LKMA

L. K. McLean Associates, P.C.

❖ 437 South Country Road • Brookhaven • New York • 11719
❖ 25 Newbridge Road • Suite 304 • Hicksville • New York • 11801

(631) 286-8668 • FAX (631) 286-6314
https://www.lkma.com

RAYMOND G. DiBIASE, P.E., PTOE, PTP, PRESIDENT and CEO
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KEITH J. MASSERIA, P.E.
VINCENT A. CORRADO, P.E.
TAMARA L. STILLMAN, P.L.S.

MEMORANDUM

TO: Jessica Joyce, Senior Environmental Analyst
Sean Colgan, Principal Planner
Town of Islip Department of Planning and Development
655 Main Street
Islip, New York 11751

FROM: Vincent A. Corrado, PE Associate
Louis K. McLean Associates, PC

CC: Raymond G. DiBiase, PE, PTOE, PTP

DATE: October 13, 2020

RE: Greybarn-Sayville Planned Development District (Island Hills PDD)
W/S Lakeland Avenue, E/S Bohemia Parkway, E/S Hauppauge Road
Sayville, New York
LKMA 18027.002

This memorandum presents the results of our review of most recent documents provided in support of the above proposed project. L.K. McLean Associates PC (LKMA) has previously reviewed the report "Traffic Impact Study for Greybarn Sayville", prepared by Nelson and Pope Engineers and dated November 2018. The intent of the study report was to serve as the transportation element of the Draft Environmental Impact Study (DEIS) for the project, and to provide a comprehensive evaluation of the impact of travel demand generated by the development of the site under the proposed PDD zoning on the transportation system, as compared to development under the current Residence AAA zoning.

The results of our review of the original submission were provided in a memorandum dated April 19, 2019. Responses to these comments contained in the document "Response to Town Comments, Traffic Impact Study, Greybarn Sayville Planned Development District", dated September 2019, along with a revised Traffic Impact Study report, dated September 2019. Subsequent review comments of the September 2019 submission were provided in our February 2020 memorandum, and the applicant submitted the following documents in response:

- "Response to Town Comments, Traffic Impact Study Greybarn-Sayville PDD, May 2020", received from Nelson and Pope Engineers, Inc. June 18, 2020

- "Traffic Impact Study Greybarn-Sayville PDD, May 2020" received from Nelson and Pope Engineers, Inc. June 18, 2020

Note that a conceptual site plan dated December 2016 was included in the original submission. As noted in our prior communications, no detailed site plan review is included in this review effort, insofar as the development scenario remains conceptual in nature and is dependent on the rezoning of the site as discussed below. However, where appropriate or where site plan elements were referenced in the submissions, we have previously provided comments on aspects of the proposed site access etc. Although some of the applicant's responses would have impact on elements of the site design, no updates to the conceptual site plan have been provided since the original submission.

The memoranda documenting the above described review process are appended to this submission. The following sections provide the results of our review of the current submission.

Project Description and Background

The project is located on a 114-acre parcel located in Sayville, on the west side of Lakeland Avenue, south of 11th Street and east of Bohemia Parkway and north of Hauppauge Road. The site is currently developed as a golf course and related amenities, no longer operational, and known as the Island Hills Country Club. Development of the site as proposed would require changing the zoning of property from current Residential AAA to Planned Development District (PDD). The documentation submitted assumes development under the proposed zoning of a 1,365-unit residential community. As of right development under the current zoning would allow the construction of 98 single-family homes.

Based on the conceptual site plan prepared by Sidney B. Bowne and Son, LLP dated December 2016 and discussion in the report, the project proposes access to Lakeland Avenue, 11th Street and Hauppauge Road, all of which are Town of Islip Highway facilities. Access to Lakeland Avenue is shown on the conceptual plan opposite an existing residential development roadway known as Gibbons Court, which forms a signalized intersection with Lakeland Avenue. The proposed site access is to form the fourth eastbound leg of the signalized intersection, and to serve as the main point of access to the proposed project. All other proposed access points are shown to be stop sign controlled.

As discussed in the study report, 98 single-family homes could be developed on the 114-acre parcel under the current zoning. Development under current zoning is estimated in the study report to potentially generate an estimated 1,240 Vehicle Trip Ends (VTE) per day. The study report further estimates that development of the site as proposed under the PDD zoning could be expected to generate approximately 6,400 new VTE per day. Thus, the proposed rezoning and development of the site under the requested PDD zoning represents approximately 400% more new trips added to the adjacent roadways than as of right development.

Specifically, during the weekday AM peak hour, 98 single family homes would generate 74 total vehicle trips, 18 entering and 56 exiting the property, while development under the PDD zoning would generate 492 trips, 127 entering and 365 exiting. During the weekday PM peak hour, as of right development would generate 100 total trips (62 entering and 37 exiting trips) while the proposed PDD would generate 601 trips, 365 entering and 236 exiting. Finally, during the Saturday midday peak hour, as of right

development of the site would generate 100 total trips, 54 entering and 46 exiting, while under the proposed PDD zoning, 601 trips would be added to the roadway network, 294 entering trips and 307 exiting trips.

The applicant offers the following improvements as mitigation to the project's impact on the transportation system:

- Widen Lakeland Avenue between Chester Road and 11th Street to provide an additional northbound through lane. The widening will begin around Eastover Road and extends to meet the existing 2 lane section of Lakeland Avenue just north of 11th Street.

- The segment of Lakeland Avenue between Eastover Road and Gibbons Court will be striped to provide two through lanes and one northbound left turn into the site access

- The southbound approach of this intersection of Lakeland Avenue at NYS Route 27 North Service Road which currently provides an exclusive through lane, a shared through/right turn lane and an exclusive right turn lane will be redesigned to provide two exclusives through lanes and two exclusive right turn lanes. Minor signal timing adjustments will also be conducted for the northbound left turn phase.

Additional discussion of mitigation offered is provided in subsequent sections of this document.

The following sections provide the detailed results of our review of the submitted documents. Following the resolution of the remaining comments and corrections contained herein, the Traffic Impact Study should be revised to incorporate all the information provided in the comment response documents. For ease of review, we have provided our original comment, followed by the applicant's response, and our additional comments as appropriate.

LKMA October 2020 General Comments

It is recognized that, since the inception of the review process for this project, traffic patterns in the study area have been significantly disrupted by the onset of the COVID19 pandemic, and are likely to remain so for at least the foreseeable near future. Furthermore, even after the pandemic eases, many changes in travel patterns, including school, work and recreation related travel, may have permanent impact. According to the report, the project, if approved as described, will be constructed in six (6) phases, which is appropriate for projects of a magnitude that represent significant intensification of existing or as of right development of a property. As is common in such projects, additional studies should be conducted prior to commencement of construction of each subsequent phase in order to verify assumptions that were made during the conduct of the traffic study that formed the basis for establishing future conditions as well as to evaluate the effectiveness of mitigation measures implemented to offset the project's impact. This is particularly important given the current disruption to normal traffic patterns due to the COVID19 pandemic and the likely long term impact on work, school and recreation trips.

The report discusses mitigation of the traffic impacts identified through the analyses conducted for the Traffic Impact Study, some of which will impact on roadways controlled by other agencies. Lakeland Avenue is a Suffolk County highway (CR93) north of NY27 Sunrise Highway, and both NY27 Service Roads are under the jurisdiction of the New York State Department of Transportation. As such, any mitigation on those roadways is subject to review and approval by the controlling agencies, which approval should be obtained prior to commencement of any project on the subject site. In addition, it is recommended that all mitigation be

implemented prior to or in conjunction with the first phase of any project. Obviously, allowances can be made to ensure that impacts during construction are considered.

LKMA Review of June 2020 Submission

Responses to Miscellaneous Comments

LKMA February 2020 Miscellaneous Comment 1 *- In general, the responses offered continue to lack a specific comparison of impacts between the proposed development and as of right development, which would generate relatively little traffic, and can generally be assumed to be reflected in the background traffic growth rate. Therefore, for the purposes of this review, the No Build condition is considered the rough equivalent of the as of right impacts.*

Applicant June 2020 Response – The impact of the as of right developments should be greater than the No Build Condition. Hence, we agree that the as of right development impacts can generally be assumed to be reflected in the background growth rate and hence the No Build analyses can be considered as a rough equivalent of the as of right impacts.

LKMA October 2020 Comment – On this basis, impacts beyond the No Build are assumed to be attributable to development under the proposed rezoning. Tables are attached that show the changes in traffic volumes at the 36 intersections included in the study report, as well as the percent increase in traffic between the 2026 No Build and Build condition, based on the traffic flow maps included in the report. As can be seen, significant increases in traffic volumes could be expected to occur due to development under the proposed zoning. While the intersection capacity analyses conducted for the purposes of the study indicate that capacity is largely available to accommodate the traffic increases, additional traffic volumes at some intersections of over 150% of existing are predicted. These traffic increases have impacts beyond capacity, including noise and air quality impacts, which are beyond the purview of this review.

