Traffic Impact Analysis
for
Beaufort East Village and Front Street Village
Beaufort, North Carolina

Prepared for:

Blue Treasure LLC

100 Weston Estates Way, Cary, NC 27513

and

Front Street Village LLC

2500 Front Street, Beaufort, NC 28516

Prepared By:

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May 2009

NORTH CAROLINA PROFESSIONAL SEAL 14510 ENGINEER ROSS MICHAEL HORN

5/21/09

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

September 4, 2009

MEMORANDUM

TO: Reed Smith, PE
District Engineer

FROM: Steve Hamilton, PE
Division Traffic Engineer

SUBJECT: Review of TIA for Beaufort East Village and Front Street Village in Beaufort, Carteret County.

I am writing to advise that I have completed my review of the Traffic Impact Analysis (TIA) for the subject developments and have the following comments and recommendations. These two developments are located on SR1310 (Lennoxville Road) towards the east end. As reported in the TIA the current ADT is about 2100. The Beaufort East Village is predominantly residential housing with some small neighborhood commercial area located in the center of the development. The Front Street Village is mixed use of residential and commercial with proposed dry boat storage to be located on both sides of Lennoxville Road. The two sites together are estimated to generate an additional 5,268 trips per day. The Front Street Village site plan indicates that a pedestrian underpass is to be provided for Lennoxville Road to handle pedestrian traffic. Based on my review I have the following recommendations.

1. Based on the projected traffic volumes on Lennoxville Road at the intersection with Project Entrance #2 and the realigned Front Street; Lennoxville Road should be widened to provide left turn lanes. The eastbound lane should provide for 100 ft of full width widening, a 100 ft bay taper, and appropriate transition tapers based on 35 mph and the type of widening provided. The westbound lane should provide for 50 ft of full width widening, a 100 ft bay taper, and appropriate transition tapers.
2. Based on the projected traffic volumes on Lennoxville Road at the intersection with Chadwick Road; Lennoxville Road should be widened to provide a left turn lane. The eastbound lane should provide for 100 ft of full width widening, a 100 ft bay taper, and appropriate transition tapers based on 35 mph and the type of widening provided.

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3. Based on the projected traffic volumes on Lennoxville Road at the intersection with Project Entrance #1; Lennoxville Road should be widened to provide left turn lanes. The eastbound lane should provide for 100 ft of full width widening, a 100 ft bay taper, and appropriate transition tapers based on 35 mph and the type of widening provided. The westbound lane should provide for 50 ft of full width widening, a 100 ft bay taper, and appropriate transition tapers.
4. Based on the projected traffic volumes on Lennoxville Road at the intersection with Leonda Drive; Lennoxville Road should be widened to provide left turn lanes. The eastbound lane should provide for 125 ft of full width widening, a 100 ft bay taper, and appropriate transition tapers based on 35 mph and the type of widening provided. The westbound lane should provide for 50 ft of full width widening, a 100 ft bay taper, and appropriate transition tapers.
5. Should any of the widening along Lennoxville overlap or get in close proximity to one another, the widening should be extended full width between the two locations.
6. Based on the analysis of the operation of the traffic signal at the intersection of US70 at Lennoxville road, this development results in the operational LOS changing from a high "D" with current vehicle queue length of about 170 ft during the PM peak to just short of an LOS "F" with anticipated vehicle queue lengths of more than 410 feet. To reduce this negative impact on the operation of this intersection, a westbound left turn lane should be constructed on Lennoxville Road. The turn lane should provide for 265 ft of storage, 100 ft bay taper, and appropriate transition tapers based on 35 mph and the type of widening provided.
7. Developer needs to provide adequate sight distance and take appropriate measures to provide for safe crossing of the Dry Boat Storage across Lennoxville Road.
8. The design and routing of sidewalk throughout both the Front Street Village and Beaufort East Village should facilitate and encourage pedestrians to utilize the proposed pedestrian underpass.
9. The Town of Beaufort is finalizing their Comprehensive Bicycle Plan, which recommends that Lennoxville Road provide Bike Lanes from US70 to eastern end. Based on this plan and the two project's proposed residential recreational use, five (5) ft wide paved shoulders for bike lanes should be provided along Lennoxville Road from Leonda Drive eastward to Project Entrance #4.
10. The current R/W along Lennoxville Road appears to be 60 ft wide. Taking into consideration the recommended R/W for the proposed cross-section to provide bike lanes and accommodate future sidewalks, the R/W should be 80 feet wide. I suggest that the developers' dedicate the additional R/W along their frontage.

Cc: John Rouse, PE
Dwayne Alligood, PE

Beaufort East Village
Residential Development
Trip Generation

Land Use		Intensity		24 Hour		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total	In	Out
Proposed Site Traffic											
260	Recreational Homes[1] / Community Center / Internal Service	471	d.u.	744	744	75	50	25	122	50	72
270	Residential Planned Unit Development (PUD)	200	d.u.	888	888	113	25	88	154	100	54
	Total			**1,632**	**1,632**	**188**	**75**	**113**	**276**	**150**	**126**

[1] Peak hour of generator used for AM and PM peak hours

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Front Street Village
Mixed-Use Development
Trip Generation

Land Use		Intensity		24 Hour		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total	In	Out
Proposed Site Traffic											
260	Recreational Homes / Community Center	213	d.u.	337	337	34	23	11	55	23	32
310	Inn[1]	78	rooms	319	319	30	18	12	46	24	22
931	Restaurant[2]	7,000	s.f.	315	315	6	5	1	52	35	17
	Boat Dry Stack / Chandlery	467	boats	31	31	6	5	1	6	1	5
	Total Trips			**1,002**	**1,002**	**76**	**51**	**25**	**159**	**83**	**76**

[1] Average rate used for 24 hour trip generation

[2] AM directional distribution not available - used directional distribution of peak hour of generator

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