

Appendix E

Traffic



# Traffic Impact Study

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## Underhill Farm Redevelopment Town of Yorktown, Westchester County, New York

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## Executive Summary

### Background

A detailed Traffic Impact Study has been prepared evaluating existing (see Figure No. 2 & 3 for existing AM & PM peak hour traffic volumes) and future traffic conditions in the vicinity of the proposed Underhill Farm Project. The traffic analysis accounts for the traffic from other previously approved developments in the area as well as anticipated traffic to be generated by the proposed Underhill Farm development (see Tables No. 1 and 1A and Figure No. 36 & 37 for project related traffic volumes). As noted in the study, certain improvements are proposed in association with the development. The study also identifies the types of improvements required to address future conditions if and when other potential developments occur in the area. These include the Kmart Redevelopment, the Roma Building Redevelopment, the re-occupancy of the former Turco's/Uncle Giuseppe's space as well as additional area growth. The timing of these potential projects is unknown at this time; however, based on previous proposals, traffic associated with these developments was accounted for as part of the future traffic conditions evaluation contained in Section III.G of the study.

It should also be noted that the Project proposal has been modified somewhat since prior submission of the Traffic Impact Study. The Project maintains the total of 148 residential dwelling units made up of a combination of Townhouses, Condos and Apartments. The commercial portion of the development is now proposed to consist of a 1,000 sq. ft. restaurant, 2,000 sq. ft. of retail space and a total of 13,000 sq. ft. of office space.

### Project Related Improvements

As summarized in the Traffic Impact Study, certain improvements were identified in order to mitigate any potential traffic impacts associated with the Underhill Farm Project. These included the following:

- Sight distance improvements at the Rochambeau Court intersection with Underhill Avenue and related drainage improvements all to be coordinated with the Town Highway Superintendent.
- Sight distance improvements at the intersection of Glenrock Street with Underhill Avenue.
- Construction of a full traffic and pedestrian access connection to Beaver Ridge, which in turn connects to Allen Avenue. This connection includes the appropriate signing, striping, intersection controls, and traffic calming measures to accommodate such movements.
- Signing and striping improvements for improved traffic control on Underhill Avenue including "Do Not Block Intersection" striping & signage at the easterly site access driveway and at the Cardinal Court intersection.
- Coordination with the Town Highway and Police Departments regarding the addition of signing and related speed control or traffic calming measures to help reduce travel speeds along Underhill Avenue approaching this area.

- Traffic signal timing and signal equipment upgrades including new video camera detection at the NYS Route 118 and Underhill Avenue intersection to improve efficiency for processing traffic during peak periods. This would help accommodate the existing left turns and other movements during peak time periods; especially during the PM peak when long backups presently occur on the Underhill Avenue eastbound approach.
- Land dedication by the Applicant along Underhill Avenue to accommodate widening improvements at the NYS Route 118 intersection.
- NYS Route 118/Underhill Avenue intersection improvements (see further discussion below).

### NYS Route 118/Underhill Avenue Intersection Improvements

As a result of review and comments from the public, from the Town of Yorktown Planning Department, Planning Board, Town Board and Police Department, as well as the Town Traffic Consultant and the New York State Department of Transportation (NSDOT), the traffic study was revised as reflected in the study dated March 30, 2023.

Furthermore, as discussed at the April 10<sup>th</sup> and 12<sup>th</sup>, 2023 Planning Board meetings, the Underhill Farm project will advance the improvements to the intersection of Underhill Avenue and NYS Route 118. The improvements will include the construction of separate left turn lanes on the Underhill Avenue approaches, a full traffic signal controlled southbound right turn lane on NYS Route 118, traffic signal replacement with new video detection, installation of additional signal-controlled pedestrian crossings and upgrades to the existing pedestrian signals, as well as construction of new sidewalk segments with ADA compliant ramps. These improvements are detailed on the Alternate 1 Plan contained in Appendix F of the revised Traffic Impact Study dated April 20, 2023 and will be completed by the Applicant in coordination with the Town. It should be noted that the proposed pedestrian improvements at the Underhill Avenue/NYS Route 118 intersection will provide fully signal controlled pedestrian crossings of all four intersection approaches and therefore the previously proposed pedestrian crossing of Underhill Avenue at the easterly site driveway location is no longer needed and has been removed for the plans.

The intersection improvements will not only offset the traffic increases from the Underhill Farm project but will also improve overall conditions at the intersection, specifically during the PM Peak Hour, by reducing the long delays and associated queues experienced on the Underhill Avenue eastbound approach. These delays, which are expected to increase to well over 65 seconds delay in the future without the Underhill project traffic would be reduced to less than 20 seconds with the Underhill project traffic and the completed improvements.

Additionally, it should be noted that the Applicant will be paying for the design of such improvements as well as relocation of a portion of the stone wall along Underhill Avenue, which will be required as part of the roadway widening. The total intersection Project cost including all construction and implementation costs is estimated to be approximately \$1.25 Million. In addition to the originally committed approximately \$175,000.00 cost of improvements to offset the increase in traffic from the project, the Applicant has also committed to an additional \$450,000.00 contribution to complete the design and coordinate the construction of the improvements. The Applicant will then be reimbursed for the portion of the intersection project expenses above these commitments

through certain tax rebates associated with the commercial portion of the project. The summary of the costs and expected rebates are detailed in a separate document that has been coordinated with the Town. Note that the intersection improvements will be completed prior to issuance of a final Certificate of Occupancy for the project.

As noted, these improvements are intended to not only offset any traffic increases from the project but will also provide relief to current conditions and also support the traffic from other developments as well as overall growth in the area.

The project has been reviewed by the New York State Department of Transportation (NYSDOT) as well as the Town's outside traffic consultant and both are in conceptual agreement with the proposed intersection improvements.

## I. Introduction

### A. Project Description and Location

*(Figure No. 1)*

This report has been prepared to evaluate the potential traffic impacts associated with the proposed Underhill Farm Development, which is planned to be developed on the property of the former Soundview Prep. The site is situated on Underhill Avenue between Glenrock Street and NYS Route 118 in the Town of Yorktown, Westchester County, New York. The site is proposed to consist of a variety of multifamily housing units including rentals and condominiums totaling 148 dwelling units along with associated parking and a clubhouse and pool. The existing mansion building is planned to be redeveloped/refurbished to contain a restaurant on the 1<sup>st</sup> floor and office spaces on the 2<sup>nd</sup> and 3<sup>rd</sup> floors. An ancillary retail/office building totaling of 8,500 square feet is also planned and will be on the ground floor of the apartment building. The project will be developed in phases with Phase 1 consisting of 68 apartments, as well as the renovation and refurbishment of the existing mansion. As part of the development, the site improvements will include the roadway and pedestrian connection to Beaver Ridge as well as the enhancements and pedestrian improvements around the existing pond and other offsite traffic and pedestrian improvements. Parking will also be provided for the new senior center, which is proposed at Beaver Ridge in the vicinity of the cross-access connection. The Phase 2 development will include the 80 dwelling units of condominiums/townhouses.

As shown on Figure No. 1, access to the development is proposed via one existing and one proposed access driveway to Underhill Avenue as well as the connection to the existing Beaver Ridge development, which will be provided for cross traffic movements, pedestrians, and emergency vehicle access. The western driveway connection to Underhill Avenue will primarily provide access to the Townhouses and will align opposite Rochambeau Drive, while the easterly driveway will provide access to the apartments, condos, and commercial uses.

A Design Year of 2025 has been utilized in completing the traffic analysis in order to evaluate future traffic conditions associated with the completed and occupied development. It should also be noted that the development of this site was also considered as part of the SEQRA review of the Yorktown Heights Overlay District, which was recently approved by the Town of Yorktown Town Board. Also, as discussed in Section III.G, an additional evaluation which considers traffic from other significant potential developments in the area was undertaken to identify potential longer-term traffic improvements.



## B. Scope of Study

This study has been prepared to identify current and future traffic operating conditions on the surrounding roadway network and to assess the potential traffic impacts of the Project.

All available traffic count data for the study area intersections were obtained from previous reports prepared by our office. These data were supplemented with new traffic counts collected by representatives of Colliers Engineering & Design CT, P.C (formerly Maser Consulting). These data were also compared to count data obtained from the New York State Department of Transportation (NYSDOT) which was used to adjust them for the effects of the Covid-19 Pandemic on traffic. Additional traffic/pedestrian counts were also collected in November 2021. Together these data were utilized to establish the Year 2021 Existing Traffic Volumes representing existing traffic conditions in the vicinity of the site.

The 2021 Existing Traffic Volumes were then projected to the 2025 Design Year to take into account background traffic growth. In addition, traffic for other specific potential or approved developments in the area were estimated and then added to the Projected Traffic Volumes to obtain the 2025 No-Build Traffic Volumes.

Estimates were then made of the potential traffic that the proposed development would generate during each of the peak hours (see Section III.B for further discussion). The resulting site generated traffic volumes were then added to the roadway system and combined with the 2025 No-Build Traffic Volumes resulting in the 2025 Build Traffic Volumes.

The Existing, No-Build and Build Traffic Volumes were then compared to roadway capacities based on the procedures from the Highway Capacity Manual to determine existing and future Levels of Service and operating conditions. Recommendations for improvements were made where necessary to serve the existing and/or future traffic volumes.

## II. Existing Roadway and Traffic Descriptions

### A. Description of Existing Roadways

As shown on Figure No. 1, the proposed development will be accessed via one existing and one new access connection to Underhill Avenue and a cross connection the existing Beaver Ridge development. The following is a brief description of the roadways located within the study area. In addition, Section III.F provides a further description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service and any recommended improvements for each of the study area intersections. Appendix "D" contains copies of the capacity analyses which indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

#### 1. Underhill Avenue

Underhill Avenue is a two-lane roadway former County roadway, which is now under Town jurisdiction. This roadway originates at a "T" intersection with NYS Route 129 and continues in a northeasterly direction intersecting with the Taconic State Parkway at a modified diamond interchange. The roadway continues in a northeasterly direction intersecting with NYS Route 118 at a full movement signalized intersection. The roadway also intersects with Glenrock Street and French Hill Road west of the site. The speed limit on this roadway is posted at 40 MPH. There are existing sidewalks present on the south side of Underhill Avenue extending from the Rochambeau Drive Multi-Family Residential Complex past the Cardinal Court intersection and connecting to the intersection with NYS Route 118. The sidewalks also continue on the west side of NYS Route 118 past Town Hall. There are also sidewalks on the north side of the roadway between NYS Route 118 and extending to the Courtyard at Underhill Complex and there is a bus stop located in the vicinity of the Coldwell Banker driveway.

