

## MEMORANDUM

To: Mr. Edward Kemp, P.E., P.S.  
City of Starkville

From: Douglas Swett, P.E.  
Kimley-Horn and Associates, Inc.

Date: June 12, 2019

Subject: Traffic Impact Study Review – Valentine Property in Starkville, MS

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- ❖ S. Montgomery St Right-in/Right-out Driveway
  - The proposed concrete median has been modified to more effectively restrict left turn movements into and out of the site. An exhibit detailing the modified concrete median, “Road C’ Island Exhibit,” is attached. The potential slotted curb on S. Montgomery St is also shown in the exhibit. Although the slotted curb would prevent left turn movements at the proposed development driveway, it would negatively impact two residential driveways by restricting access into and out of those residential properties. The locations of the residential driveways are shown in the exhibit in relation to the slotted curb.
  
- ❖ S. Montgomery St Emergency Access Driveway
  - The southern-most road of the development will not be connected to S Montgomery St. The road will terminate with a curb and low vegetation to restrict non-emergency vehicular access, but grassy pavers will be provided from the termination of the road to the existing curb along South Montgomery to allow emergency vehicle access. Due to the geometry of the site, emergency vehicle access must be maintained at the end of this road. Bollards would restrict this emergency vehicle access.
  
- ❖ Connection to adjacent Property to the West
  - The lot to the west is not owned by the developer of the Valentine property. Currently, there are no plans to develop it. The cross-access driveway shown in the preliminary plat to the west is to provide future connectivity.
  
- ❖ Balancing of Traffic Counts
  - Three traffic counts at intersections along S Montgomery St were conducted for this study. Between each of these intersections, there are very few access points where traffic could enter or exit the corridor. However, the traffic counts that were collected showed high variations in total volume between intersections for both peak hours. Therefore, the volumes were balanced between intersections to provide a more accurate representation of the traffic flow on S Montgomery St. This was done by determining the intersection that had the highest

total volume from the traffic counts for each peak hour. Then, the additional volume at that intersection was accounted for by distributing it throughout the rest of the road network to increase the traffic at the other intersections. This ensured that the traffic on the road network matched the highest counted overall intersection volume. By basing the study on these balanced traffic counts, the analysis took a conservative approach on the existing conditions of the road network and resulted in a worst-case scenario analysis of the study intersections in the build-out condition.

This approach was agreed to be conservative during the discussion between Kimley-Horn, the City of Starkville, and the third-party reviewer. Based on the methodology of comparing existing, future no-build, and build scenarios, the variations in traffic counts and volume balancing would not impact the recommendations in the study for mitigating the effects of the traffic generated by the proposed development.

❖ Growth Rate

- The growth rate used to forecast traffic volumes for the build-out year, 2024, was 3% per year. This growth rate was not based on population data but on traffic count data within the boundaries of this study. The growth rate was estimated using turning movement counts collected at the intersection of S Montgomery St and Academy Rd in 2011 for a previous study and counts collected at the same intersection in 2019 for this study. This growth rate is a conservatively high representation of the increase in traffic that this corridor will experience in the next few years.

❖ Sight Distance Calculations for S Montgomery St Driveway

- A centerline profile of S Montgomery St was obtained from a registered land surveyor. This profile was then used to determine the location of the crest of the hill and the grade of the road as it approached the development driveway. The guidelines of the ASSHTO Green Book, *A Policy on Geometric Design of Highways and Streets, 6<sup>th</sup> Edition*, were then used to determine the sight distance available at the development driveway utilizing the data obtained from the centerline profile survey.

❖ Lynn Ln Site Driveway and Queue Lengths at the intersection of S Montgomery St and Lynn Ln

- The proposed centerline of the Lynn Ln driveway into the development, as shown in the preliminary plat, is approximately 900 feet from the stop bar of the eastbound approach of S Montgomery St at Lynn Ln. Based on the operational analysis of the study, the eastbound queue length does not exceed 558 feet in any of the analysis scenarios. Therefore, the queue lengths along Lynn Ln will not affect site traffic entering or exiting the development.

❖ Restriping the intersection of S Montgomery St and Lynn Ln

- After discussion with the City of Starkville and the third-party reviewer, it was confirmed that there are existing queueing issues at the intersection. The operational analysis confirmed that the queueing issues will continue and will worsen in the future with or without the development. In discussions with the City of Starkville prior to the study being performed, it

was agreed that the developer would only be responsible for mitigating impacts that were directly related to the traffic generated by the development. It was agreed upon by all reviewing parties that addressing these queueing issues would not be the responsibility of the developer since they are not created by the development traffic. The recommendations within the study will mitigate the impacts directly related to the development traffic.

❖ Pedestrian Accommodations

- The City of Starkville communicated that pedestrian accommodations are not a concern of this development, particularly at the intersection of S Montgomery St and Lynn Ln.

