Carnahan Proctor and Cross, Inc

May 6, 2015

Mr. Jerome Lehman
660 E. Hillsboro Boulevard
#105
Deerfield Beach, FL 33441

RE: Atlantic Margate Medical Center Traffic Statement
Project No. 150102_C

Dear Mr. Lehman:

This is in response to your request for an analysis of the change in project trips associated with a proposed modification in use for an existing office building located at 6101 W. Atlantic Boulevard in the City of Margate, Florida. This analysis compares the currently approved 19,658-square-foot Office land use to a proposed 32-bed Hospital land use. What follows is a brief statement of the analysis methodology and findings resulting from our effort:

1. Trip Generation Analysis

In order to determine the traffic impact associated with the proposed substitution of the Hospital land use in what is currently designated as Office space, an analysis of trips expected to be generated by each use was conducted. Trip generation characteristics provided in the Institute of Transportation Engineers' (ITE) *Trip Generation* manual, 9th Edition, were consulted and a comparison between the trips generated by a General Office Building (ITE Code 710) and a Hospital (ITE Code 610) was completed.

Tables 1, 2 and 3 (enclosed) show the trips expected to be generated by the existing 19,658 square feet of Office use and the proposed 32-bed Hospital use on a daily, a.m. peak-hour and p.m. peak-hour basis. Note that, for the Hospital land use, the average rate was used rather than the fitted curve equation for the daily trip generation estimate. (No fitted curve equation is provided for the a.m. and p.m. peak hours in the ITE manual.) The fitted curve equation has an R^2 value of 0.58, which is quite low and means that the standard deviation is only explained by the equation approximately 35 percent of the time. Further, the actual data points provided in the ITE data set that are closest in size to the proposed Hospital are all well below the graphed line of the fitted curve equation and more closely aligned with the graphed line of the average rate.

Tables 1 and 2 are provided for informational purposes only. As can be seen by reviewing the three tables, a change to a 32-bed hospital is expected to generate 33 more trips on a daily basis, but 10 fewer trips on an a.m. peak-hour basis and 55 fewer trips on a p.m. peak-hour basis. Since trips for concurrency and land use purposes in the City of Margate (and in Broward County generally) are based on "peak-hour trips," Table 3, "PM Peak Hour Trip Generation," contains the trip generation analysis that is pertinent to the determination of project trip impacts. As Table 3 makes clear, the proposed change in land use from Office to Hospital results in a reduction of 55 trips in the p.m. peak hour—the peak hour of the day. This is a 55 percent reduction in peak-hour trips.

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2. Conclusion

Based upon the findings shown in Table 3, and described above, it appears that the proposed 32-bed Hospital land use will generate 55 fewer p.m. peak-hour trips than would be expected to be generated by the currently approved 19,658 square feet of Office land use.

If you have any questions or require additional information or documents, please call me at 954-593-8774 or email me at dan.tintner@carnahan-proctor.com.

Sincerely,

Dan A. Tintner, P.E.
Director of Engineering

Thomas A. Hall
Traffic Planner

Attachment

Table 1
Daily Trip Generation
Atlantic Margate Medical Center Trip Generation Comparison

Land Use	ITE Code		Intensity	Trip Generation Rate[1]	Total Trips			Internal Trips				External Trips			Pass-by Trips		New Trips		
					In	Out	Total	In	Out	Total	%	In	Out	Total			In	Out	Total
Existing Use																			
General Office	710	19,658	s.f.	Ln(T)=0.76Ln(X)+3.68 (50/50)	191	190	381	0	0	0	0.0%	191	190	381	0	0.0%	191	190	381
Proposed Use																			
Hospital	610	32	beds	T=12.94(X) (50/50)	207	207	414	0	0	0	0.0%	207	207	414	0	0.0%	207	207	414
Net Difference					-16	-17	-33					-16	-17	-33			-16	-17	-33

[1] Trip generation data obtained from the Institute of Transportation Engineers' *Trip Generation* manual, 9th Edition.

Table 2
AM Peak Hour Trip Generation
Atlantic Margate Medical Center Trip Generation Comparison

Land Use	ITE Code		Intensity	Trip Generation Rate[1]	Total Trips			Internal Trips				External Trips			Pass-by Trips		New Trips		
					In	Out	Total	In	Out	Total	%	In	Out	Total			In	Out	Total
Existing Use																			
General Office	710	19,658	s.f.	Ln(T)=0.80Ln(X)+1.57 (88/12)	46	6	52	0	0	0	0.0%	46	6	52	0	0.0%	46	6	52
Proposed Use																			
Hospital	610	32	beds	T=0.95(X) (72/28)	30	12	42	0	0	0	0.0%	30	12	42	0	0.0%	30	12	42
Net Difference					16	-6	10					16	-6	10			16	-6	10

[1] Trip generation data obtained from the Institute of Transportation Engineers' *Trip Generation* manual, 9th Edition.

Table 3
PM Peak Hour Trip Generation
Atlantic Margate Medical Center Trip Generation Comparison

Land Use	ITE Code		Intensity	Trip Generation Rate[1]	Total Trips			Internal Trips				External Trips			Pass-by Trips		New Trips		
					In	Out	Total	In	Out	Total	%	In	Out	Total			In	Out	Total
Existing Use																			
General Office	710	19,658	s.f.	T=1.12(X)+78.45 (17/83)	17	83	100	0	0	0	0.0%	17	83	100	0	0.0%	17	83	100
Proposed Use																			
Hospital	610	32	beds	T=0.93(X) (33/67)	15	30	45	0	0	0	0.0%	15	30	45	0	0.0%	15	30	45
Net Difference					2	53	55					2	53	55			2	53	55

[1] Trip generation data obtained from the Institute of Transportation Engineers' *Trip Generation* manual, 9th Edition.