#### 2. Glenrock Street

Glenrock Street is a narrow two-lane Town roadway that generally traverses in a north/south direction between an unsignalized stop sign controlled intersection with Underhill Avenue and extends north and connects with Giordano Drive at a "stop" controlled intersection. The roadway generally serves single-family residential land uses. No access connection to the site is proposed to this roadway. The roadway has no sidewalks and has an unposted speed limit.

#### 3. Rochambeau Drive

Rochambeau Drive is a Town roadway which originates at a stop-sign controlled "T" intersection with Underhill Avenue. The roadway extends in a southerly direction providing access to existing multi-family developments. The roadway has an asphalt sidewalk on the west side of the roadway between Underhill Avenue and Woods View Court. Under existing conditions, sight distance exiting Rochambeau Drive is somewhat limited looking to the west and as recommended in Section III-H, some clearing of vegetation and grading should be completed to improve the sight distance at this intersection.

#### 4. NYS Route 118 (Saw Mill River Road)

NYS Route 118 (Saw Mill River Road) is a State highway which runs in a generally north/south direction. The roadway originates at signalized controlled "T" intersection with NYS Route 129. The roadway traverses in a northerly direction generally consistent of one-lane per direction plus paved shoulders and it intersects with both Underhill Avenue and Kear Street/Allan Avenue at signalized intersections. The speed limit is posted at 55 MPH in the southern portion of this roadway, which is reduced to 40 MPH approaching Underhill Avenue. The roadway continues north intersecting with NYS Route 35/US Route 202 and continues as a combined route into the Town of Somers. In the vicinity of the site, sidewalks are present on the east side of the roadway between Underhill Avenue and the Route 35/202 intersection.

#### 5. Allan Avenue

Allan Avenue, in the vicinity of the site, is a two-lane Town roadway which has a signalized intersection with NYS Route 118 opposite Kear Street. The roadway serves residential land uses in this area and it terminates at a stop-sign controlled intersection with Baldwin Road. There are limited sidewalks in the vicinity of NYS Route 118 and the Beaver Ridge complex. The roadway has a posted speed limit of 30 MPH. It also has a weight limit of 25 tons.

#### 6. Kear Street

Kear Street is a two-lane Town roadway which originates at a signalized intersection with NYS Route 118 opposite Allan Avenue. Sidewalks and crosswalks are provided on three of the four legs of the intersection. The roadway continues southeasterly intersecting with the access to the Brookside Office Park and also the Caremont building and intersects with Underhill Avenue and Commerce Street at a signalized full movement intersection.

### B. 2021 Existing Traffic Volumes

*(Figures No. 2 and 3)*

Manual traffic and pedestrian counts were collected by representatives of Colliers Engineering & Design on December 3, 2020 and supplemented on January 6, 2021 and November 16, 2021 (NYS Route 118 and Underhill Avenue Only) during the AM and PM Peak Hours to determine the existing traffic and pedestrian volume conditions at the study area intersections. These traffic counts were then compared to traffic volume data from previous traffic studies conducted by our office and to traffic volume data available from the New York State Department of Transportation (NYSDOT) for the NYS Route 118 Corridor. Copies of the various data are contained in Appendix H. Based on this information, the traffic counts were adjusted to account for the effects of the Covid-19 Pandemic and the resulting adjusted Year 2021 Existing Traffic Volumes were established for the Weekday Peak AM and Weekday Peak PM Hours at the following study area intersections.

- Rochambeau Drive and Underhill Avenue
- Glenrock Street and Underhill Avenue
- Underhill Avenue and NYS Route 118 (Saw Mill River Road)
- Allan Avenue/Kear Street and NYS Route 118

Based upon a review of the traffic counts, the peak hours were generally identified as follows:

- |                        |                   |
|------------------------|-------------------|
| ▪ Weekday Peak AM Hour | 7:30 AM – 8:30 AM |
| ▪ Weekday Peak PM Hour | 5:00 PM – 6:00 PM |

The resulting Year 2021 Existing Traffic Volumes are shown on Figures No. 2 and 3 for the Weekday Peak AM Hour and Weekday Peak PM Hour, respectively.

### C. Accident Data

*(Table A and Appendix E)*

Accident data for the area roadways was obtained from the NYSDOT for the latest three-year period. Table A summarizes the data by type, severity, and other factors. A copy of the Table A is contained in Appendix "E".

### III. Evaluation of Future Traffic Conditions

#### A. 2025 No-Build Traffic Volumes

*(Figure No. 4 through 17, Appendix K)*

The 2021 Existing Traffic Volumes were increased by a growth factor of 0.50% per year to account for general background growth resulting in the 2025 Projected Traffic Volumes which are shown on Figures No. 4 and 5 for each of the Peak Hours. In addition, traffic from other specific approved developments in the area including the Pied Piper Expansion (Figures No. 6 & 7), the Weyant Residential Development (Figures No. 8 & 9), the balance of the CareMount development (Figures No. 10 & 11) and the Gardena Hotel (Boutique Hotel) (Figures No. 12 & 13) were accounted for. The specific volumes for each of these developments are identified on the Figures noted above. In addition, backup data for each of these developments based on prior traffic studies prepared for the individual projects or traffic generation estimates prepared based on Institute of Transportation Engineers data is provided in Appendix K for reference.

The resulting Total Approved Other Development Traffic Volumes associated with these other developments are shown on Figures No. 14 and 15 for each of the peak hours. These volumes were then added to the 2025 Projected Traffic Volumes resulting in the Year 2025 No-Build Traffic Volumes which are shown on Figures No. 16 and 17 for the Weekday Peak AM and Weekday Peak PM Hours, respectively.

See also Section III.G for an additional analysis that considers the traffic from other potential developments in the area including the Roma Building Redevelopment, the redevelopment of the vacant former K-Mart building and the re-occupancy of the Former Turco's/Uncle Giuseppe's building.

#### B. Site Generated Traffic Volumes

*(Table No. 1 & 1A)*

Estimates of the amount of traffic to be generated by the proposed development during each of the peak hours were developed based on information published by the Institute of Transportation Engineers (ITE) as contained in the report entitled "Trip Generation", 11th Edition, 2021, based on Land Use Category 220 – Multifamily Housing (Low-Rise), Land Use 710 – General Office Building, Land Use 822 – Strip Retail Plaza (<40K) and Land Use 931 – Fine Dining Restaurant.

It is noted that the ITE data provides traffic generation rates for the various uses for the Peak Hour of Adjacent Street Traffic and the Peak Hour of Generator. The Peak of Adjacent Street Traffic data indicates the anticipated traffic generation for the specific uses during the corresponding peak hour along the adjacent roadway, which is typically the commuter peak hour. The Peak Hour of Generator data represents the volumes experienced during the peak hour of traffic generation for each individual land use. The Peak Hour of Generator traffic volumes may not coincide with the peak hours of traffic along the nearby roadways.

Table No. 1 contained in Appendix B, summarizes the trip generation rates and corresponding site generated traffic volumes for the future build out conditions for the site for the Weekday Peak AM and Weekday Peak PM Hours based on the ITE Peak Hour of Adjacent Street Traffic generation rates. Similarly, Table No. 1A contained in Appendix B, summarizes the trip generation rates and site generated traffic volumes for the Project based on the ITE Peak Hour of Generator traffic generation rates. A comparison of the two tables indicates utilizing the Peak Hour of Generator traffic generation rates results in somewhat higher traffic volume estimates for the Project. While it is our opinion that application of the Peak of Adjacent Street Traffic rates is appropriate since those represent the volumes that will coincide with the peak traffic volumes experienced along the area roadways, we have utilized the higher traffic volume estimates presented in Table No. 1A projection of future traffic volumes and analysis of future traffic conditions with the proposed Project contained herein.

The traffic generation estimates presented in both Tables No. 1 and 1A also include a 25% pass-by credit applied to the retail and restaurant uses on the site to account for trips that may be attracted from the existing traffic volumes passing the site. It should also be noted that “internal” trips between the residential and commercial land uses on the site are also possible, which would result in a reduction of the external “new trips” experienced along the surrounding area roadways. However, for the purposes of the capacity analysis contained herein, the full traffic volume generated by the site, with no credit taken for the pass-by or internal trips, has been analyzed providing a slightly conservative analysis of future conditions.

It should also be noted that the Phase 2 development may include approximately 30 dwelling units allocated for active seniors which may result in slightly lower traffic generation estimates associated with those dwelling units. However, no reduction in the peak hour trip generation was included in the analysis for this possibility.

### C. Arrival/Departure Distribution

*(Figures No. 20 and 21)*

It was necessary to establish arrival and departure distributions to assign the site generated traffic volumes to the surrounding roadway network. Based on a review of the Existing Traffic Volumes and the expected travel patterns on the surrounding roadway network, the distributions were identified. Arrival and departure distributions were developed for the townhouse portion of the development which assume the majority of townhouse traffic will utilize the western site access. These arrival and departure distributions are identified on Figures No. 18 and 19, respectively. Similarly, arrival and departure distributions were developed separately for the apartments/condos/commercial portion of the Project which will primarily utilize the eastern site access. The anticipated arrival and departure distributions associated with the apartments/condos/commercial portion of the Project are shown on Figures No. 20 and 21, respectively.

It is noted that the arrival and departure distributions shown on these figures account for 15% of the site traffic utilizing the cross-access connection to Beaver Ridge in order to access to Allan Avenue. A separate sensitivity analysis has also been conducted to assess potential traffic conditions if this cross access is not utilized and all vehicles utilize the two driveway connections to Underhill Avenue to access the site.

