

December 7, 2022

SENT VIA E-MAIL

Kenneth Kovalchik
Town Planner
Town of Guilderland
P.O. Box 339
Guilderland, NY 12084-0339

**RE: TDE Review – Traffic Analysis Review:
Relocated Costco Main Entrance off Rapp Road Follow-up**

Dear Mr. Kovalchik,

GPI has received the following documents provided by JMT of New York, Inc.:

- Traffic analysis Follow-up letter for Relocated Full Access Driveway on Rapp Road, dated November 23, 2022

GPI has completed our review of the materials submitted and offer the following technical comments and recommendations:

1. Comment: *In reference to the new egress at Gabriel Terrace, JMT agrees that it is critical that the access point be properly signed to limit misuse. Proper signage for “one-way” access and “do not enter” will be included in the detailed design of the off-site improvements.*

Response: While the proposed egress from the northeast parking lot to Gabriel Terrace does improve the issue with the current configuration, the Town wishes to limit the number of access points from the site. We believe the dead end parking lot design can be resolved through better internal site configuration.

2. Comment: *JMT re-examined our traffic analysis inputs, modeling layout and assumptions to address these new comments presented regarding the relocated Northerly Driveway along Rapp Road proposed to be located 150 ft. south of the prior location and 450 ft. from US Route 20 / Western Avenue intersection. It is important to note as shown in the below Table 3 Capacity Analysis from the June 3rd letter, the existing US 20/Rapp Rd intersection performs at LOS D, with several lane movements operating at LOS E and F. Comparing this to the Site Build Condition (Alt 2), the intersection operation at LOS D is maintained, and all southbound movements perform similarly to the existing condition. The revised SimTraffic outputs are enclosed for reference. The modifications made are:*
 - a. *US 20/Rapp Rd – The southbound left turn was adjusted to reflect the area more accurately for the proposed condition improvement that provides additional storage capacity with a lane length increase from 75 ft. to 150 ft. Note, this modification does not reflect the ideal left turn length for optimal operations, as there is a preexisting inadequacy in storage length. This is shown in the below Table 3 Capacity Analysis, for the existing US 20/Rapp Rd southbound left turn 95th percentile queue of 192 ft. compared to the Site Build Condition Alt 2 of 197 ft.*
 - b. *Southerly Driveway/Rapp Rd – A SimTraffic setting was modified to accurately allow southbound vehicles to queue through the Southbound Driveway/Rapp Rd intersection which is a northbound right in only.*

The modifications described above led to a more realistic model that reflects the intended detailed design for the off-site improvements along Rapp Road. This resulted in the enclosed outputs from SimTraffic with reducing the overall queue length from the Northerly Driveway and result in queuing from the reported 140 ft reduced to 33 ft. and 300 ft. reduced to 274 ft. for a theoretical combined total of 307 ft. Thus, the 95th percentile queuing would remain near the 300 ft. as shown in the below Table 3 Capacity Analysis from the June 3rd letter

and is not in conflict with the departure lane center diagonal crosshatch pavement markings, which we can commit to modifying to further increase queue storage in detailed design. The relocated Northerly Driveway/Rapp Road westbound vehicles exiting the site have 95th percentile queue lengths of 68 ft. for the left turn and 51 ft. for the right turn. The site's concept shows storage lengths that exceed these queues. An added benefit to the relocated Driveway is the traffic calming effect from the separation of the driveway aisle continuation in front of the store entrance providing for a safer pedestrian environment.

Response: Synchro/Simtraffic electronic traffic modeling files for Rapp Rd were revised by JMT to correct some parameter issues and resubmitted for review. Although some of the fundamental modeling techniques used by JMT differ from GPI's modeling philosophy (i.e. modeling a 2-hour period with no PHF adjustment rather than a single peak hour only with PHF adjustment for a portion of the hour), GPI ran the model using both methods and found the results to be similar. The revised model submitted by JMT shows a 95th percentile queue of under 330 feet southbound from Western Avenue, where the newly proposed driveway is located at approximately 450 feet. Given this new information, GPI concurs that there should be adequate space for queuing for a full access driveway. However, this new driveway entrance configuration presents other concerns that should be considered by the Town, which are as follows:

According to Section 280-31.B.2.b of the Town Zoning Code, the minimum separation distance between non-residential development entrances is 400'. The original location of the main entrance had a separation distance of approximately 325' from the gas station entrance and would require a variance. The new driveway location only has a separation distance of approximately 200' from the gas station entrance and would require a significantly greater variance from the applicable code. It would be difficult for the applicant to prove this is not a self-created hardship when the Town has already seen plans that show a configuration closer to meeting the 400' separation.

Additionally, we feel the new main access ending at a T-intersection is less efficient than an option that allows traffic to flow across the site, and we feel queues from the T-intersection could increase crash potential. There is also concern with the new main access encouraging vehicles to drive across traffic spaces into the parking lot instead of remaining in the traffic aisles, which create an unsafe condition. Also, in this configuration, the majority of traffic from this entrance would still generally flow in-front of the building, which would not significantly reduce potential pedestrian conflicts, as claimed. We believe the relocated entrance location causes poor internal traffic circulation on-site and is not as safe an option as the original driveway location.

3. *Comment: JMT's response letter sent on November 11, 2022 committed to modifications along northbound Rapp Road. To further clarify, JMT commits to a lane reduction providing one receiving lane for northbound Rapp Road from Western Avenue. This would be accomplished with pavement markings only that would then introduce a northbound right turn only lane at the Rapp Road/Southerly Driveway intersection, which is where site entrants would be directed safely to parking aisles from the south away from the store entrance and heavy pedestrian crossings. The curb line would be maintained for ease of snow removal. This paved area north of the Rapp Road/Southerly Driveway intersection would have diagonally crosshatched pavement markings to address merging concerns. In reference to the northbound dedicated right turn at the relocated Northerly Driveway entrance, JMT does not anticipate the need, want to promote, or plan to pursue this item in detailed design.*

Response: GPI finds the discussed improvement acceptable, however, a final site access plan showing this improvement should be submitted for review before a final determination is made. It is recommended Rapp Rd be paved the full width and the single receiving lane for northbound Rapp Road from Western Avenue be accomplished with striping to allow the flexibility to handle future improvement at the intersection.

This completes our comments concerning the submitted traffic analysis follow-up letter. So far there have been a lot of back and forth about the site plan updates. GPI would like to see updated plans as a complete package submission for next review. Please feel free to contact us with any questions.

Regards,

GPI/GREENMAN-PEDERSEN, INC.



Ryan Trunko, PE
Project Manager

GPI/GREENMAN-PEDERSEN, INC.



Michael R. Wieszchowski, P.E., PTOE
Vice President | Director of Traffic Engineering