It is noted that anomalies in the predicted traffic flows were identified during this review which seem to indicate that traffic volumes at certain intersections are expected to decrease after the project is fully built out. These anomalies should be investigated and / or corrected. Capacity analyses should be rechecked to ensure that the correct traffic volumes have been utilized in the analyses.

LKMA February 2020 Miscellaneous Comment 2 *- As per our prior comments, no specific site plan review is included in this memorandum, insofar as the development scenario is conceptual in nature and is dependent on the rezoning of the site as discussed below. However, where appropriate, we have provided comments on certain aspects of the proposed project that are described in the report.*

Note also that the report, provides no discussion of pedestrian or bicycle activities, or proposed accommodations thereof, either on site or external to the site. The location of the project at the extreme northern end of the Sayville community does not particularly lend itself to pedestrian connectivity to the downtown or waterfront recreational areas, but pedestrian connectivity to the community at large is increasingly important as the limits of motor vehicle capacity are approached. Any proposed site configuration should include full width sidewalks on all site frontages, preferably five (5) feet wide, and full ADA compliant pedestrian facilities. In addition, depending on right of way availability, bike lanes should be considered, both internal and external to the site. At a minimum, travel lanes within the site

should be 14' wide to accommodate bikes, or shared use paths considered with logical connection points to routes to local schools.

Applicant June 2020 Response – Any proposed site configuration will include full width sidewalks throughout the entire site. The conceptual layout plan shows a trail/path throughout the site for pedestrian use. Sidewalks currently exist along the entire west side of the Lakeland Avenue segment between Chester Road and Montauk Highway. For pedestrian connectivity, the applicant will install sidewalks along the site frontage on Lakeland Avenue (between 11th Street and Chester Road) to connect onto the existing sidewalks. With the proposed sidewalks, the entire west side of Lakeland Avenue between the NY 27 Service Roads and Montauk Highway will have continuous sidewalks. Most sections of the eastside Lakeland Avenue segment between NYS 27 Service Roads and Montauk Highway contain sidewalks. Lakeland Avenue between Chester Road and the Railroad tracks has at least 7 feet shoulders. The applicant will provide shoulders on the west side of Lakeland Avenue between the site access and Chester Road to connect to the existing shoulders. These shoulders could be used for bikers to downtown Sayville.

LKMA October 2020 Comment – The December 2016 site plan is very conceptual in nature, as stated. The plan shows numerous points of connectivity between the internal pedestrian / bicycle path and surrounding town roadways. Future site plan submissions for any project of this nature should ensure pedestrian and bicycle connectivity between the development and the community including additional ADA compliant sidewalk and pedestrian ramps along other site frontages, with particular emphasis on access to Bosti Elementary School.

LKMA Miscellaneous Comment 3 - *All tables in the report should be labeled to clearly describe the condition or phase they represent.*

Applicant June 2020 Response - All the tables in the traffic study and the appendices have been relabeled to clearly depict the condition or phase they represent.

LKMA October 2020 Comment – Spot checks indicate corrections have been made. No additional information is required.

Responses to Detailed Comments

LKMA February 2020 Comment 1 - *The response to comment 1 (from LKMA April 2019 memorandum) provide descriptions of conditions of the roadways as requested, but no discussion is provided of non-operational impacts of the increased traffic on roadway conditions. Per the report, the proposed project will generate 6400 additional daily trips, more than 5000 trips per day than under as of right conditions. Ninety-two percent (92%) of these trips are expected to utilize Lakeland Avenue, while other facilities will experience lesser impacts. This will result in a 32% increase in total daily trips on Lakeland Avenue in the vicinity of the site frontage, which will shorten the service life of the facility and increase maintenance cost beyond as of right impacts. Similar proportional impacts can be expected on other area roadways.*

Applicant June 2020 Response - Several measures to mitigate traffic impacts on Lakeland Avenue as outlined in the Traffic Study will be constructed by the developer. These improvements will mitigate the traffic impacts back to No Build Conditions or better. The increased tax revenues from the project will

increase the funding for roadway maintenance. Hence the proposed mitigation and the increased tax revenues will help increase or maintain the service life of the roadways within the study area.

LKMA October 2020 Comment - It should be noted that, as previously stated, the submission is assumed to represent an analysis of all the proposed project's impacts on the transportation system, not limited to traffic impacts alone. The project as proposed will generate significantly more traffic than would as of right development, and would therefore have commensurate increased impact on the physical condition of the system. Matters of taxation are considered beyond LKMA's purview with regard to transportation impacts. We defer to Town staff in this regard.

LKMA February 2020 Comment 2 *- The applicants 2019 response to comment 2 (from LKMA April 2019 memorandum) was the traffic data have been reviewed to ensure accuracy and consistency of the data. An errata sheet should be provided.*

Applicant June 2020 Response - As stated in our previous response, the traffic data was reviewed to ensure accuracy and consistency. Very few inconsistencies were noticed, and they were not significant to change the results of the capacity analyses results presented in the Traffic Study. The table below shows the inconsistencies and the comparison of the level of service results.

TABLE 1: ERRATA SHEET – GENERAL REVIEW OF TRAFFIC VOLUMES

Analyses Phase	Intersection	Movement	Synchro	Traffic Volume Figures	Comments	
					Overall Intersection LOS	Individual Movements LOS
Saturday School Peak Existing	Montauk Highway at Gillette Ave	WBL	38	36	Intersection delay = 30.6 & LOS C - No change.	Total delay changed from 15.5 to 15.6 & LOS B maintained
AM School Peak P6 Build with OPD with Mitigation	Lakeland Avenue at NYS Route 27 South Service Road	SBT	429	434	Intersection delay = 25.5 & LOS C - No change	Total delay = 15.2 & LOS B maintained
	Lakeland Avenue at 11th Street	NBT	888	894	Intersection delay = 0.3 & LOS A - No change	LOS A maintained
		SBT	555	560		
	Lakeland Avenue at Tariff Street	WBL	86	93	Intersection delay = 30.3 & LOS C - No change.	Total delay changed from 56.9 to 57.9 & LOS = E did not change.
		NBR	137	153		Total delay changed from 3.5 to 3.4 & LOS A maintained
	Montauk Highway at Gillette Ave	SBR	88	99	Intersection delay changed from 25.7 to 25.8 & LOS C maintained.	Total delay changed from 25.6 to 26.4 & LOS C maintained
PM School Peak P6 Build with OPD with Mitigation	Lakeland Avenue At Tariff Street	SBR	186	183	Intersection delay changed from 50.2 to 50.1 & LOS D maintained.	Total delay changed from 29.3 to 29.1 & LOS C maintained
Saturday School Peak P6 Build with OPD with Mitigation	Montauk Highway at Gillette Ave	SBL	313	315	Intersection delay changed from 36.5 to 36.8 & LOS D maintained.	Total delay changed from 107.0 to 108.8 & LOS F maintained.

LKMA October 2020 Comment - LKMA has again reviewed the traffic flow maps included in the appendices of the Traffic Impact Study and performed a comparison between the future 2026 No Build and Build conditions. This review has identified a small number of anomalies in the predicted traffic flows, some of which seem to indicate that traffic volumes at certain intersections are expected to decrease after the project is fully built out. See also Miscellaneous Comment #1, above.

LKMA February 2020 Comment 3 *-The statement regarding injury crashes is inaccurate. The rate of injury related crashes (37%) is above that of similar facilities in New York, which was approximately 25% in 2018. Typically, crash analyses at signalized and unsignalized intersections are analyzed based on the number of millions of vehicles entering an intersection on all approaches during the course of a year, a rate referred to as the number of crashes per million entering vehicles, or crashes/MEV. Development under the proposed rezoning would result in approximately 1.5 million more new vehicles entering the intersection Lakeland Avenue at NY27 South Service Road per year than under current zoning. Other intersection locations would experience proportional increases.*

Applicant June 2020 Response - As noted in the Traffic Study report and our 2019 responses to your traffic comments, three locations were identified (Sunrise Highway North Service Road at Lakeland Avenue, Lakeland Avenue between North Service Road and South Service Road and Sunrise Highway South Service Road at Lakeland Avenue) with accidents rates greater than the statewide average. These three locations experienced a total of 48 accidents over the 3-year period. Of the 48 crashes, 25 (52%) are rear-end collisions, 7 (15%) involved overtaking and 6 (12%) are unknown type accidents. As part of the proposed project, the following improvements have been proposed and will be constructed by the applicant to mitigate the traffic and safety impacts. Each improvement will be constructed at least before the construction of the phase of the project for which the mitigation is required.

