

TRAFFIC IMPACT STUDY

For

NorthStar Capital, LLC

Proposed 16-Unit Multi-Family Residential Development

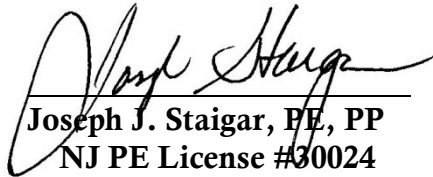
Property Located at:


**842 & 850 Arnold Avenue
Block 113 – Lots 41 & 43
Borough of Point Pleasant, Ocean County, NJ**

Prepared by:



1904 Main Street | 245 Main Street, Suite #110
Lake Como, NJ 07719 | Chester, NJ 07930
(732) 681-0760


Joseph J. Staigar, PE, PP
NJ PE License #30024


Craig W. Peregoy, PE
NJ PE License #45880

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INTRODUCTION

It is proposed to construct a mid-rise, multi-family residential development consisting of a single building with 16 residential units (The Project) on a parcel of land consisting of two (2) lots. The site is designated as Block 113 – Lots 41 & 43 on the Borough Tax Maps, with street addresses of 842 Arnold Avenue and 850 Arnold Avenue. The subject property is currently developed by a dental office on the first floor with an apartment on the second floor at 842 Arnold Avenue. A single-family residence currently occupies 850 Arnold Avenue. The site is located in the Borough of Point Pleasant, Ocean County, New Jersey, across Arnold Avenue from Clark Landing Drive, approximately 500 feet east of Trenton Avenue, and approximately 250 feet west of Riverwood park/Lincoln Avenue. Parking will be provided via 32 proposed parking spaces. Access to the proposed site will be provided via separate ingress and egress driveways along Arnold Avenue.

Dynamic Traffic, LLC has been retained to prepare this study to assess the traffic impact associated with the construction of The Project on the adjacent roadway network. This study documents the methodology, analyses, findings and conclusions of our study and includes:

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, traffic control, and location and geometry of existing driveways and intersections..
- Projections of traffic to be generated by the proposed development were prepared utilizing trip generation data as published by the Institute of Transportation Engineers. This proposed conditions site-generated traffic volume was compared to the existing site traffic volumes to assess the potential impacts from the redevelopment of the site.
- The internal site layout was inspected for the adequacy of ingress and egress, internal circulation, and parking layout and design.
- The proposed site driveways were inspected for adequacy of geometric design, spacing and alignment, as well as conformance with accepted design standards.

EXISTING CONDITIONS

A review of the existing roadway conditions near the subject site was conducted to provide the basis for assessing the traffic impact of the development. This included field investigations of the surrounding roadways and intersections, collection of traffic volume data, and extensive analyses.

Existing Roadway Conditions

The following are descriptions of the roadways in the study area:

Arnold Avenue is an Urban Minor Arterial under the jurisdiction of the County of Ocean, as County Road 633. Across the site frontage of the site the speed limit is 30 MPH, although approximately 250 feet to the east of the site the speed limit is 25 MPH. The roadway provides one travel lane and a 4-foot +/- wide shoulder in each direction with a general east/west orientation. Curb and sidewalk are provided along both sides of the roadway. There is a sharp horizontal curvature along Arnold Avenue at the site frontage (to the right as one travels in the easterly direction). The vertical alignment is relatively flat.

Of particular importance is that the existing site has a full movement driveway that provides access for the parking for the dental office and apartment. The single-family home has two (2) driveways that serve for access for its parking that require vehicles to back-up onto Arnold Avenue. These properties are within the inside of the horizontal curve of Arnold Avenue that impairs sight distance for the safe operation of these existing driveways. There is a Curve (to the right) sign with an advisory speed of 20 MPH plaque, and a Hidden Driveway sign prior to the curve in the eastbound direction and Chevron Alignment signs in the curve in both the eastbound and westbound directions.

The current access of the existing site does not meet basic design criteria based on AASHTO¹ standards for sight distance; a situation that is a primary remedy that the proposed condition addresses.

Existing Development and Current Use of Property

Currently the property is developed with 1) a 2-story building utilized as a dental office of 2,413 SF on the first floor and an apartment residential unit on the second floor, and 2) a 1-story building utilized as a single-family residential housing unit.

¹ American Association of State Highway Transportation Officials.

FUTURE CONDITIONS

Traffic volumes and operational analyses were developed for both the Existing and Future Build conditions. The first step is to identify the change in the magnitude of trip generation from the existing use of the site to the proposed use of the site from which the impact of that change in trip generation may cause to the operational conditions and traffic impacts to the surrounding roadway network

Traffic Generation

Projections of future traffic volumes for the proposed 16-unit residential development were also developed utilizing data as published in the Institute of Transportation Engineers (ITE) publication *Trip Generation, 10th Edition* for Land Use Code (LUC) 221 Multi-family Housing (Midrise). Table I summarizes the projected trips generated by that proposed development utilizing the ITE data.