#### **D. 2025 Build Conditions Traffic Volumes**

*(Figures No. 22 through 29)*

The site generated traffic volumes presented in Table No. 1A were assigned to the roadway network based on the arrival and departure distributions referenced above. The resulting site generated traffic volumes associated with the townhouse portion of the development for each of the study area intersections are shown on Figures No. 22 and 23 for each of the peak hours, respectively. Similarly, the site generated traffic volumes associated with the apartments/condos/commercial portion of the Project are identified on Figures No. 24 & 25. These site generated traffic volumes were for the townhouse and the apartments/condos/commercial portions of the Project were combined on Figures No. 26 & 27 to provide the total site generated traffic volumes. The total site generated traffic volumes were then added to the 2025 No-Build Traffic Volumes to obtain the 2025 Build Traffic Volumes. The resulting 2025 Build Traffic Volumes are shown on Figures No. 28 and 29 for the Weekday Peak AM and Weekday Peak PM Hours, respectively.

#### **E. Description of Analysis Procedures**

It was necessary to perform capacity analyses in order to determine existing and future traffic operating conditions at the study area intersections. The following is a brief description of the analysis method utilized in this report:

##### **1. Signalized Intersection Capacity Analysis**

The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the Highway Capacity Manual, 6th Edition, dated 2016, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service "A" represents the best condition and a Level of Service "F" represents the worst condition. A Level of Service "C" is generally used as a design standard while a Level of Service "D" is acceptable during peak periods. A Level of Service "E" represents an operation near capacity. In order to identify an intersection's Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

## 2. Unsignalized Intersection Capacity Analysis

The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the Highway Capacity Manual, 6th Edition, dated 2016. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix "C" of this report.

## F. Results of Analysis

*(Table No. 2, Appendix D)*

Capacity analyses which take into consideration appropriate truck percentages, pedestrian activity, roadway grades and other factors were performed at the study area intersections utilizing the procedures described above to determine the Levels of Service and average vehicle delays. Summarized below are a description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service as well as any recommended improvements.

Table No. 2, contained in Appendix B, summarizes the results of the capacity analysis for the 2021 Existing, 2025 No-Build and 2025 Build Conditions. Appendix "D" contains copies of the capacity analysis which also indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

### 1. Underhill Avenue and NYS Route 118 (Saw Mill River Road) (Signal W-213)

NYS Route 118 and Underhill Avenue intersects at a signalized four-way intersection. The approaches generally consist of one lane. On the eastbound approach of Underhill Avenue there is a channelized right turn movement at the intersection and on the NYS Route 118 southbound approach there is a wide paved shoulder, which is currently used by right turning vehicles. The intersection is controlled by an actuated traffic signal with an advance left turn phase for the eastbound Underhill Avenue approach. Note that a push button controlled pedestrian crosswalk across the south leg of NYS Route 118 is provided at this location.

The capacity analysis for this intersection indicates that under current conditions, an overall intersection Level of Service "D" or better is experienced at this location. However, during the PM peak hour, eastbound traffic on Underhill Avenue currently experiences some long delays and queues during this period due to heavy commuter volumes. It should be noted that the project generated traffic through this intersection during the PM Peak Hour equates to approximately three to four percent (3 - 4%) of the total volume at this intersection.



As part of the Project, the Applicant will advance improvements to the intersection of Underhill Avenue and NYS Route 118 in coordination with the Town. The improvements will include the construction of separate left turn lanes on the Underhill Avenue approaches, a full traffic signal controlled southbound right turn lane on NYS Route 118, traffic signal replacement with new video detection, installation of additional signal-controlled pedestrian crossings and upgrades to the existing pedestrian signals, as well as construction of new sidewalk segments with ADA compliant ramps. The improvements described above are detailed on the Alternate 1 concept plan contained in Appendix F (also referred to as Option 2). As noted in the Level of Service table, with these improvements, conditions would be improved significantly at the intersection reducing the excess queues that occur and providing safer and more efficient operations overall.

As discussed in more detail in Section III.G, to help accommodate traffic on a long-term basis resulting from the traffic from other potential developments, additional future traffic improvements at this location have also been identified that could be implemented at a later date in associated with the other potential developments in the area.

## **2. Allan Avenue/Kear Street (Signal W-384) and NYS Route 118**

Allan Avenue intersects with NYS Route 118 (Saw Mill River Road) at a signalized, full movement intersection which aligns opposite Kear Street. The approaches generally consist of one lane, although the Kear Street approach widens at the intersection. Note that on NYS Route 118, there are full shoulders on either side. Pedestrian crossings are provided across Allan Avenue and Kear Street, as well as the northerly leg of NYS Route 118. Pedestrian push buttons are also provided.

The capacity analysis conducted at this intersection indicates that overall Levels of Service "C" or better are currently experienced at this location. The intersection was reanalyzed for future conditions under the No-Build and Build scenarios. A review of the analysis indicates that with some signal timing adjustments, overall Levels of Service "C" or better will be maintained at this intersection. Traffic signal communication modems and related equipment will be provided at this location as part of the improvements.

## **3. Underhill Avenue and Existing Easterly Access Driveway**

The site is currently served by an existing driveway connection to Underhill Avenue, which served the former Soundview School. This driveway is located approximately midway between NYS Route 118 and Rochambeau Drive. The driveway is proposed to be upgraded as part of the site development (see also discussion in Section III.I).

Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at Level of Service "C" or better during the AM and PM Peak Hours.

The capacity analysis was recomputed using the 2025 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to experience Levels of Service "D" or better during the AM and PM Peak Hours under future conditions for traffic exiting the side road approaches. Also, as previously noted, the queues that occur during the PM Peak Hour extend past this intersection (see also Section III.I for improvement recommendations).

#### 4. Underhill Avenue and Rochambeau Drive/Proposed Westerly Site Access

Rochambeau Drive intersects with Underhill Avenue at a stop-sign controlled "T" intersection. As part of the development, a new access drive will be constructed opposite this road to create a 4-way intersection. The new access should consist of one entering and one exiting lane and should also be stop-controlled.

Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at Level of Service "C" or better during the AM and PM Peak Hours.

The capacity analysis was recomputed using the 2025 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to experience Levels of Service "D" or better during the AM and PM Peak Hours under future conditions (see also discussion on recommended improvements in Section III.I).

#### 5. Glenrock Street and Underhill Avenue

Glenrock Street intersections with Underhill Avenue at a stop-sign controlled "T" intersection. All approaches consist of a single lane.

Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "C" during the AM and PM Peak Hours (see Section III.I for further discussion).

The capacity analysis was recomputed using the 2025 No-Build and Build Traffic volumes. The intersection is expected to continue to experience Levels of Service "C" or better during the AM and PM Peak Hours under future conditions. Note that some vegetative clearing along the site frontage will need to be completed as part of the development to maximize available sight distances at this location.

### G. Consideration of Other Potential Area Developments

*(Figures No. 30 through 41, Table No. 2A, Appendix G, H & K)*

In addition to the traffic conditions associated with the Underhill Farm project, a separate evaluation of future traffic conditions was completed, which accounts for traffic associated with the other potential significant developments in the vicinity of the Project that have not yet proceeded but could affect overall traffic conditions in the area. These other potential projects include the Roma Building Redevelopment, the redevelopment of the former Kmart space, and the re-occupancy of the former Turco's/Uncle Giuseppe's space. Copies of the corresponding Figures (Figures No. 30 through 41, tables (Table No. 2A) and analysis for these potential

conditions are contained in Appendix G of this report. Also note that backup data for each of the potential other developments based on prior traffic studies prepared for the individual projects or traffic generation estimates prepared based on Institute of Transportation Engineers data is provided in Appendix K for reference.

The analysis of this future condition indicates that during peak periods, traffic conditions may require additional improvements to accommodate expected traffic flows and we have identified such improvements for the intersection of NYS Route 118 and Underhill Avenue.

These additional potential improvement plans would provide for the provision of northbound and southbound left turn lanes along NYS Route 117 at Underhill Avenue. These additional intersection modifications would provide even further capacity improvements but would involve additional work along the NYS Route 118 corridor. This plan concept (See Alternate 2 concept plan in Appendix H) includes the provision of separate left turn lanes on NYS Route 118, maintaining the right turn from NYS Route 118 onto Underhill Avenue, together with the other related improvements. These improvements would have to be advanced if and when other potential development occurs in the area.

## H. Sensitivity Analyses

### 1. Sensitivity Analysis with No Access to Beaver Ridge

*(Figures No. 18S through 29S, 40R & 41R, Table No. 2S, Appendix I)*

A sensitivity analysis was also conducted to assess potential traffic conditions if the planned vehicular cross connection to Beaver Ridge is not utilized or not available. The sensitivity analysis arrival and departure distributions associated with the Townhouse and Apartment/Condo/Commercial portions of the Project are provided on Figures No. 18S through 21S contained in Appendix I. These distributions were then utilized to apply the site generated traffic volumes from Table No. 1A to the roadway network resulting the site generated traffic volumes at each of the study area intersections as shown on Figures No. 22S through 27S. These volumes were then applied to the 2026 No-Build Traffic Volumes with the approved other developments as well as the approved and potential other developments to obtain the respective 2026 Build scenario traffic volumes as identified on Figures No. 28S & 29S and Figures No. 40S & 41S.

The capacity analyses for the 2026 Build conditions were recomputed for this sensitivity analysis scenario and the results are summarized in Table No. 2S contained in Appendix I. The analysis of this potential condition indicates that similar levels of service are anticipated at the area intersections assuming no traffic through the Beaver Ridge connection when compared to the base scenario that assumes 15% of the Project traffic will utilize the proposed Beaver Ridge vehicular connection to access Allan Avenue.

## 2. Sensitivity Analysis with 4,000 Square Foot Restaurant

*(Figures No. 18R through 29R, 40R & 41R, Table No. 1R & 2R, Appendix I)*

An additional sensitivity analysis was also conducted to assess potential traffic conditions if the restaurant space was increased from its proposed size of 1,000 sq. ft. to 4,000 sq. ft., which has been a potential request of the Town of Yorktown Planning Board. Modified trip generation estimates associated with the alternate build scenario are provided in Table No. 1R contained in Appendix I. The trip generation estimates assume that the additional 3,000 sq. ft. of restaurant space would be in addition to all other proposed commercial space and therefore no reduction of the other commercial space was assumed as part of this sensitivity analysis. The arrival and departure distributions associated with the Townhouse and Apartment/Condo/Commercial portions of the Project for this sensitivity analysis are provided on Figures No. 18R through 21R contained in Appendix I. These distributions were then utilized to apply the site generated traffic volumes from Table No. 1R to the roadway network resulting the site generated traffic volumes at each of the study area intersections as shown on Figures No. 22R through 27R. These volumes were then applied to the 2026 No-Build Traffic Volumes with the approved other developments as well as the approved and potential other developments to obtain the respective 2026 Build scenario traffic volumes as identified on Figures No. 28R & 29R and Figures No. 40R & 41R.