- Widen Lakeland Avenue between Chester Road and 11th Street to provide an additional northbound through lane. The widening will begin around Eastover Road and extends to meet the existing 2 lane section of Lakeland Avenue just north of 11th Street.
- The segment of Lakeland Avenue between Eastover Road and Gibbons Court will be striped to provide two through lanes and one northbound left turn into the site access
- The southbound approach of this intersection of Lakeland Avenue at NYS Route 27 North Service Road which currently provides an exclusive through lane, a shared through/right turn lane and an exclusive right turn lane will be redesigned to provide two exclusives through lanes and two exclusive right turn lanes. Minor signal timing adjustments will also be conducted for the northbound left turn phase.

According to the 2018 New York State Department of Transportation Post Implementation Evaluation System (PIES) Reduction Factor Report, the addition of lanes may reduce injury accidents by 36%. Therefore, the physical or geometric improvements proposed on Lakeland Avenue as part of this project will improve safety on this corridor.

LKMA October 2020 Comment - As stated above, all mitigation must be reviewed and approved by agencies with jurisdiction over the facilities in question, and should be constructed prior to or in conjunction with the first phase of any project. Mitigation on Town roads should be designed to Town standards and specifications.

LKMA February 2020 Comment 4, 5, 6 and 7 - *No further information required.*

LKMA February 2020 Comment 8*: The discussion above (response to 2019 comment 8) indicates that the results of the SYNCHRO model compare favorably to field observations and can be reasonably expected to represent existing and future operating conditions, within the constraints of the model.*

Applicant June 2020 Response: We concur

LKMA October 2020 Comment - See comment #2 above. SYNCHRO model may need modification based on any findings of additional quality reviews.

LKMA February 2020 Comment 9 - The arterial analyses results document numerous instances of low arterial speeds and congested conditions, which is keeping with conditions observed in the field. Mitigation proposed on Lakeland Avenue between Eastover Road and the NY27 North Service Road would serve to provide additional capacity sufficient to offset the project's impacts at those specific locations, and thus would improve or maintain No Build conditions representative of the overall performance of the Lakeland Avenue corridor. South of Eastover Road, however, vehicles will continue to have difficulty accessing Lakeland Avenue at unsignalized intersections. Field observations indicate periods of uninterrupted traffic flow along this segment of Lakeland Avenue that forces side street vehicles to utilize shorter gaps in traffic than might be preferred, which results in the need for vehicles on the arterial to brake. These conditions, which are not necessarily apparent based strictly on software results, can nevertheless be expected to be exacerbated by the additional traffic estimated by the proposed project.

With respect to the mitigation discussed at the intersection of Lakeland Avenue/Johnson Avenue/Tariff Street, the proposed mitigation also appears feasible within the existing right of way.

Applicant June 2020 Response - We concur

LKMA October 2020 Comment- Any roadway improvements should include pedestrian accommodations fully compliant with the requirements of the Americans with Disabilities Act, including pedestrian ramps, sidewalks and signals. As per prior comments, any proposed mitigation should be implemented in conjunction with the beginning of construction of the project. The conditions described in our comment regarding operational difficulties on Lakeland Avenue should be further investigated during subsequent traffic studies, per the discussion in the General Comments section, above.

LKMA February 2020 Comment *10* - *The response is considered adequate. Additional discussion of the operating conditions at the intersections in the vicinity of grade crossings and other locations referenced in the comment are addressed in other responses in this document. See Responses to comments #9 and #11.*

Response: We concur. No further information is required.

LKMA October 2020 Comment – See also comment #14, below.

***LKMA February 2020 Comment 11**: The additional mitigation is reasonable and warranted to improve operations on Lakeland Avenue between the site access and the NY27 South Service Road.*

The Traffic Study should be revised to reflect this additional mitigation including capacity analyses results. Right of Way availability should be determined to ascertain that the improvement can be constructed as shown, and property dedications should be made to accommodate the improvement, including connecting to the existing sidewalk on Lakeland Avenue.

Operational concerns remain regarding Chester Avenue. Provision of a detection loop on intersection approach that is not directly controlled by the traffic signal is typically deployed when other measures to ensure safe operations are precluded by geography, topography or right of way constraints. In fact, NYSDOT no longer considers this configuration on signals under their control. Given its immediate proximity to the proposed main site access, and the fact that more than 90% of the site traffic is estimated to utilize that access, additional improvements should be considered, including providing Chester Road direct access to the signalized intersection at Lakeland Avenue at Gibbons Court/Site Access driveway. The existing east-west segment of Chester Road could be terminated at Lakeland Avenue, or the roadbed disposed by the town. It appears that the applicant controls ample property to provide this improvement, which would eliminate the need for the unconventional signal operation and provide more efficient operations for vehicles utilizing Chester Road. Mitigations should be implemented coincident with the construction of Phase 1.

Applicant June 2020 Response - We concur that the additional mitigation is reasonable and warranted to improve operations on Lakeland Avenue between the site access and the NY27 South Service Road. The traffic study was revised to reflect this additional mitigation and any other recommended mitigation. The mitigation can be constructed within the existing right of way and property dedication will be made to accommodate the improvement, including connecting the existing sidewalk on Lakeland Avenue.

In addition to the mitigations proposed by the applicant, the town recommended the review of an alternative mitigation measure to eliminate the intersection of Lakeland Avenue and Chester Road. The east-west portion of Chester Road to be eliminated and access to Chester Road provided via a new intersection of Chester Road and the signalized Site Access. The intent of the mitigation measure is to eliminate the need for the unconventional signal operation and provide a more efficient operations for the vehicles at Chester Road.

As stated previously and agreed by the town, the mitigation measures proposed by the applicant for Phase 6 of the project are adequate to mitigate the impacts associated with Phase 6 of the project. However, the optional additional mitigation measure recommended by the Town to further improve the operation of the Lakeland Avenue corridor after the construction of Phase 6 of the project have been analyzed. The following tables summarizes the 95th percentile queue lengths on intersection movements along the Lakeland Avenue corridor in the vicinity of the site that will see increase in traffic volumes due to the proposed project. These tables present a comparison of the No Build, Build and Build with mitigations conditions during the weekday AM and PM school peak periods. It can be seen from the tables below that the reduction in the northbound queue lengths is not significantly different from the

reduced queue lengths achieved by the mitigation proposed by the applicant under phase 6 presented in our 2019 responses to the Town's comments. Hence the additional mitigation recommended by the Town by itself will not further improve queues. However, this mitigation will eliminate the delays associated with the eastbound Chester Road traffic at Lakeland Avenue. Figure 31 is a conceptual plan of this alternative mitigation measure. **(Figure 31 is provided as an attachment)**

TABLE 2: 95TH PERCENTILE QUEUE LENGTHS – AM PEAK HOUR

Intersections			No Build Phase 6	Build Phase 6	Build Phase 6 with Mitigation*
Intersection	**Approach/ Movement.**	**Storage Length (FT)**	**95th % Queue Length (FT)**	**95th % Queue Length (FT)**	**95th % Queue Length (FT)**
Lakeland Avenue & NYS Route 27 South Service Road	EBR	150	54	65	43
	NBT		180	242	249
	NBR	270	122	137	139
	SBT		112	132	134
Lakeland Avenue & Gibbons Court	EBLT			152	178
	EBR			0	0
	WBLT		22	22	18
	WBR		28	22	0
	NBL	100		7	11
	NBTR		399	616	171
	SBR	125		11	22
Lakeland Avenue & Tariff Street/Johnson Avenue	EBL	155	161	162	162
	EBTR		124	140	140
	WBLTR		231	230	230
	NBL	125			40
	NBT		270	286	245
	NBR	125	37	39	37
	SBLTR		215	233	233

***- Phase 6 mitigations include:**

a. Redesign the intersection of NY 27 North Service Road at Lakeland Avenue to provide two exclusives through lanes and two exclusive right turn lanes. Minor signal timing adjustments will also be conducted for the northbound left turn phase – Mitigation for Phase 4

b. Widen the northbound approach at the intersection of Lakeland Avenue and Tariff Street/Johnson Avenue to provide an exclusive left turn lane enabling the redistribution of green time to improve the failing westbound approach – Mitigation for Phase 5

c. Widen Lakeland Avenue between Chester Road and 11th Street to provide an additional northbound through lane. The widening will begin around Eastover Road and extends to meet the existing 2 lane section of Lakeland Avenue just north of 11th Street.

d. Eliminate the intersection of Lakeland Avenue and Chester Road. The east-west portion of Chester Road will be eliminated and access to Chester Road will be provided via a new intersection of Chester Road and Signalized Access.