**Table I
Future Site Trip Generation of Proposed 16 Apartment Units**

Land Use	AM PSH			PM PSH			Weekday (24 Hours)
	In	Out	Total	In	Out	Total	
16 Residential Units	2	4	6	5	3	8	85

Utilizing the same document to project the trip generation of the existing development, Table II presents the trip generation of the existing dental office, apartment, and single-family house. As shown, the proposed reutilization of the site for the residential use will generate less trips during the AM peak hour and PM peak hour than the former use as. With a reduction in trip generation of the site, there will be less impact on traffic conditions of the surrounding roadway network.

**Table II
Current Site Trip Generation of Existing Development of the Site**

Land Use	AM PSH			PM PSH			Weekday (24 Hours)
	In	Out	Total	In	Out	Total	
2,413 SF Dental Office	6	2	8	3	7	10	84
1 Apartment Unit	0	1	1	1	0	1	6
1 Single Family House	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>10</u>
TOTAL	6	4	10	5	7	12	100

As can be seen by a comparison of the proposed trip generation to the existing trip generation of the site, there will actually be a decrease during the critical peak hours of the site, as well as the 24-hour volume of the site. Based on the comparison of the trip generation of the proposed use to the existing development of the site, no impact to surrounding roadway network will occur from the redevelopment of the site due to these traffic generation characteristics.

SITE PLAN

Access for proposed site will be via a dualized driveway access design with the enter driveway at the eastern end of the property and the exit driveway at the western end of the property. As previously mentioned, the site is located on the inside of a curve creates sight distance challenges for the site that have been addressed with the proposed design that eliminates the existing severe deficiencies of the existing conditions. The current layout of the site does not meet basic sight distance criteria, which is a primary design consideration of the proposed site. The existing roadway signage before and along the site frontage (i.e., curve sign, advisory speed limit 20 MPH sign, chevron signs and “Hidden Driveway” warning sign) exemplify the existing condition.

The roadway curve has a radius of 169 feet for the centerline of the eastbound lane and 181 feet for the centerline of the westbound lane. Its cross-section is a normal crown with cross-slope of +4.0% along the eastbound direction and -1.5% along the westbound direction. Based on AASHTO design criteria, this supports a maximum speed in the east bound direction of 25 MPH and 22 MPH in the westbound direction.

While the curvature in the roadway presents a sight impairment, it also controls the speed of approaching vehicles, so that such approaching vehicles must negotiate the curve in either direction at 25 MPH or less. In other words, it eliminates the possibility of motorists traveling at a higher rate of speed than 25 MPH. Stopping Sight Distance per AASHTO for 25 MPH equates to 155 feet. The provided sight distance for the left turn into the ingress driveway and the left turn exit from the egress driveway is a minimum of 200 feet which equates to Stopping Sight Distance for 30 MPH, or +5 MPH above the actual design speed of Arnold Avenue through the curve.

In this manner, the safety of access of the subject property is greatly enhanced as:

1. the deficient sight distance at all existing driveways is eliminated,
2. the back-up maneuvers of the two (2) driveways of the existing single-family home is eliminated, and
3. the available sight distance for entering and exiting vehicles is greater than the appropriate stopping sight distance and motorists will have sufficient sight distance to ensure safe operations of the proposed site driveways.

Additionally, the parking lot design and quantity of spaces meet or exceed the Residential Site Improvement Standards.

FINDINGS & CONCLUSIONS

Findings

Based upon the detailed analyses as documented herein, the following findings are noted:

- The proposed 16 multi-family residential units will generate 2 entering trips and 4 exiting trips during the morning peak hour and 5 entering trips and 3 exiting trips during the evening peak hour. This proposed volume of traffic is less intensive than the existing development and use of the site, and thus will have lesser impact on the surrounding roadway network.
- Access to the site will be provided via one (1) enter-only driveway located at the easterly end of the property and one (1) exit-only driveway at the westerly end of the property.
- The current deficient sight visibility at the existing site driveways will be remedied with more than sufficient sight distance.
- The necessity for backing-up of vehicles to enter or exit the existing single-family home at 850 Arnold Avenue will be eliminated.
- As proposed, The Project's site driveways and internal circulation have been designed to provide for safe and efficient movement of vehicles on-site.
- The proposed parking supply and design is sufficient to support the maximum anticipated demand and is consistent with past experience at similar developments.

Conclusions

Based upon our Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Dynamic Traffic LLC that the adjacent street system of the Borough of Point Pleasant will not experience any degradation in operating conditions with the construction of The Project. The operation of the proposed site will be a vast safety enhancement over the existing site by eliminating the basic, fundamental deficiency of adequate sight visibility at the existing site driveways. The proposed site driveways are located and designed to provide safe and efficient access to the adjacent roadway system.