

March 25, 2019

Marlboro Township Zoning Board
1979 Township Drive
Marlboro, NJ 07746

**Re: Traffic Review #2
Tennant Road Wash & Lube, LLC
6 Tennent Road
Block 122, Lot 33
Application #: 18-6670**

Dear Chairman Shapiro and Board Members:

Remington & Vernick Engineers (RVE) has reviewed the following material with respect to this application:

1. Traffic Impact Assessment, Proposed Carwash, Block 122, Lot 33, Route 79 & Tennent Road, Marlboro, Monmouth County, dated November 19, 2019, prepared by Dolan & Dean, Consulting Engineers and signed by Gary W. Dean, PE, PP.
2. Variance Plan, Tennant Road Wash & Lube, LLC, Lot 33, Block 122, Tax Map Sheet No. 9, Township of Marlboro, Monmouth County, New Jersey, dated September 13, 2018 with latest Revision No. 1 dated March 12, 2019, Signed and sealed by David A. Cranmer, PE, Licensed Professional Engineer, State of New Jersey License No. 41926

We offer the following comments on the aforementioned documents:

1. The revised Variance Plan has eliminated on-site detailing. However, RVE is concerned about the conflict between vehicles parking/ unparking and vehicles queued for the car wash. With the exception of the three parking spaces in the very northwest most corner of the site, the remaining nine spaces will require queued vehicles to stop to allow cars to back out of the space. Depending upon the location within the nine spaces, a backing vehicle may have to wait for both queued lanes to stop so that a parked vehicle can exit the parking space. The applicant should provide testimony as to the anticipated duration of time between movement of the queue and the number of parking/ unparking movements so that the Board can assess the impact on on-site traffic flow.
2. In addition to the above noted conflict between queued vehicles and parking/ unparking maneuvers, there also appears to be potential conflict between vehicles backing out of the some of the parking spaces and vehicles exiting from the oil change area. The applicant should provide testimony as to the anticipated number "oil change area" exiting movements and the number of parking/ unparking movements so that the Board can assess the impact on on-site traffic flow.

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3. We are also concerned with the interaction of the parking/ unparking maneuvers for the vacuum spaces with vehicles queued for the car wash. We see this being especially problematic after a snow storm when a carwash in the Northeast United States generally experiences a surge of users and there is an increase in individuals using the vacuum stations. The applicant should provide testimony as to this potential interaction between vehicles queuing for the carwash and the vacuum stations activity so that the Board can assess the impact on on-site traffic flow.
4. The Traffic Impact Assessment indicates that the proposed use will not generate a significant amount of traffic during the weekday PM Peak Period. RVE concurs with this statement. However, the propose use will generate new trips to the area on Saturday. The estimated trip generation volumes shown in Table 1 of the Dean and Dolan November 19, 2018 report appears to be based upon the average rate shown for Land Use 948, Automated Car Wash, as published in the Institute of Transportation Engineers (ITE) publication, "Trip Generation Manual 10th Edition". The applicant should perform a trip generation estimate using the maximum rate in order to provide the Board with insight as to the traffic impact following a snowstorm.
5. The carwash trip generation data of the aforementioned ITE publication is:
 - A. Dated. The publication indicates that the sites were surveyed in the 1990s and 2000s.
 - B. Based on a very few studies. The Saturday Generator Peak trip generation rate is based upon three studies.

The fourth paragraph of the first page of the November 19, 2018 Traffic Impact Assessment appears to indicate that Dolan & Dean has further knowledge of the traffic operation of carwashes by indicating "Familiarity with other carwashes offers significant insight into the projected operations of the proposed facility". The applicant should provide testimony as to other carwashes that they have measured trip generations rates for including the location, size and the year of the study. This will provide the Board with the information that they can use to determine the accuracy of the trip generation estimate shown in the Traffic Impact Assessment.

6. Dolan and Dean states in the fourth paragraph of the first page of the November 19, 2018 Traffic Impact Assessment that "...the site design has been reviewed to ensure the project can operate safely and efficiently with adequate on-site staging area to prevent any potential for queuing onto the public streets. Later in the report, Dean & Dolan indicate that the car washing equipment can be sped up to reduce on-site queues and that recent observations at full service, automated conveyor carwash facilities maximum seasonal peak hour queues of up to 15 vehicles have been observed. In addition, the report indicates that the site is designed to accommodate at least 20 vehicles. The applicant should provide testimony as to the processing rate of the sped-up carwash, and the anticipated peak demand for several consecutive hours on a weekend after a snowstorm. This will provide the Board with the information that they can use to determine if there is sufficient on-site

storage so that no spillback onto Tennent Road occurs. In addition, the applicant should provide a plan showing the at-least 20 vehicle on-site storage layout.

7. The traffic capacity analysis should be rerun using a 95% back of queue prediction rate, not the 50% presented in the November 18, 2018 report. The Saturday Build analysis indicates that the queue length based upon the 50% prediction rate is 301 feet. The proposed site drive is approximately 310 feet from the eastbound approach stop bar of the Route 79 & Tennent Road intersection. Utilizing the 95% prediction rate will extend the queue well past the site's proposed driveway location. This contradicts the conclusion in the Traffic Impact Assessment that there will be no significant capacity constraints for movements either entering or exiting the proposed carwash. The applicant should rerun the site access driveway with the greater queue on Tennent Road.
8. The applicant should address the impact that a vehicle stopped on eastbound Tennent Road at the site access has on the eastbound Tennent Road queue and metering effect it will have on the Route 79 intersection operation.
9. Given that the southbound Route 79 to westbound Tennent Road movement can move during both the north-south green phase on Route 79 as well as on the right turn overlap with the eastbound Tennent Road movement, the applicant should perform a gap analysis to determine how many gaps in westbound traffic there will be in the Build condition. This should be factored into the analysis requested in item #7 above.

We reserve our right to present additional comments pending the receipt of revised plans and/or the testimony of the applicant before the Board.

Very Truly Yours,
REMINGTON & VERNICK ENGINEERS



Robert S. Nash, PE, PTOE, CME
Project Manager

cc: Ronald Cucchiaro, Esq, ZB Attorney
Laura Neumann, PE, PP, ZB Engineer and Planner
Jennifer Bajar, Zoning Board Clerk
Applicant