TABLE 3: 95TH PERCENTILE QUEUE LENGTHS – PM PEAK HOUR

Intersections			No Build Phase 6	Build Phase 6	Build Phase 6 with Mitigation
Intersection	**Approach/ Movement**	**Storage Length (FT)**	**Queue Length (FT)**	**Queue Length (FT)**	**Queue Length (FT)**
Lakeland Avenue & NYS Route 27 South Service Road	EBR	150	96	196	192
	NBT		174	213	225
	NBR	270	172	180	187
	SBT		117	176	205
Lakeland Avenue & Gibbons Court	EBLT			104	157
	EBR			0	0
	WBLT		29	30	32
	WBR		21	2	1
	NBL	100		11	12
	NBTR		309	480	137
	SBR	125		49	56
Lakeland Avenue & Tariff Street/Johnson Avenue	EBL	155	161	165	163
	EBTR		150	162	161
	WBLTR		492	496	517
	NBL	125			65
	NBT		346	563	290
	NBR	125	50	59	54
	SBLTR		506	531	531

***- Phase 6 mitigations include:**

a. Redesign the intersection of NY 27 North Service Road at Lakeland Avenue to provide two exclusives through lanes and two exclusive right turn lanes. Minor signal timing adjustments will also be conducted for the northbound left turn phase – Mitigation for Phase 4

b. Widen the northbound approach at the intersection of Lakeland Avenue and Tariff Street/Johnson Avenue to provide an exclusive left turn lane enabling the redistribution of green time to improve the failing westbound approach – Mitigation for Phase 5

c. Widen Lakeland Avenue between Chester Road and 11th Street to provide an additional northbound through lane. The widening will begin around Eastover Road and extends to meet the existing 2 lane section of Lakeland Avenue just north of 11th Street.

d. Eliminate the intersection of Lakeland Avenue and Chester Road. The east-west portion of Chester Road will be eliminated and access to Chester Road will be provided via a new intersection of Chester Road and Signalized Access.

LKMA October 2020 Comment – As noted, the information provided indicates that the alternative mitigation would reduce queue lengths, and would also eliminate delays on Chester Road.

***LKMA February 2020 Comment 12** - The revised report continues to maintain that private transit will be provided. Reference to private transit should be deleted from the study if it is not to be provided. If it is being considered, the above comment should be more adequately addressed. Note also that the provision of private transit is presented as mitigation to the project's impact on parking at the LIRR station.*

Applicant June 2020 Response - The applicant is proposing to provide shuttle services to and from the LIRR during commuter peak hours. More details of the transit service will be worked out as the project progresses. The provision of private transit services will reduce the amount of traffic generated by the project and also mitigate the project's impact on parking at the LIRR.

LKMA October 2020 Comment – Response noted.

LKMA February 2020 Comment *13* - *The response documents state that access will be provided as shown on the conceptual site plan. As stated in the report and above, the study is intended to evaluate potential impacts of the change of zone of the property from single family residential to Planned Development District. As such, it is our understanding that the site plan submitted is conceptual in nature and is intended to depict a potential development under the proposed zoning. The applicant's response implies that regardless of the ultimate configuration and density of the project, should the request for rezoning be approved, no other possible access scenarios will be considered. Given that the site has frontages on as many as eight (8) town roads, the opportunity exists to provide multiple access points that would spread site traffic over a number of facilities and thereby lessen impacts on any individual road.*

Applicant June 2020 Response - The site has frontages along seven (7) town roads (11th Street, Bohemia Parkway, Terry Road, Starling Place, Carrie Avenue, Chester Road and Lakeland Avenue) and the northern terminus of Durham Road abuts the site. As presented in the traffic study, access to site will be provided via three (3) town roads, Lakeland Avenue, 11th Street and Terry Road. From a further review of the site and surrounding roadways, there is a potential to provide additional/alternative access points to the site on Bohemia Parkway, Starling Place, Carrie Avenue, Chester Road and extending Durham Road into the site. It should be noted that additional access points on these local roadways will most likely benefit traffic heading south into downtown Sayville. A vast majority of the traffic from the project will be travelling north, east or west and will use the three driveways already proposed. However, to respond to the town's comments, two alternative access points (along Carrie Avenue and Bohemia Parkway) has been analyzed. Some traffic originally distributed to the three driveways, especially traffic traveling south to downtown Sayville and traffic travelling west via the intersection of NY27 North Service Road and Smithtown Avenue was distributed to the two alternative access points. Traffic analyses were conducted for the weekday AM and PM peak periods for Phase 6 including the proposed winding of Lakeland Avenue and providing Chester Road direct access to the signalized site access with and without the two alternative access points. The following is a summary of traffic analyses results at the intersection of Lakeland Avenue at Gibbons Place/Site Access with and without the alternative access points.

TABLE 4: LOS RESULTS WITH AND WITHOUT ALTERNATIVE ACCESS POINTS – AM PEAK HOUR

Intersections		Build Phase 6 with OPD with Mitigation without Alternative Access Points[a]		Build Phase 6 with OPD with Mitigation with Alternative Access Points[b]	
Intersection	**Approach/Movement**	**Delay**	**LOS**	**Delay**	**LOS**
Lakeland Avenue at Gibbons Court/ Site Access	EBLT	30.2	C	29.5	C
	EBR	0.1	A	0.1	A
	WBLT	15.6	B	15.6	B
	WBR	0.5	A	0.5	A
	NBL	10	A	10	A
	NBTR	13.3	B	13.2	B
	SBL	9.9	A	9.9	A
	SBT	15.4	B	13.8	B
	SB R	2.2	A	2.2	A
Intersection		14.9	B	14.4	B

a- Includes widening of Lakeland Avenue and provide Chester Road direct access to signalized site access
b- Includes widening of Lakeland Avenue, provide Chester Road direct access to site signalized intersection and two additional alternative access points.

TABLE 5: LOS RESULTS WITH AND WITHOUT ALTERNATIVE ACCESS POINTS – PM PEAK HOUR

Intersections		Build Phase 6 with OPD with Mitigation without Alternative Access Points[a]		Build Phase 6 with OPD with Mitigation with Alternative Access Points[b]	
Intersection	**Approach/Movement**	**Delay**	**LOS**	**Delay**	**LOS**
Lakeland Avenue at Gibbons Court/ Site Access	EBLT	45.1	D	42.7	D
	EBR	0.3	A	0.2	A
	WBLT	27.5	C	27.4	C
	WBR	1.5	A	1.6	A
	NBL	5.4	A	5.2	A
	NBTR	10	A	9.8	A
	SBL	5.8	A	5.7	A
	SBT	19.4	B	19	B
	SB R	4.1	A	4.1	A
Intersection		15.5	B	15	B

a- Includes widening of Lakeland Avenue and provide Chester Road direct access to signalized site access
b- Includes widening of Lakeland Avenue, provide Chester Road direct access to site signalized intersection and two additional alternative access points.

From the review of the capacity analyses results, the alternative access points will not significantly improve the operation of the intersection of Lakeland Avenue and Gibbons Court/Site Access. The benefit of the alternative access points will be minimal.

LKMA October 2020 Comment – Response noted. No formal site plan review has been conducted. Ultimate configuration of access points and site design are subject to review at such time as a formal site plan submission is made.

LKMA February 2020 Comment *14* - *The vehicle queue direction in Table 30 is mislabeled. Railroad Avenue is a north-south facility, and the vehicle queues should be labelled as such. The response indicates that the Sim Traffic Analysis included the results of the railroad crossing simulation. A comparison of the Sim Traffic results with observed conditions should be provided to demonstrate that the modelling results reasonably reflect prevailing conditions. If necessary, the area immediately north and south of the LIRR crossing could be modelled as a sub-network so that it can be properly calibrated.*

Applicant June 2020 Response - The vehicle queue direction table (originally Table 30 and now Table 6) has been relabeled with Railroad Avenue as a north-south roadway. Table 6 is the updated observed queue table.

