pool deck, yacht club, and boat house. Based on discussions with the operator, these facilities are expected to have different peak operating hours and are not expected to peak at the same time. The following are the estimated hours of operation studied in this peak occupancy analysis:

- Pool deck: 10 AM – 4 PM
- Yacht club: 11 AM – 10 PM
- Boat house: 4 PM – 11 PM (when in use)

Based on discussions with the development team on the likely operations of the site and the expected distribution of traffic in and out of the site during the day, it was estimated that in a peak occupancy scenario there would be 80 trips (53 entering, 27 exiting). The cottages are expected to be internally captured during the peak occupancy scenario and are not expected to have any off-site traffic impacts.

*Peak Occupancy Traffic Analysis Review*

The study area intersections were reviewed for this peak occupancy scenario.

Based on planning commission comments, a southbound right-turn lane is planned (pending SCDOT approval) at the intersection of Betsy Kerrison Parkway at Site Driveway #1/Kiawah Island Municipal Driveway. This turn lane is not necessary based on the projected traffic volumes even in the projected peak occupancy scenario but will be requested from SCDOT, who will make the ultimate decision on its approval.

Study area intersections were reviewed for the peak occupancy scenario. In comparison with the typical scenarios previously studied, this peak occupancy scenario results in an increase of ten vehicles or less over the peak hour on most of the affected traffic movements. Many of these increases are five vehicles or less over the hour. The movements with the highest increase in hourly trips are the to/from off-island trips at Site Driveway #1. These trips are expected to be employees, members, guests of members, and event participants.

In the peak occupancy scenario, the study area intersections were projected to only have minor increases in average delay per vehicle, with all intersections continuing to operate at their previously projected level of service or better. Additionally, with the installation of the southbound right-turn lane at the Site Driveway #1/Kiawah Island Municipal Driveway at Betsy Kerrison Parkway, the intersection is projected to improve from previous analyses.