The capacity analyses for the 2026 Build conditions were recomputed for this sensitivity analysis scenario and the results are summarized in Table No. 2R contained in Appendix I. The analysis of this potential condition indicates that similar levels of service are anticipated at the area intersections with the potential additional restaurant space.

## I. Summary of Recommended Improvements

*(Appendix F & G)*

Based upon a review of the field inspections, existing traffic conditions, and traffic analysis results, the following is a summary of recommendations relative to the proposed development.

1. The intersection of the proposed access opposite Rochambeau Drive should be constructed to consist of one entering and one exiting lane and be stop-sign controlled. In addition, sight distances should be improved for both the driveway and Rochambeau Drive approaches by clearing vegetation and some regrading within the Underhill Avenue right-of-way as well as related drainage improvements. A painted stop bar should be added on each of these side road approaches to the intersection. These will have to be coordinated with the Town Highway Superintendent.
2. The existing driveway connection to the site, which served the former Soundview Prep School, will be upgraded as part of the development including ADA compliant ramps. As shown on Drawing SK-1, a Rapid Flashing Beacon (RFB), together with a striped crosswalk, is proposed to allow pedestrians to access the sidewalk on the south side of Underhill Avenue and for any pedestrians from the Rochambeau area to access the site as well as to the Senior Center. Also, "Do Not Block the Box" signing and pavement markings are also

recommended. These improvements will be coordinated with the Town Highway Superintendent as part of the final site plan conditions.

An emergency access connection and a localized through traffic and pedestrian connection to the Beaver Ridge Development is proposed as part of the development. Some traffic calming measures may be necessary in association with the final site plan to ensure limited local traffic utilization and to limit vehicle speeds through this area. Related pedestrian/sidewalk improvements should be coordinated accordingly with the Town and Beaver Ridge as part of the development.

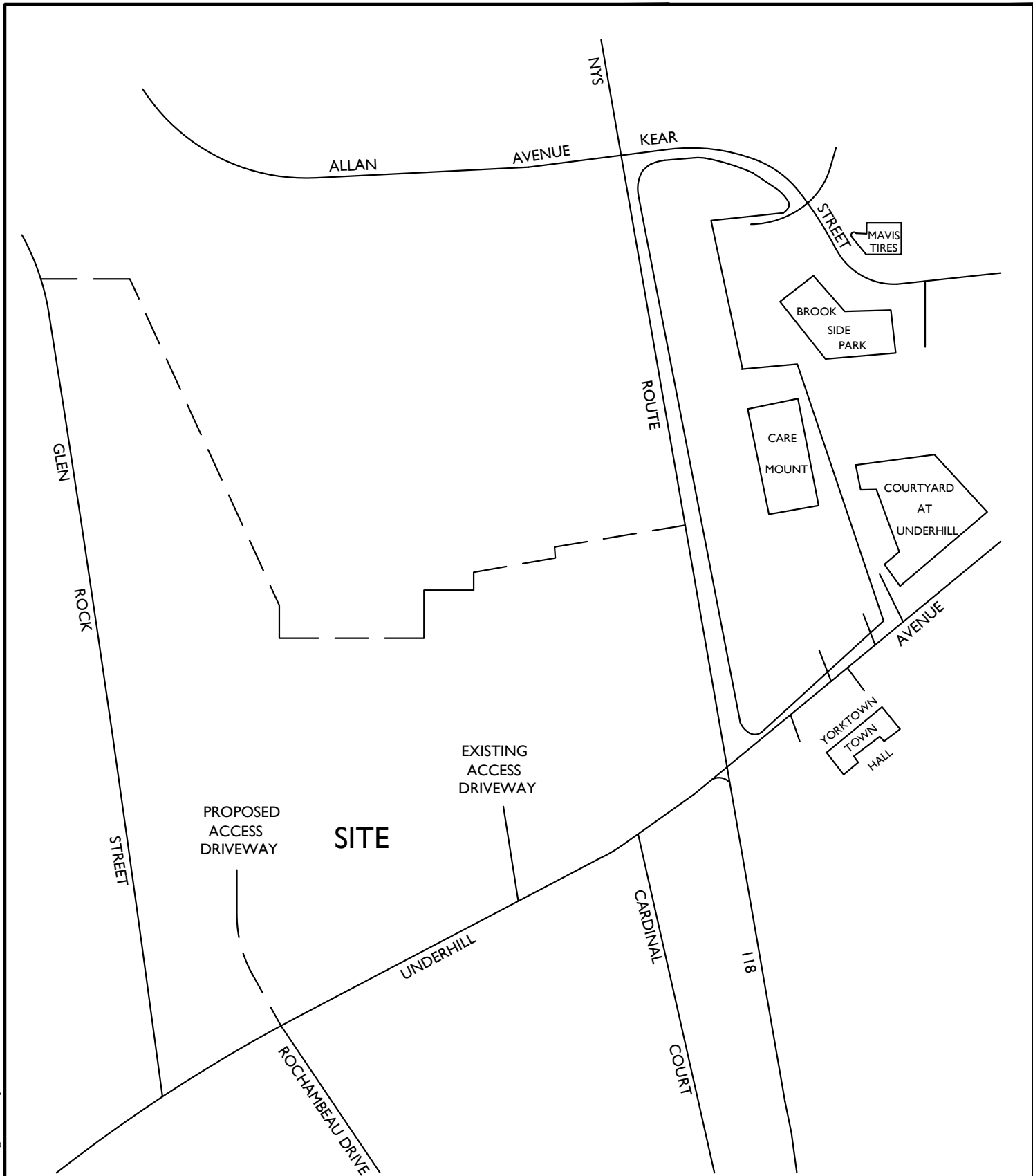
3. Vegetative pruning to improve/maintain sight distances at several area intersections, including Underhill Avenue at Rochambeau Drive, Underhill Avenue and Glenrock Street, and Underhill Avenue at French Hill Road, are recommended regardless of this development.
4. The Underhill Farm project will advance improvements to the intersection of Underhill Avenue and NYS Route 118. This Alternate 1 plan (also referred to as Option 2) will be completed by the Applicant in coordination with the Town. The improvements will include the construction of separate left turn lanes on the Underhill Avenue approaches, a full traffic signal controlled southbound right turn lane on NYS Route 118, traffic signal replacement with new video detection, installation of additional signal-controlled pedestrian crossings and upgrades to the existing pedestrian signals, as well as construction of new sidewalk segments with ADA compliant ramps. As noted in the Level of Service table, with these improvements, conditions would be improved significantly at the intersection reducing the excess queues that occur and providing safer and more efficient operations overall.
5. Based on field observations, vehicle speeds on Underhill Avenue approaching this area from the southwest during certain periods are in excess of 45 MPH. The Applicant will work with the Town on implementing additional signing and other measures to help reduce travel speeds approaching this area.
6. As indicated in Section III.G above, to accommodate other potential traffic increases in the area on a long-term basis, the Applicant will contribute funds to the Town towards such improvement plans to construct turning lanes and other improvements, including signal replacement/upgrades and pedestrian accommodations (see Appendix G for concept plans).
7. With the planned connection to Beaver Ridge Apartment Complex, a total of approximately 30 vehicles (entering and exiting) are expected to utilize that connection. The majority of these vehicles would access the signalized intersection at NYS Route 118 and would be those destined primarily crossing to Kear Street and those areas to the east.
8. Traffic calming measures including signing, speed tables, and other measures are being incorporated into the site plan to control speeds within the development. The layout is such that the connection to Beaver Ridge is really to accommodate traffic between the two projects and not designed as a thoroughfare. Pedestrian movements will also be accommodated at this location.

## IV. Summary and Conclusion

Based on the above analysis, with the completion of the access and signal improvements, similar Levels of Service and delays will be experienced at the area intersections under the future No-Build and future Build Conditions. With the completion of these improvements, the Underhill Farm Redevelopment traffic is not expected to cause any significant impact in overall operations. In addition, the certain other longer-term improvements have been identified including provision of turning lanes, signal upgrades, and pedestrian improvements, to accommodate traffic from other potential developments in the area. The Applicant has agreed to advance the intersection improvement plan (Alternate 1) for the left turn lanes on Underhill Avenue and other associated modifications. The applicant will provide funding towards these improvements as per the agreement with the Town.