TABLE 6: OBSERVED RAILROAD GATE DATA – RAILROAD AVENUE

Time	Direction	Gate Duration (sec)	Queue (vehicles)		Did Queues clear
			Northbound	Southbound	
6:05 (AM)	Eastbound	60	1	0	Yes
6:07	Westbound	60	0	5	Yes
6:56	Westbound	150	17	5	Yes
7:08	Westbound	60	1	11	Yes
7:27	Westbound	150	14	16	Yes
7:46	Westbound	50	2	1	Yes
8:07	Westbound	50	6	4	Yes
8:20	Eastbound	130	10	11	Yes
3:37 (PM)	Westbound	130	22	25	Yes
3:50	Westbound	45	7	9	Yes
4:04	Eastbound	150	24	26	Yes
4:29	Westbound	45	9	7	Yes
4:49	Westbound	70	14	20	Yes
4:56	Eastbound	130	20	24	Yes
5:33	Eastbound/Westbound	195	30	19	Yes
5:48	Eastbound	135	25	27	Yes
6:08	Eastbound	135	25	17	Yes
6:36	Westbound	60	21	14	Yes
6:41	Eastbound	150	21	11	Yes
7:09	Eastbound	140	17	19	Yes
7:21	Eastbound	125	17	9	Yes
7:45	Westbound	60	14	6	Yes
7:54	Eastbound	175	18	17	Yes

As can be seen in Table 6 above, the maximum observed northbound and southbound queues during the AM peak hours is 17 and 16 vehicles respectively. During the PM peak hour, the maximum observed

northbound and southbound queue is 30 and 27 vehicles respectively. These queues were sometimes observed to block side streets. However, the queues always cleared upon the opening of the railroad gate. Traffic on Railroad Avenue was observed to flow smoothly with some delays when the railroad gate is open.

As requested, the Sim Traffic analyses of the railroad crossing simulation has been compared with the observed queues at the railroad crossing during the weekday AM and PM peak hours. Table 7 summarizes the maximum northbound and southbound queues at the railroad crossing obtained from the Sim Traffic simulation.

TABLE 7:SIM TRAFFIC SIMULATION RAILROAD GATE DATA RAILROAD AVENUE

Peak Period	Maximum Queue (feet)		Maximum Queue (vehicles)	
	Northbound	Southbound	Northbound	Southbound
AM	256	409	14	23
PM	250	669	14	37

Note – assumed 1 vehicle length is approximately 18 feet

As can be seen from the review of tables 6 and 7, the queues observed on Railroad Avenue in the vicinity of the railroad crossing during AM and PM peak hours are similar to those in the Sim Traffic Simulation, hence the modelling results reasonably reflect prevailing conditions.

LKMA October 2020 Comment – LKMA concurs with the statement in the response that the model has been determined to reflect queues at the railroad crossing, and therefore can provide a reasonable prediction of future queuing at the grade crossing after addition of the site generated traffic. The predicted queue lengths were not provided in the response memorandum or in the report or appendices. The projected queue lengths should be provided so that the impact of the additional traffic on queues can be estimated within the constraints of the model.

LKMA February 2020 Comment 15 - LIRR Parking – *The response provides a reasonable estimate of the project's impact on available parking at the Sayville LIRR station. No discussion of the demand due to the as of right development is provided., which is likely to be approximately 90% less than the projected demand under the proposed zoning.*

Based on the information provided in the report, demand for approximately 56 additional parking spaces can be expected at the Sayville station parking lots were the property developed as described in the submission.

The report notes that the station parking lot north of the LIRR is essentially at capacity under existing conditions, and the south lot is near capacity. The condition will be exacerbated by the increased demand.

The report states that private transit will be offered to offset the parking demand at the LIRR station, which contradicts other information in this submission. No other mitigation is offered.

The revised report continues to maintain that LIRR station parking will serve to meet parking demand for the downtown Sayville business area during weekend, when LIRR station demand is lower. Given the distance between the LIRR lots and the downtown area, this is considered unrealistic.

Applicant June 2020 Response -As stated in the previous responses, parking counts were collected at the LIRR station parking lots on Wednesday June 6th, 2018 from 7am to 8pm. Based on the review of the parking data, the peak parking demand of the LIRR parking lots occurred at 2pm with 497 of the 603 parking spaces occupied resulting in a minimum availability of 106 parking spaces at any given time of the day. Based on the parking study, the proposed residential development will generate a parking demand of 56 parking spaces at the Sayville LIRR station. The available 106 parking spaces will be adequate to support this parking demand. However, to mitigate any parking impact in the LIRR parking lots associated with the proposed project, the applicant is strongly reconsidering the provision of private shuttle bus (private transit) services to transport residents to and from the train station during the AM and PM commuter peak hours. The applicant will be working on the details of this service as the project moves along. Even though the available parking is adequate to support the peak parking demand of proposed project, the private transit service will further reduce the parking demand.

LKMA October 2020 Comment - Response noted. Given the greater than ten-fold increase in the number of residential units proposed as compared to the as of right development, the proposed development will result in increased demand for parking in the LIRR parking lots.

LKMA February 2020 Comment 16- Municipal Parking *- Development of the site under the proposed zoning will result in proportionally greater parking demand in the Downtown Sayville business district than would development as of right. While adequate parking exists, no mitigation is offered for the increased impact. If the applicant does not agree that the linear extrapolation is realistic, alternative methodology should be proposed and implemented to determine the project's potential impact on parking demand in the downtown business district. Such methodology could include surveys to determine the origins of patrons and visitors utilizing the municipal parking, so that the impact of the increase in the local population by 15% could be more accurately estimated, and mitigation of the project's impact on available municipal parking due to the proposed rezoning could be discussed.*

Applicant June 2020 Response - Surveys to determine the origins of patrons and visitors utilizing the municipal parking is likely not feasible at this time but even if this linear extrapolation is considered, a 15% increase in the current 554 municipal parking spaces will result in an increase in demand of 83 parking spaces. Parking counts were collected at the municipal parking lots in Sayville on Wednesday June 6th, 2018 from 7am to 8pm. Based on the review of the parking data, the peak parking demand of the municipal parking lots occurred at 6 pm with 334 of the 554 parking spaces occupied resulting in a minimum availability of 220 parking spaces at any given time of the day. With the linear extrapolation approach, the available municipal parking spaces (220) is significantly higher than the estimated parking demand of 83 spaces. It is therefore our opinion that there will be adequate municipal parking in the downtown to support the estimated parking demand.

LKMA October 2020 Comment - Response noted. Given the greater than ten-fold increase in the number of residential units proposed as compared to the as of right development, the proposed development will result in increased demand for parking in the municipal parking lots.

LKMA February 2020 Comment 17 - *The response is inadequate and further information is required. Currently prevailing congestion issues during school arrival and dismissal times identified in the study report will continue and be slightly exacerbated. Pick up and drop off queues at each school facility will lengthen somewhat, as will the time it takes for queues to dissipate. The impact will be commensurate with the proposal increase in traffic over as of right development.*

Development under the proposed zoning can be expected to result in approximately 90% more school aged children than under as of right zoning, with proportional increase in transportation impacts, including school buses and private vehicles. The modal split of students travelling to and from the school facilities should be utilized to determine the number of additional school-based trips that will be generated by development. The impact of these additional trips on queueing and congestion at the school facilities should be estimated by distributing the new trips among the school facilities.

Also, school buses typically do not access private roads as proposed by the development. Where are the School Bus Stops on Lakeland likely to be?

Applicant June 2020 Response - As detailed in our previous response, from our field observations at the three schools (Edward J. Bosti elementary School, Oakdale-Bohemia Middle School and Connetquot High School), Overall, all the school access points and drop-off/pick-up areas experienced some delays and traffic congestion during the drop-off and pick-up periods that lasted between 15 and 30 minutes. Outside these time periods no traffic congestion and traffic flow issues were observed. These types of conditions are common at many schools in Long Island.

To determine the level of impact the proposed development will have, if any, on school related transportation, an estimate of the number of potential number of school children that will reside at the development was determined. The proposed residential development contains a total of 1365 residential units. Based on the fiscal and economic analyses conducted for this project, a total of 210 school aged children will reside in this residential development. The as-of- right development of 98 single family homes will generate a total of 144 school aged children, 66 less than the proposed development. The 210 students will be distributed between the elementary, middle and high school. Based on the number of grades from K through 12, of the 210 school aged children, we estimated 97 elementary school children, 48 middle school children and 65 high school students. Based on this estimate, the elementary school children will generate between 2 and 3 school buses, the middle school children will generate between 1 and 2 buses and the high school students will generate between 1 and 2 buses.

Based on our field observations as noted above, the addition of few more school buses will not significantly impact traffic flow and congestion on the surrounding roadways and should not require any changes to the current bus routes. Data obtained from the Pre-K Through 12th Grade Nassau/Suffolk County School Enrollment for 2014 through 2019 show that the student enrollment at the Connetquot Central School District consistently declined over the five (5) school year periods. The Connetquot Central School District lost a total of 502 students over the 5-year period. Based on this trend and the current bus utilization, the additional students could be accommodated in the current bus fleet and hence may not require any changes to the current fleet. Additionally, any increases in the number of vehicles dropping off and picking up students, driving to and parking at the school facilities was included

in the trip generation and distribution of traffic for the proposed project and hence will be reflected in the capacity analyses results of the study intersections. Any traffic flows and congestion issues at the school facilities are existing and only occur for a short period of time during the morning drop-off periods and the afternoon pick-up periods. The project traffic traveling to and from these school facilities should not significantly impact the current operation of the school facilities.

