

**MEMORANDUM**

To: Melissa Venable  
Land Planning Solutions

From: Karen McPherson, PE  
McPherson Consulting

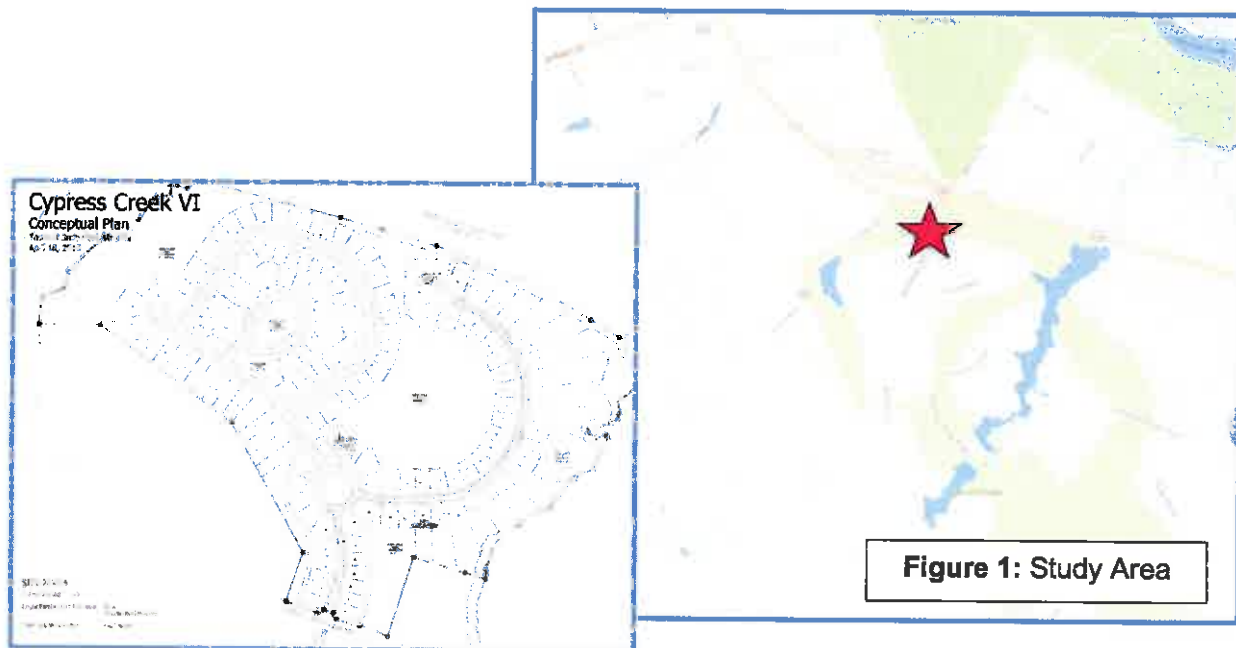
Date: November 29, 2016

Subject: Cypress Creek IV Traffic Memorandum



The Cypress Creek development located in the Town of Smithfield along Fairway Drive in the vicinity of the State Route 10 Bypass as shown in **Figure 1**. The entire development was approved with a single access point along Fairway Drive. This traffic analysis is being prepared for Cypress Creek Phase IV, which will have an internal street connection to Cypress Creek Parkway. This final phase of development will consist of 62 single family units and 92 age restricted units.

McPherson Consulting, LLC (MC) was retained to perform a traffic analysis for the proposed development. This technical memorandum has been prepared for submittal to the Town of Smithfield to evaluate the proposed land uses as compared to the by-right zoning and identify development impacts, if any, on the local street network.



The entire development was previously approved with one external access point at the intersection of Cypress Creek Parkway and Fairway Drive. Given the location of this final phase of development, one internal connection is proposed to Cypress Creek Parkway at the intersection with St. Andrews.

Traffic generated by the proposed development was determined using trip generation methodology contained in the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 9<sup>th</sup> Edition, 2012*. The Phase IV development proposes to change the current land use from 85 single family homes to 62 single family homes and 92 age restricted homes. **Tables 1 and 2** show the current land use and proposed land use trip generation, respectively.

**Table 1: Current Trip Generation**

Land Use (code)	Units	AM Peak Hour		PM Peak Hour		Daily	
		In	Out	In	Out	In	Out
Single Family (210)	85	16	48	54	31	405	404
<b>Total</b>		64		85		809	

**Table 1** indicates that the current development will result in 64 and 85 trips during the AM and PM peak hours respectively, and 809 trips daily.

**Table 2: Proposed Trip Generation**

Land Use (code)	Units	AM Peak Hour		PM Peak Hour		Daily	
		In	Out	In	Out	In	Out
Single Family (210)	62	12	35	39	23	295	295
Senior Adult Housing (252)	92	6	12	12	11	158	158
<b>Total</b>		65		85		906	

**Table 2** indicates that the proposed land use change would result in an increase of *one* trip during the AM peak hour, from 64 trips to 65 trips, and there will be no change in the total number of trips, 85, during the PM peak hour. Daily trips are estimated to increase by 97 trips, from 809 to 906 trips over the course of the day but are anticipated to occur during non-peak periods.

After a review of the current and proposed development, and potential trip generation, the proposed land use change will have no impact to the roadway during traditional commuting times, and will minimally increase the traffic volume during the off peak hours. The existing laneage will adequately accommodate the proposed development traffic and no additional improvements are required.