# Traffic Impact Study

## Appendix A | Traffic Figures



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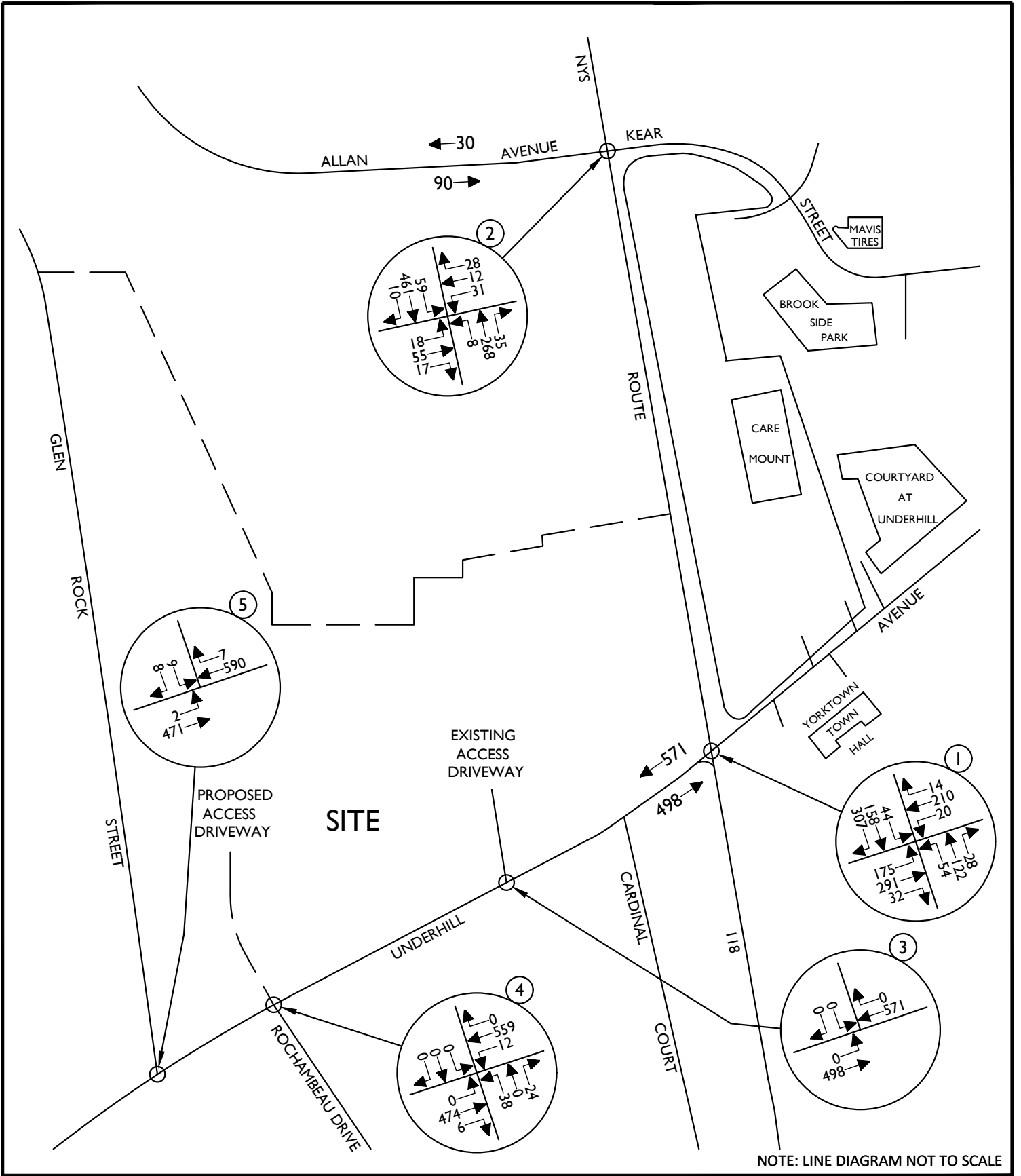
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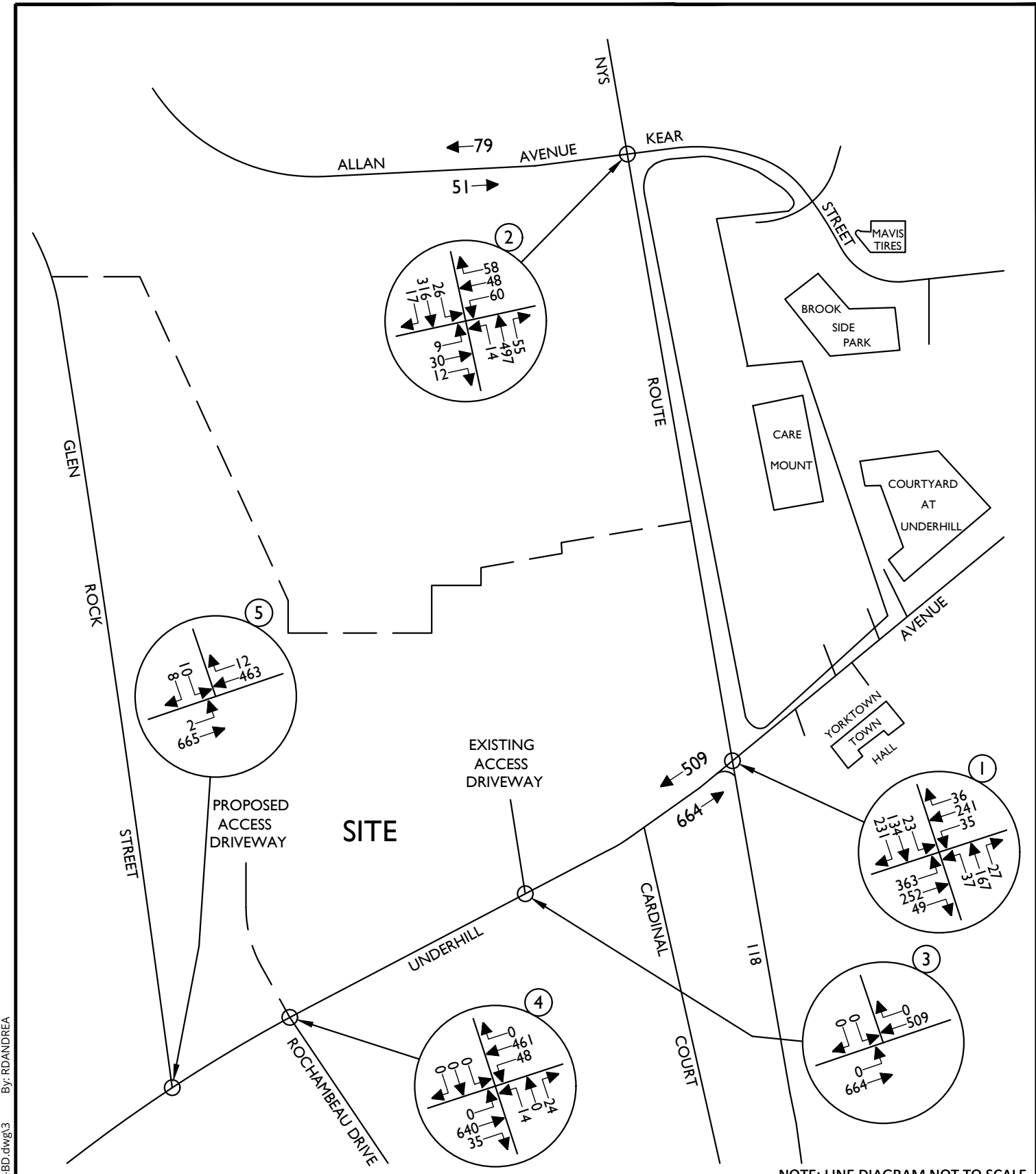
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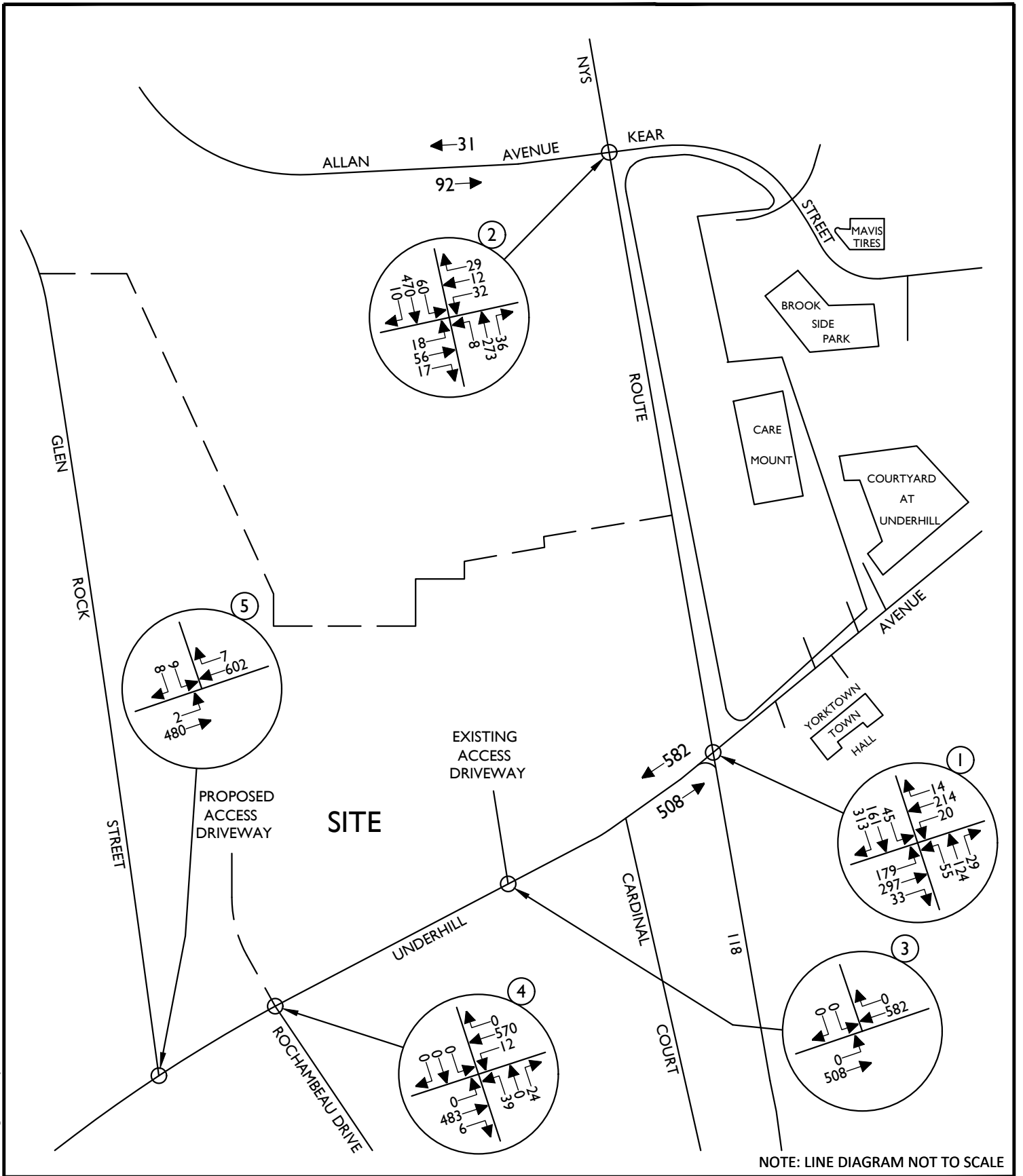