However, to improve the current traffic condition during the short period of time they occur, the following can be considered:

- Have more than one arrival and departure time per school (stagger the arrival and departure times by 30 minutes). This can be done by grades. For example, have Grade 3 thru 5 students arrive half an hour before Pre-K thru 2. This will help distribute traffic and relieve traffic congestion.
- Install signs along the drop off /pick up areas to encourage parents not to double park during drop off and pickups. This will improve traffic circulation and hence reduce traffic congestion.

With regards, to school bus stops on Lakeland Avenue, the applicant can provide a dedication along the site frontages on Lakeland Avenue and 11th Street for school bus stops.

LKMA October 2020 Comment – Response noted. Given the greater than ten-fold increase in the number of residential units proposed as compared to the as of right development, the projected increase in school age children seems low. While verification of these projections is beyond the purview LKMA's efforts, a stated, the proposed development will result in increased school related traffic as compared to the as of right (no build) projection.

ATTACHMENTS

Traffic Impact Study Review
Proposed GRaybarn Sayville
Study Area Intersection Site Generated Traffic

AM PEAK - SCHOOL PEAK					
Int ID	Intersection	No Build Traffic	Build (Phase 6)	Difference	% increase
1	Smithtown Ave. & NYS Route 27 North Service Rd	1407	1456	49	3.5%
2	Smithtown Ave. & NYS Route 27 South Service Rd	477	545	68	14.3%
3	Lakeland Ave. & NYS Route 27 North Service Rd.	3909	4180	271	6.9%
4	Lakeland Ave. & NYS Route 27 South Service Rd.	2622	2979	357	13.6%
5	Johnson Ave. & NYS Route 27 North Service Rd.	2610	2610	0	0.0%
6	Johnson Ave. & NYS Route 27 South Service Rd.	1098	1098	0	0.0%
7	Lakeland Ave. & 11th St.	1244	1521	277	22.3%
8	Lakeland Ave. & Gibbons Ct.	1238	1508	270	21.8%
9	Lakeland Ave. & Chester Rd.	1159	1190	31	2.7%
10	Lakeland Ave. & Tariff Street/Johnson Ave.	1353	1410	57	4.2%
11	Lakeland Ave. & Manton St.	970	1021	51	5.3%
12	Lakeland Ave. & LIRR North Parking Lot / Henry St.	835	886	51	6.1%
13	Railroad Ave. & Depot St.	850	906	56	6.6%
14	Railroad Ave. & Hiddink St.	764	793	29	3.8%
15	Railroad Ave. & Center St.	536	555	19	3.5%
16	Montauk Hwy. & Brook St.	1291	1320	29	2.2%
17	Montauk Hwy. & Cherry Ave.	1267	1289	22	1.7%
18	Shopping Center/Greeley Ave. & Montauk Hwy.	1322	1339	17	1.3%
19	Greene Ave. & Montauk Hwy.	1355	1372	17	1.3%
20	Gilette Ave. / Railroad Ave. & Montauk Hwy.	1452	1512	60	4.1%
21	Shopping Center/Lincoln Ave. & Montauk Hwy.	1063	1068	5	0.5%
22	Foster Ave./Shopping Center & Montauk Hwy.	1177	1182	5	0.4%
23	Montauk Hwy. & Hiddink St./Hanson Pl.	1174	1184	10	0.9%
24	Smithtown Ave. & Terry Road & Island Blvd.	249	313	64	25.7%
26	Bohemia Pkwy. & Terry Rd.	325	423	98	30.2%
27	St. Johns St. & Terry Rd.	297	335	38	12.8%
28	Terry Rd. & Sterling Pl.	278	316	38	13.7%
29	Terry Rd. & Carrier Ave.	233	277	44	18.9%
30	Cherry Ave. & Tariff St/Terry Rd.	542	587	45	8.3%
31	Tariff St./Terry Rd. & Chester Rd.	443	475	32	7.2%
32	Bohemia Pkwy. & NYS Route 27 South Service Rd.	192	275	83	43.2%
33	Bohemia Pkwy. & 11th St.	48	131	83	172.9%
34	Carrier Ave. & Marion St.	181	34	-147	-81.2%
35	Carries Ave. & Sterling Pl.	44	39	-5	-11.4%
36	Cherry Ave. & Brook St.	684	704	20	2.9%
37	Lincoln Ave. & Hiddink St.	451	461	10	2.2%
38	Site Access & 11th St.	N/A	111	N/A	N/A
39	Terry Rd. & Site Access	N/A	433	N/A	N/A

Traffic Impact Study Review
Proposed GRaybarn Sayville
Study Area Intersection Site Generated Traffic

PM PEAK - SCHOOL PEAK					
Int ID	Intersection	No Build Traffic	Build (Phase 6)	Difference	% increase
1	Smithtown Ave. & NYS Route 27 North Service Rd	1706	1737	31	1.8%
2	Smithtown Ave. & NYS Route 27 South Service Rd	863	951	88	10.2%
3	Lakeland Ave. & NYS Route 27 North Service Rd.	4353	4684	331	7.6%
4	Lakeland Ave. & NYS Route 27 South Service Rd.	2906	3334	428	14.7%
5	Johnson Ave. & NYS Route 27 North Service Rd.	2708	2708	0	0.0%
6	Johnson Ave. & NYS Route 27 South Service Rd.	1469	1469	0	0.0%
7	Lakeland Ave. & 11th St.	1629	2008	379	23.3%
8	Lakeland Ave. & Gibbons Ct.	1631	1935	304	18.6%
9	Lakeland Ave. & Chester Rd.	1529	1567	38	2.5%
10	Lakeland Ave. & Tariff Street/Johnson Ave.	1951	2017	66	3.4%
11	Lakeland Ave. & Manton St.	1495	1557	62	4.1%
12	Lakeland Ave. & LIRR North Parking Lot / Henry St.	1350	1412	62	4.6%
13	Railroad Ave. & Depot St.	1532	1589	57	3.7%
14	Railroad Ave. & Hiddink St.	1444	1479	35	2.4%
15	Railroad Ave. & Center St.	1192	1214	22	1.8%
16	Montauk Hwy. & Brook St.	1872	1907	35	1.9%
17	Montauk Hwy. & Cherry Ave.	1854	1879	25	1.3%
18	Shopping Center/Greeley Ave. & Montauk Hwy.	1790	1809	19	1.1%
19	Greene Ave. & Montauk Hwy.	1839	1858	19	1.0%
20	Gilette Ave. / Railroad Ave. & Montauk Hwy.	2236	2261	25	1.1%
21	Shopping Center/Lincoln Ave. & Montauk Hwy.	1516	1522	6	0.4%
22	Foster Ave./Shopping Center & Montauk Hwy.	1692	1698	6	0.4%
23	Montauk Hwy. & Hiddink St./Hanson Pl.	1720	1732	12	0.7%
24	Smithtown Ave. & Terry Road & Island Blvd.	416	492	76	18.3%
26	Bohemia Pkwy. & Terry Rd.	448	546	98	21.9%
27	St. Johns St. & Terry Rd.	406	452	46	11.3%
28	Terry Rd. & Sterling Pl.	388	434	46	11.9%
29	Terry Rd. & Carrier Ave.	727	384	-343	-47.2%
30	Cherry Ave. & Tariff St/Terry Rd.	1144	809	-335	-29.3%
31	Tariff St./Terry Rd. & Chester Rd.	579	617	38	6.6%
32	Bohemia Pkwy. & NYS Route 27 South Service Rd.	456	520	64	14.0%
33	Bohemia Pkwy. & 11th St.	85	149	64	75.3%
34	Carrier Ave. & Marion St.	41	41	0	0.0%
35	Carries Ave. & Sterling Pl.	47	47	0	0.0%
36	Cherry Ave. & Brook St.	870	895	25	2.9%
37	Lincoln Ave. & Hiddink St.	783	795	12	1.5%
38	Site Access & 11th St.	N/A	209	N/A	N/A
39	Terry Rd. & Site Access	N/A	545	N/A	N/A

Traffic Impact Study Review
Proposed GRaybarn Sayville
Study Area Intersection Site Generated Traffic

