

To: Glenn Cannon, P.E.
Director of Technical Services
Cape Cod Commission

Date: July 11, 2013

From: Joanna Kavalaris, P.E.

Proj. No. 49675.00

Re: Atkins Road Subdivision – Traffic Study Parameters

On June 12, 2013, BSC Group (BSC) met with several members of the Cape Cod Commission (CCC) to review the necessary guidelines for the proposed residential subdivision project to be located on Atkins Road off of Route 6A (Cranberry Highway) in Sandwich, MA. Based on this meeting, it was the understanding of BSC that we present the parameters of the traffic study prior to beginning work. The intent of the memorandum is to present the parameters in order to receive concurrence from the CCC and move forward with the traffic study.

Trip Generation

The proposed subdivision will consist of 23 units of single-family housing. Trips for this project will be generated using Land Use Code 210 – Single-Family Detached Housing from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition (2012). Trips were generated using equations for all time periods, and using the peak hour of generator trip generation for the peak times. Table 1 presents the anticipated trip generation volumes based on the above criteria.

Table 1: Trip Generation

	<u>Weekday</u>	<u>Weekday Morning</u>			<u>Weekday Afternoon</u>			<u>Saturday</u>	<u>Saturday Midday</u>		
	<u>Daily</u>	<u>Peak Hour</u>			<u>Peak Hour</u>			<u>Daily</u>	<u>Peak Hour</u>		
		<u>Enter</u>	<u>Exit</u>	<u>Total</u>	<u>Enter</u>	<u>Exit</u>	<u>Total</u>		<u>Enter</u>	<u>Exit</u>	<u>Total</u>
23 Units of Single-Family Housing*	272	8	20	28	19	10	29	259	16	13	29

*based on ITE LUC 210 – Single Family Detached Housing

Trip Distribution

BSC reviewed available Journey to Work data from the U.S. Census Bureau for the latest available year, 2000. Based on these data, appropriate travel patterns were applied to the commuting volumes to determine whether vehicles commuting to/from the project site would travel on Route 6A (Cranberry Highway) to/from the East or the West. BSC determined that for this project, approximately 25% of vehicles would travel to/from the East and 75% of vehicles would travel to/from the West. This would result in 21 new vehicle trips during the weekday morning peak hour and 22 new vehicle trips during the weekday afternoon and Saturday midday peak hour traveling through the intersection of Route 6A (Cranberry Highway) and Quaker Meetinghouse Road.

Preliminary Safety Review

Crash data for the Town of Sandwich were provided by the Massachusetts Department of Transportation (MassDOT) and were reviewed for the most recent three years on record (2008 – 2010). Based on this data, one crash occurred at the intersection of Route 6A (Cranberry Highway) / Atkins Road and eleven (11) crashes occurred at the intersection of Route 6A (Cranberry Highway) / Quaker Meetinghouse Road over the past three years.

Study Area

As BSC understands, an intersection should be included as part of the study area if (a) the number of new trips generated by the project exceeds 25 during any peak hour and (b) an average of three or more crashes have occurred at the intersection per year.

Based on these guidelines, BSC believes that the study area for this project shall include only the intersection of Route 6A (Cranberry Highway) at Atkins Road. BSC requests feedback from the CCC on the assumptions made for trip distribution patterns and the selection of study area intersections.

cc: Monomoy Properties, LLC