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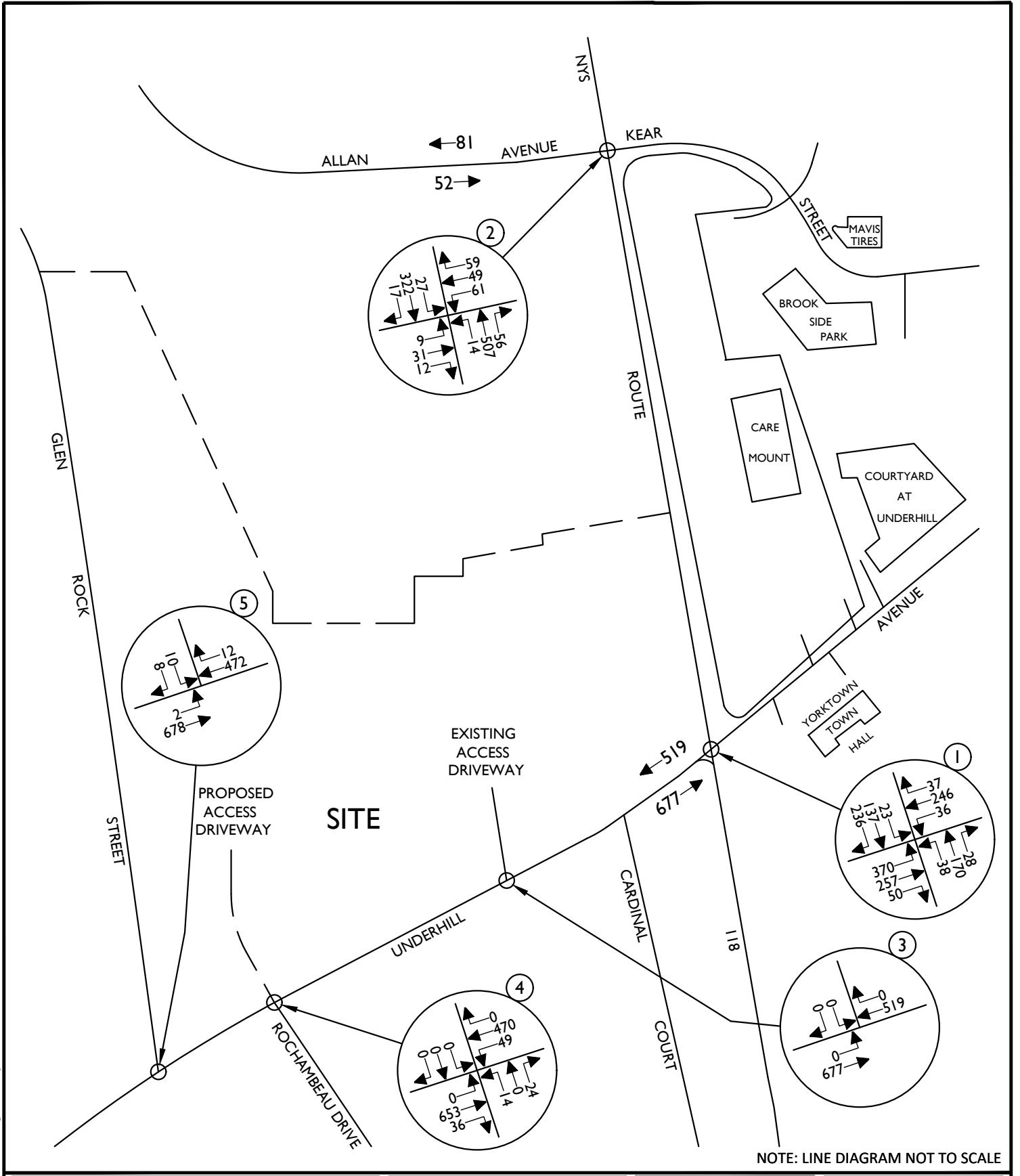
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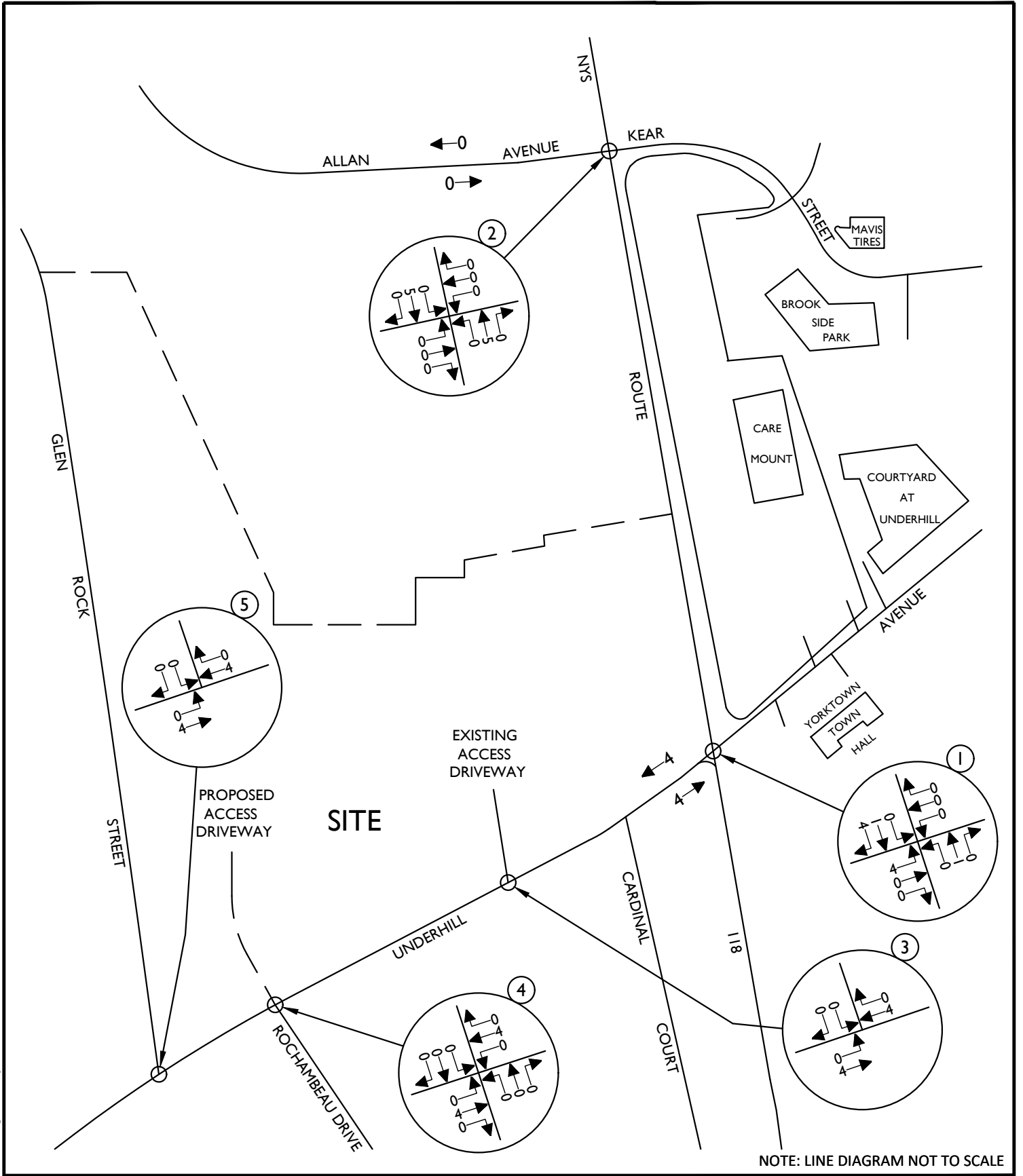
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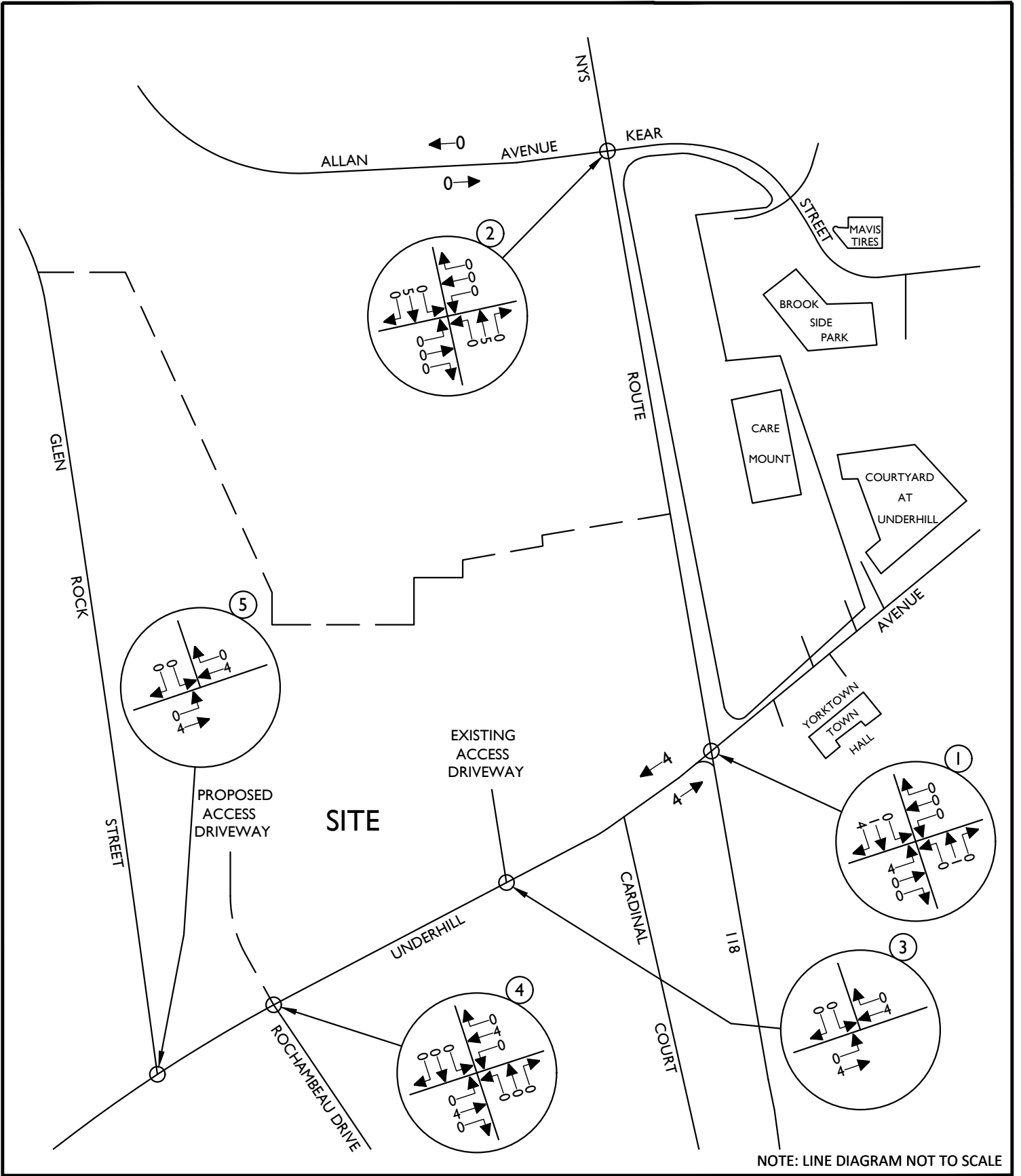
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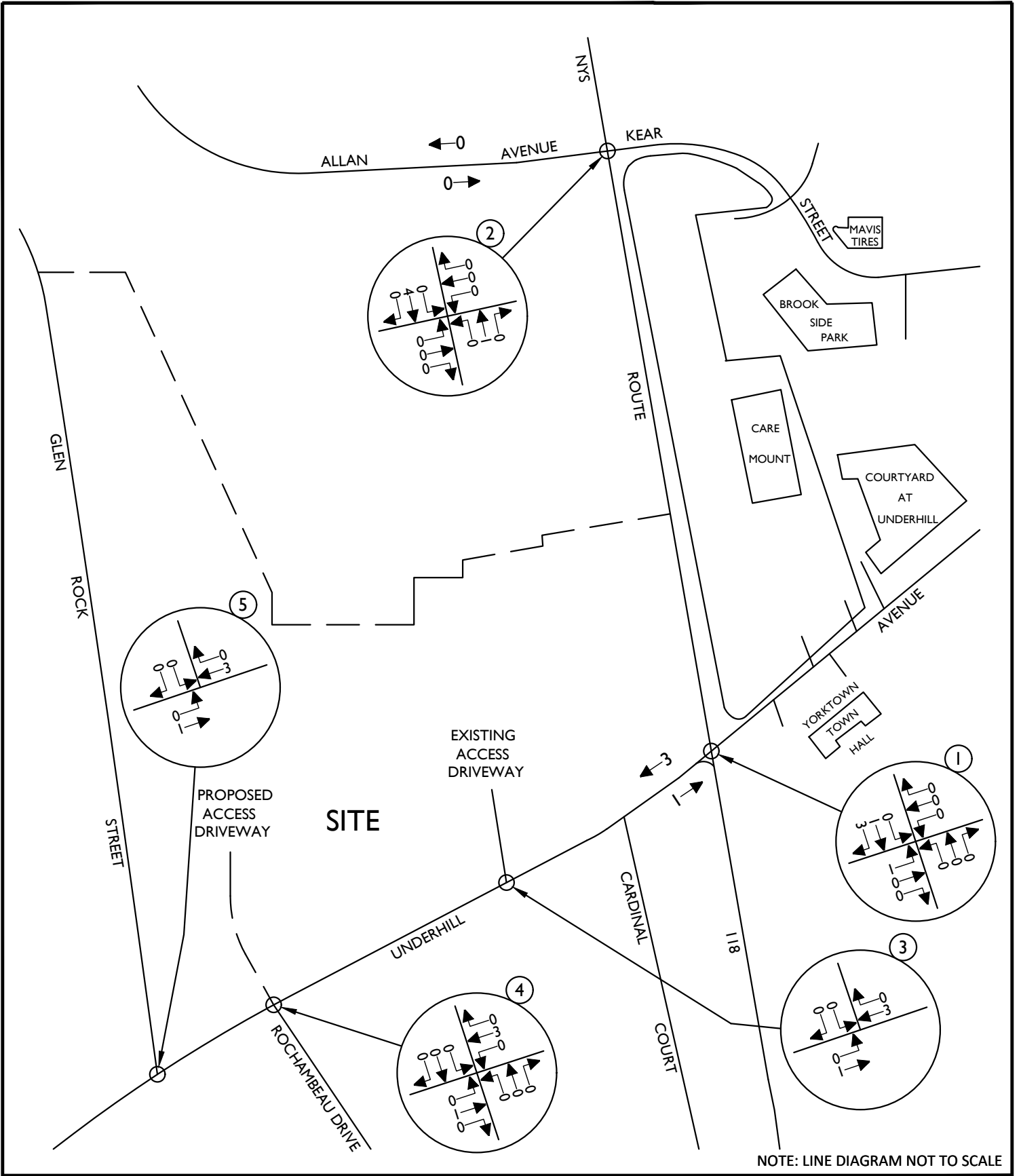