SAT PEAK - SCHOOL PEAK					
Int ID	Intersection	No Build Traffic	Build (Phase 6)	Difference	% increase
1	Smithtown Ave. & NYS Route 27 North Service Rd	746	780	34	4.6%
2	Smithtown Ave. & NYS Route 27 South Service Rd	750	822	72	9.6%
3	Lakeland Ave. & NYS Route 27 North Service Rd.	3038	3317	279	9.2%
4	Lakeland Ave. & NYS Route 27 South Service Rd.	2634	3014	380	14.4%
5	Johnson Ave. & NYS Route 27 North Service Rd.	1636	1636	0	0.0%
6	Johnson Ave. & NYS Route 27 South Service Rd.	1244	1244	0	0.0%
7	Lakeland Ave. & 11th St.	1576	1891	315	20.0%
8	Lakeland Ave. & Gibbons Ct.	1592	1896	304	19.1%
9	Lakeland Ave. & Chester Rd.	1495	1563	68	4.5%
10	Lakeland Ave. & Tariff Street/Johnson Ave.	1785	1904	119	6.7%
11	Lakeland Ave. & Manton St.	1397	1500	103	7.4%
12	Lakeland Ave. & LIRR North Parking Lot / Henry St.	1294	1397	103	8.0%
13	Railroad Ave. & Depot St.	1441	1544	103	7.1%
14	Railroad Ave. & Hiddink St.	1373	1464	91	6.6%
15	Railroad Ave. & Center St.	1144	1205	61	5.3%
16	Montauk Hwy. & Brook St.	1390	1481	91	6.5%
17	Montauk Hwy. & Cherry Ave.	1515	1575	60	4.0%
18	Shopping Center/Greeley Ave. & Montauk Hwy.	1595	1643	48	3.0%
19	Greene Ave. & Montauk Hwy.	1689	1737	48	2.8%
20	Gilette Ave. / Railroad Ave. & Montauk Hwy.	2027	2087	60	3.0%
21	Shopping Center/Lincoln Ave. & Montauk Hwy.	1462	1474	12	0.8%
22	Foster Ave./Shopping Center & Montauk Hwy.	1659	1671	12	0.7%
23	Montauk Hwy. & Hiddink St./Hanson Pl.	1590	1619	29	1.8%
24	Smithtown Ave. & Terry Road & Island Blvd.	343	407	64	18.7%
26	Bohemia Pkwy. & Terry Rd.	431	521	90	20.9%
27	St. Johns St. & Terry Rd.	391	476	85	21.7%
28	Terry Rd. & Sterling Pl.	379	464	85	22.4%
29	Terry Rd. & Carrier Ave.	337	422	85	25.2%
30	Cherry Ave. & Tariff St/Terry Rd.	685	785	100	14.6%
31	Tariff St./Terry Rd. & Chester Rd.	487	555	68	14.0%
32	Bohemia Pkwy. & NYS Route 27 South Service Rd.	388	460	72	18.6%
33	Bohemia Pkwy. & 11th St.	79	151	72	91.1%
34	Carrier Ave. & Marion St.	37	37	0	0.0%
35	Carries Ave. & Sterling Pl.	47	47	0	0.0%
36	Cherry Ave. & Brook St.	678	725	47	6.9%
37	Lincoln Ave. & Hiddink St.	718	747	29	4.0%
38	Site Access & 11th St.	N/A	163	N/A	N/A
39	Terry Rd. & Site Access	N/A	581	N/A	N/A

Traffic Impact Study Review
Proposed GRaybarn Sayville
Study Area Intersection Site Generated Traffic

AM PEAK - SUMMER PEAK					
Int ID	Intersection	No Build Traffic	Build (Phase 6)	Difference	% increase
1	Smithtown Ave. & NYS Route 27 North Service Rd	524	573	49	9.4%
2	Smithtown Ave. & NYS Route 27 South Service Rd	498	566	68	13.7%
3	Lakeland Ave. & NYS Route 27 North Service Rd.	3188	3459	271	8.5%
4	Lakeland Ave. & NYS Route 27 South Service Rd.	2730	3087	357	13.1%
5	Johnson Ave. & NYS Route 27 North Service Rd.	1710	1710	0	0.0%
6	Johnson Ave. & NYS Route 27 South Service Rd.	1074	1074	0	0.0%
7	Lakeland Ave. & 11th St.	1322	1599	277	21.0%
8	Lakeland Ave. & Gibbons Ct.	1314	1584	270	20.5%
9	Lakeland Ave. & Chester Rd.	1239	1270	31	2.5%
10	Lakeland Ave. & Tariff Street/Johnson Ave.	1455	1512	57	3.9%
11	Lakeland Ave. & Manton St.	1036	1087	51	4.9%
12	Lakeland Ave. & LIRR North Parking Lot / Henry St.	958	1009	51	5.3%
13	Railroad Ave. & Depot St.	1012	1061	49	4.8%
14	Railroad Ave. & Hiddink St.	930	959	29	3.1%
15	Railroad Ave. & Center St.	820	839	19	2.3%
16	Montauk Hwy. & Brook St.	1093	1122	29	2.7%
17	Montauk Hwy. & Cherry Ave.	1099	1121	22	2.0%
18	Shopping Center/Greeley Ave. & Montauk Hwy.	1142	1159	17	1.5%
19	Greene Ave. & Montauk Hwy.	1217	1234	17	1.4%
20	Gilette Ave. / Railroad Ave. & Montauk Hwy.	1480	1502	22	1.5%
21	Shopping Center/Lincoln Ave. & Montauk Hwy.	1054	1059	5	0.5%
22	Foster Ave./Shopping Center & Montauk Hwy.	1187	1192	5	0.4%
23	Montauk Hwy. & Hiddink St./Hanson Pl.	1169	1179	10	0.9%
24	Smithtown Ave. & Terry Road & Island Blvd.	227	293	66	29.1%
26	Bohemia Pkwy. & Terry Rd.	297	395	98	33.0%
27	St. Johns St. & Terry Rd.	263	301	38	14.4%
28	Terry Rd. & Sterling Pl.	251	289	38	15.1%
29	Terry Rd. & Carrier Ave.	216	254	38	17.6%
30	Cherry Ave. & Tariff St/Terry Rd.	407	452	45	11.1%
31	Tariff St./Terry Rd. & Chester Rd.	320	352	32	10.0%
32	Bohemia Pkwy. & NYS Route 27 South Service Rd.	266	349	83	31.2%
33	Bohemia Pkwy. & 11th St.	60	143	83	138.3%
34	Carrier Ave. & Marion St.	28	28	0	0.0%
35	Carries Ave. & Sterling Pl.	32	32	0	0.0%
36	Cherry Ave. & Brook St.	479	499	20	4.2%
37	Lincoln Ave. & Hiddink St.	427	437	10	2.3%
38	Site Access & 11th St.	N/A	115	N/A	N/A
39	Terry Rd. & Site Access	N/A	411	N/A	N/A

Traffic Impact Study Review
Proposed GRaybarn Sayville
Study Area Intersection Site Generated Traffic

PM PEAK - SUMMER PEAK					
Int ID	Intersection	No Build Traffic	Build (Phase 6)	Difference	% increase
1	Smithtown Ave. & NYS Route 27 North Service Rd	1294	1325	31	2.4%
2	Smithtown Ave. & NYS Route 27 South Service Rd	806	894	88	10.9%
3	Lakeland Ave. & NYS Route 27 North Service Rd.	3908	4239	331	8.5%
4	Lakeland Ave. & NYS Route 27 South Service Rd.	2967	3395	428	14.4%
5	Johnson Ave. & NYS Route 27 North Service Rd.	1995	1995	0	0.0%
6	Johnson Ave. & NYS Route 27 South Service Rd.	1342	1342	0	0.0%
7	Lakeland Ave. & 11th St.	1604	1983	379	23.6%
8	Lakeland Ave. & Gibbons Ct.	1622	1926	304	18.7%
9	Lakeland Ave. & Chester Rd.	1515	1553	38	2.5%
10	Lakeland Ave. & Tariff Street/Johnson Ave.	1712	919	-793	-46.3%
11	Lakeland Ave. & Manton St.	1331	1373	42	3.2%
12	Lakeland Ave. & LIRR North Parking Lot / Henry St.	1211	1273	62	5.1%
13	Railroad Ave. & Depot St.	1359	1416	57	4.2%
14	Railroad Ave. & Hiddink St.	1294	1329	35	2.7%
15	Railroad Ave. & Center St.	1101	1123	22	2.0%
16	Montauk Hwy. & Brook St.	1818	1853	35	1.9%
17	Montauk Hwy. & Cherry Ave.	1774	1799	25	1.4%
18	Shopping Center/Greeley Ave. & Montauk Hwy.	1718	1737	19	1.1%
19	Greene Ave. & Montauk Hwy.	1774	1793	19	1.1%
20	Gilette Ave. / Railroad Ave. & Montauk Hwy.	2117	2145	28	1.3%
21	Shopping Center/Lincoln Ave. & Montauk Hwy.	1566	1539	-27	-1.7%
22	Foster Ave./Shopping Center & Montauk Hwy.	1632	1638	6	0.4%
23	Montauk Hwy. & Hiddink St./Hanson Pl.	1640	1652	12	0.7%
24	Smithtown Ave. & Terry Road & Island Blvd.	320	396	76	23.8%
26	Bohemia Pkwy. & Terry Rd.	382	480	98	25.7%
27	St. Johns St. & Terry Rd.	325	671	346	106.5%
28	Terry Rd. & Sterling Pl.	316	362	46	14.6%
29	Terry Rd. & Carrier Ave.	300	346	46	15.3%
30	Cherry Ave. & Tariff St/Terry Rd.	623	676	53	8.5%
31	Tariff St./Terry Rd. & Chester Rd.	470	508	38	8.1%
32	Bohemia Pkwy. & NYS Route 27 South Service Rd.	459	523	64	13.9%
33	Bohemia Pkwy. & 11th St.	77	141	64	83.1%
34	Carrier Ave. & Marion St.	24	24	0	0.0%
35	Carries Ave. & Sterling Pl.	23	23	0	0.0%
36	Cherry Ave. & Brook St.	703	728	25	3.6%
37	Lincoln Ave. & Hiddink St.	680	692	12	1.8%
38	Site Access & 11th St.	N/A	491	N/A	N/A
39	Terry Rd. & Site Access	N/A	196	N/A	N/A