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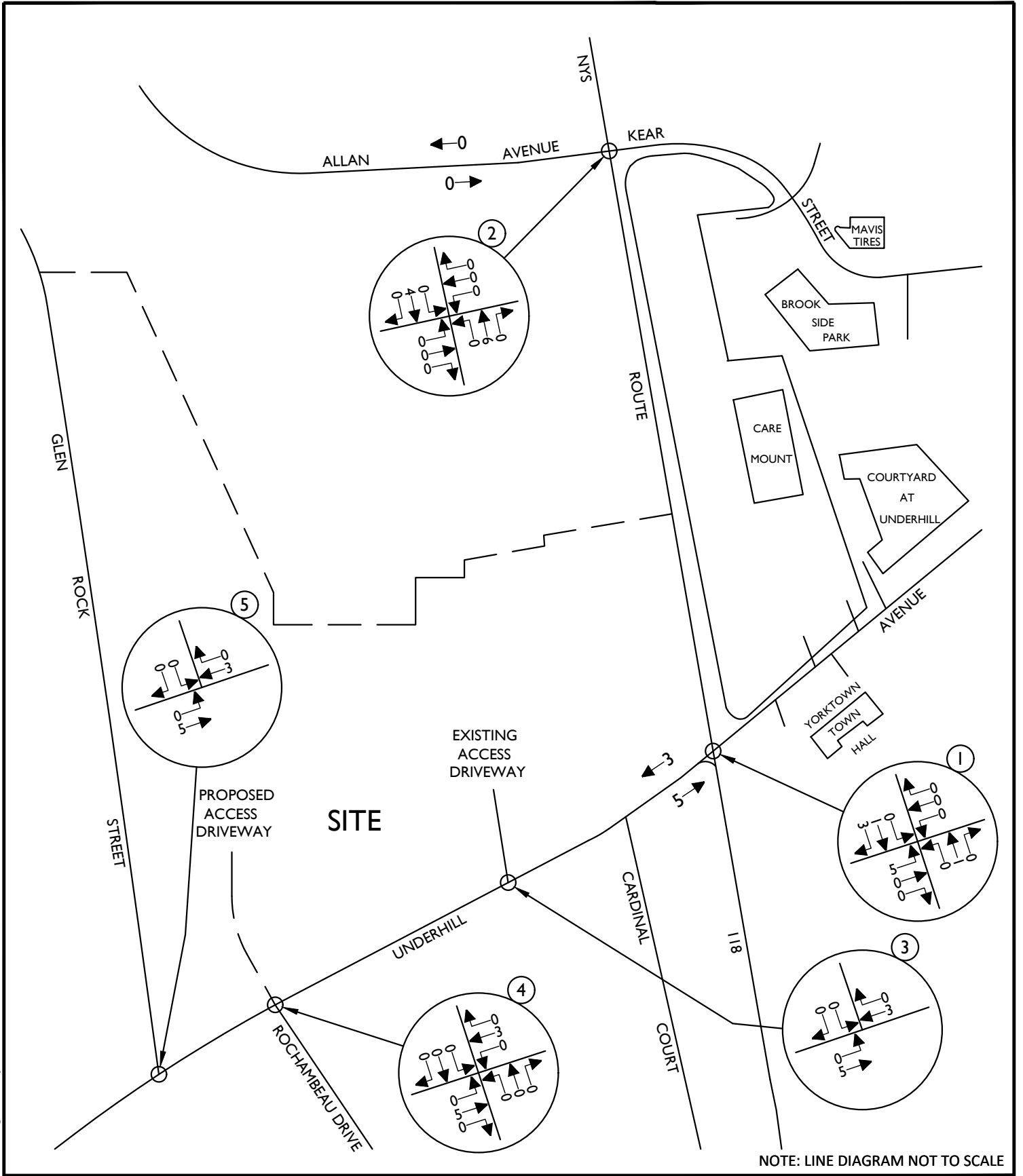
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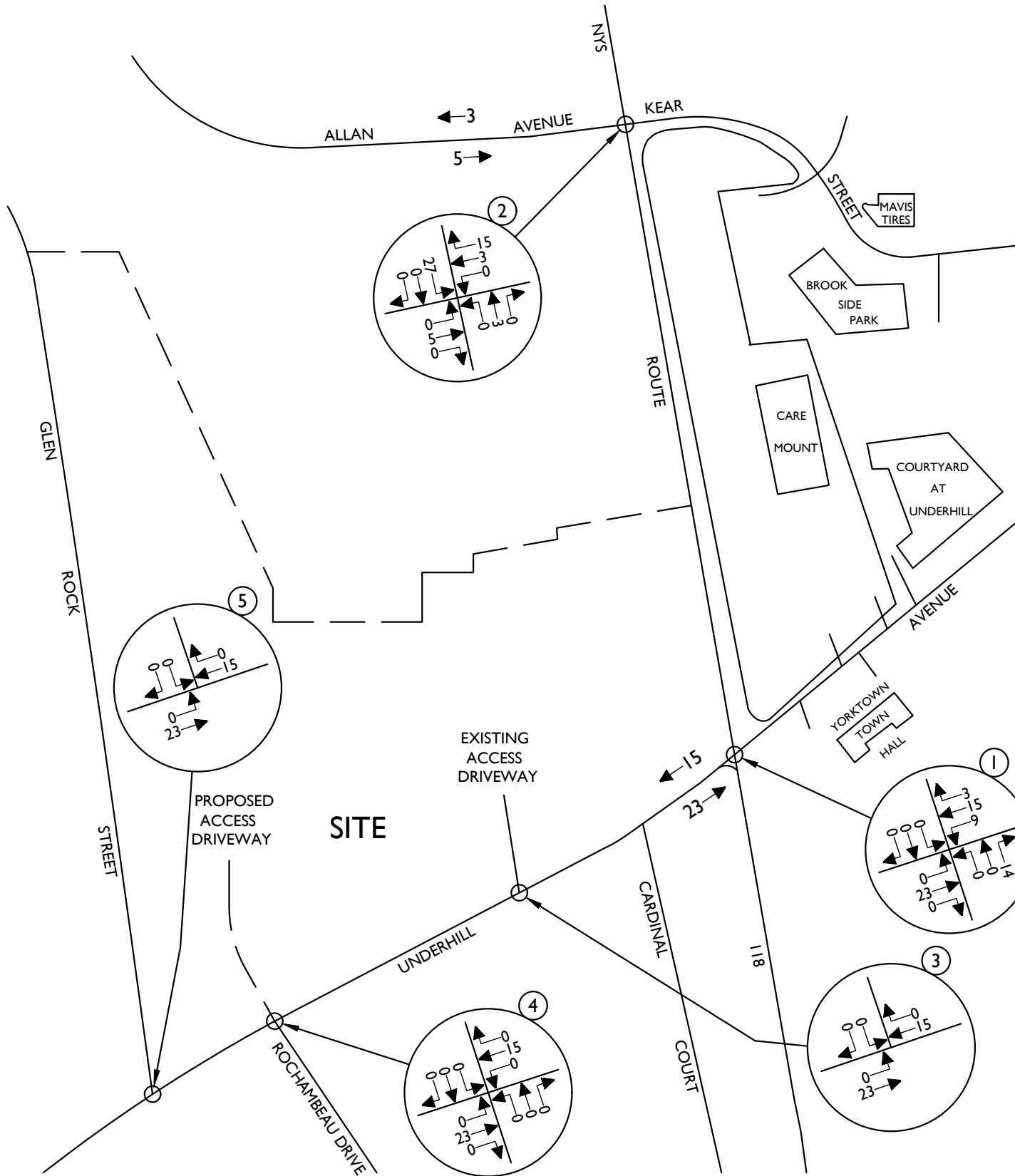
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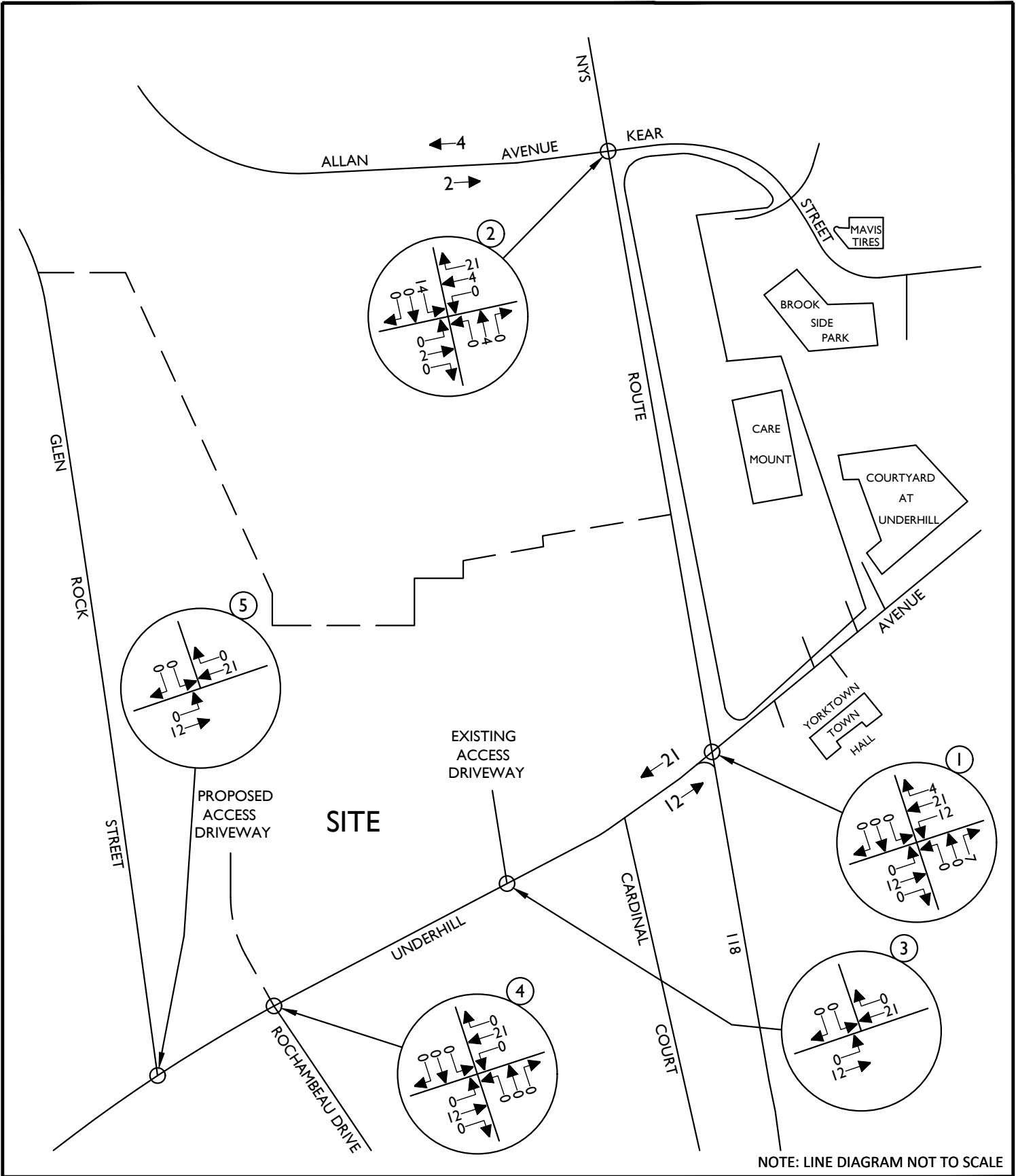
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SHEET NUMBER:  
**10**