Traffic Impact Study Review
Proposed GRaybarn Sayville
Study Area Intersection Site Generated Traffic

FRIDAY PEAK - SUMMER PEAK					
Int ID	Intersection	No Build Traffic	Build (Phase 6)	Difference	% increase
1	Smithtown Ave. & NYS Route 27 North Service Rd	1466	1497	31	2.1%
2	Smithtown Ave. & NYS Route 27 South Service Rd	809	897	88	10.9%
3	Lakeland Ave. & NYS Route 27 North Service Rd.	4023	4354	331	8.2%
4	Lakeland Ave. & NYS Route 27 South Service Rd.	2993	3421	428	14.3%
5	Johnson Ave. & NYS Route 27 North Service Rd.	1873	1873	0	0.0%
6	Johnson Ave. & NYS Route 27 South Service Rd.	1315	1315	0	0.0%
7	Lakeland Ave. & 11th St.	1583	1962	379	23.9%
8	Lakeland Ave. & Gibbons Ct.	1594	1934	340	21.3%
9	Lakeland Ave. & Chester Rd.	1499	1537	38	2.5%
10	Lakeland Ave. & Tariff Street/Johnson Ave.	1763	1832	69	3.9%
11	Lakeland Ave. & Manton St.	1393	1455	62	4.5%
12	Lakeland Ave. & LIRR North Parking Lot / Henry St.	1236	1298	62	5.0%
13	Railroad Ave. & Depot St.	1383	1440	57	4.1%
14	Railroad Ave. & Hiddink St.	1332	1367	35	2.6%
15	Railroad Ave. & Center St.	1118	1140	22	2.0%
16	Montauk Hwy. & Brook St.	1786	1821	35	2.0%
17	Montauk Hwy. & Cherry Ave.	1747	1772	25	1.4%
18	Shopping Center/Greeley Ave. & Montauk Hwy.	1764	1783	19	1.1%
19	Greene Ave. & Montauk Hwy.	1777	1796	19	1.1%
20	Gilette Ave. / Railroad Ave. & Montauk Hwy.	2177	2202	25	1.1%
21	Shopping Center/Lincoln Ave. & Montauk Hwy.	1582	1588	6	0.4%
22	Foster Ave./Shopping Center & Montauk Hwy.	1776	1782	6	0.3%
23	Montauk Hwy. & Hiddink St./Hanson Pl.	1759	1771	12	0.7%
24	Smithtown Ave. & Terry Road & Island Blvd.	319	395	76	23.8%
26	Bohemia Pkwy. & Terry Rd.	339	437	98	28.9%
27	St. Johns St. & Terry Rd.	294	340	46	15.6%
28	Terry Rd. & Sterling Pl.	285	331	46	16.1%
29	Terry Rd. & Carrier Ave.	259	305	46	17.8%
30	Cherry Ave. & Tariff St/Terry Rd.	527	580	53	10.1%
31	Tariff St./Terry Rd. & Chester Rd.	409	447	38	9.3%
32	Bohemia Pkwy. & NYS Route 27 South Service Rd.	445	509	64	14.4%
33	Bohemia Pkwy. & 11th St.	74	138	64	86.5%
34	Carrier Ave. & Marion St.	30	30	0	0.0%
35	Carries Ave. & Sterling Pl.	31	34	3	9.7%
36	Cherry Ave. & Brook St.	703	728	25	3.6%
37	Lincoln Ave. & Hiddink St.	725	737	12	1.7%
38	Site Access & 11th St.	N/A	203	N/A	N/A
39	Terry Rd. & Site Access	N/A	449	N/A	N/A

Traffic Impact Study Review
Proposed GRaybarn Sayville
Study Area Intersection Site Generated Traffic

SATURDAY PEAK - SUMMER PEAK					
Int ID	Intersection	No Build Traffic	Build (Phase 6)	Difference	% increase
1	Smithtown Ave. & NYS Route 27 North Service Rd	662	696	34	5.1%
2	Smithtown Ave. & NYS Route 27 South Service Rd	623	695	72	11.6%
3	Lakeland Ave. & NYS Route 27 North Service Rd.	3072	3351	279	9.1%
4	Lakeland Ave. & NYS Route 27 South Service Rd.	2673	3053	380	14.2%
5	Johnson Ave. & NYS Route 27 North Service Rd.	1498	1498	0	0.0%
6	Johnson Ave. & NYS Route 27 South Service Rd.	946	973	27	2.9%
7	Lakeland Ave. & 11th St.	1548	1863	315	20.3%
8	Lakeland Ave. & Gibbons Ct.	1566	1870	304	19.4%
9	Lakeland Ave. & Chester Rd.	1467	1535	68	4.6%
10	Lakeland Ave. & Tariff Street/Johnson Ave.	1726	1845	119	6.9%
11	Lakeland Ave. & Manton St.	1420	1523	103	7.3%
12	Lakeland Ave. & LIRR North Parking Lot / Henry St.	1348	1451	103	7.6%
13	Railroad Ave. & Depot St.	1463	1566	103	7.0%
14	Railroad Ave. & Hiddink St.	1392	1483	91	6.5%
15	Railroad Ave. & Center St.	1169	1230	61	5.2%
16	Montauk Hwy. & Brook St.	1383	1474	91	6.6%
17	Montauk Hwy. & Cherry Ave.	1508	1568	60	4.0%
18	Shopping Center/Greeley Ave. & Montauk Hwy.	1581	1629	48	3.0%
19	Greene Ave. & Montauk Hwy.	1683	1731	48	2.9%
20	Gilette Ave. / Railroad Ave. & Montauk Hwy.	2061	2121	60	2.9%
21	Shopping Center/Lincoln Ave. & Montauk Hwy.	1487	1499	12	0.8%
22	Foster Ave./Shopping Center & Montauk Hwy.	1693	1705	12	0.7%
23	Montauk Hwy. & Hiddink St./Hanson Pl.	1573	1602	29	1.8%
24	Smithtown Ave. & Terry Road & Island Blvd.	254	318	64	25.2%
26	Bohemia Pkwy. & Terry Rd.	327	417	90	27.5%
27	St. Johns St. & Terry Rd.	274	359	85	31.0%
28	Terry Rd. & Sterling Pl.	264	349	85	32.2%
29	Terry Rd. & Carrier Ave.	235	320	85	36.2%
30	Cherry Ave. & Tariff St/Terry Rd.	479	579	100	20.9%
31	Tariff St./Terry Rd. & Chester Rd.	365	433	68	18.6%
32	Bohemia Pkwy. & NYS Route 27 South Service Rd.	383	455	72	18.8%
33	Bohemia Pkwy. & 11th St.	87	159	72	82.8%
34	Carrier Ave. & Marion St.	24	24	0	0.0%
35	Carries Ave. & Sterling Pl.	29	29	0	0.0%
36	Cherry Ave. & Brook St.	619	666	47	7.6%
37	Lincoln Ave. & Hiddink St.	652	681	29	4.4%
38	Site Access & 11th St.	N/A	160	N/A	N/A
39	Terry Rd. & Site Access	N/A	471	N/A	N/A