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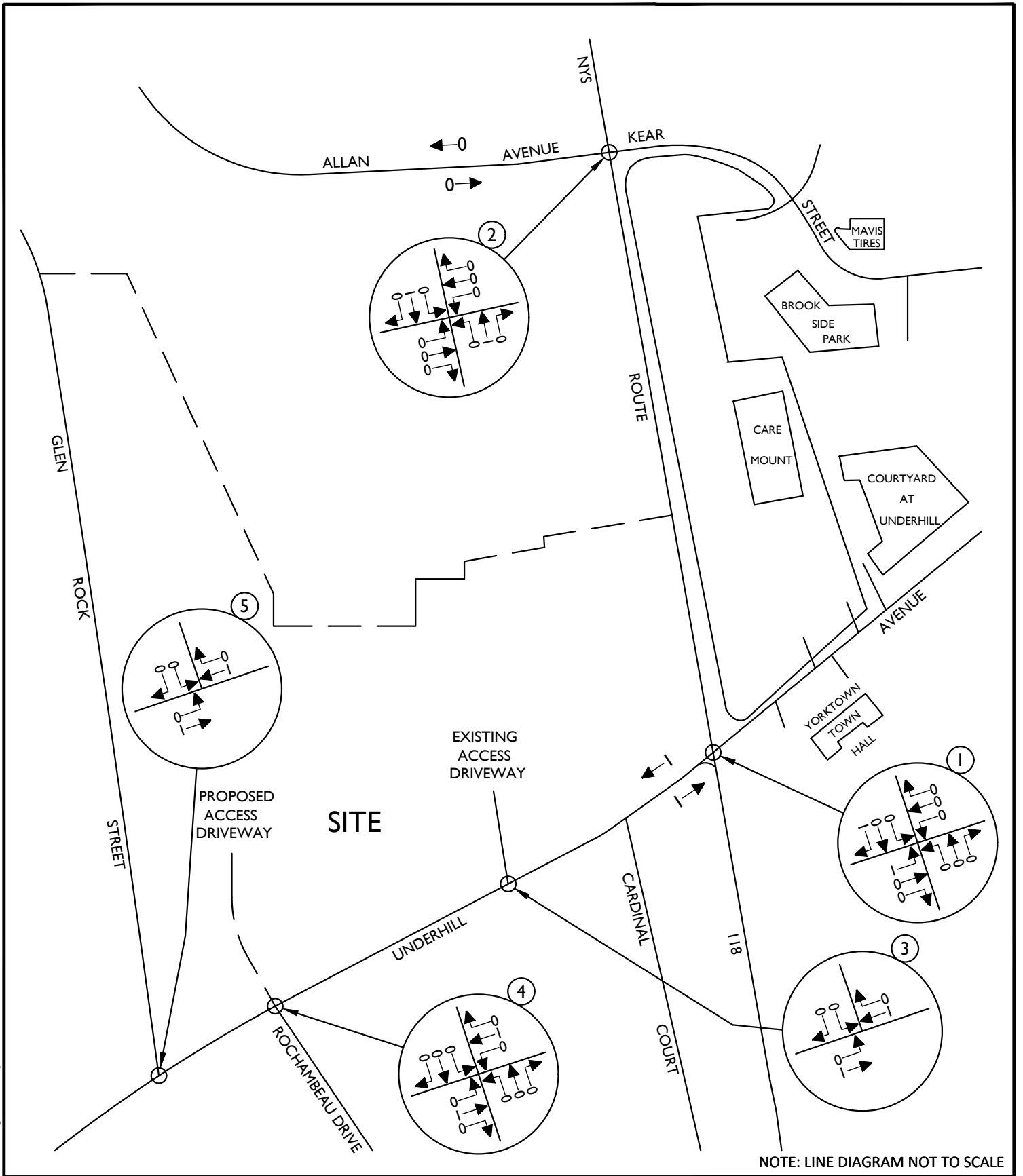
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AS SHOWN	3/26/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
CAREMOUNT BUILDING (APPROVED)  
OTHER DEVELOPMENT TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR

SHEET NUMBER:

11

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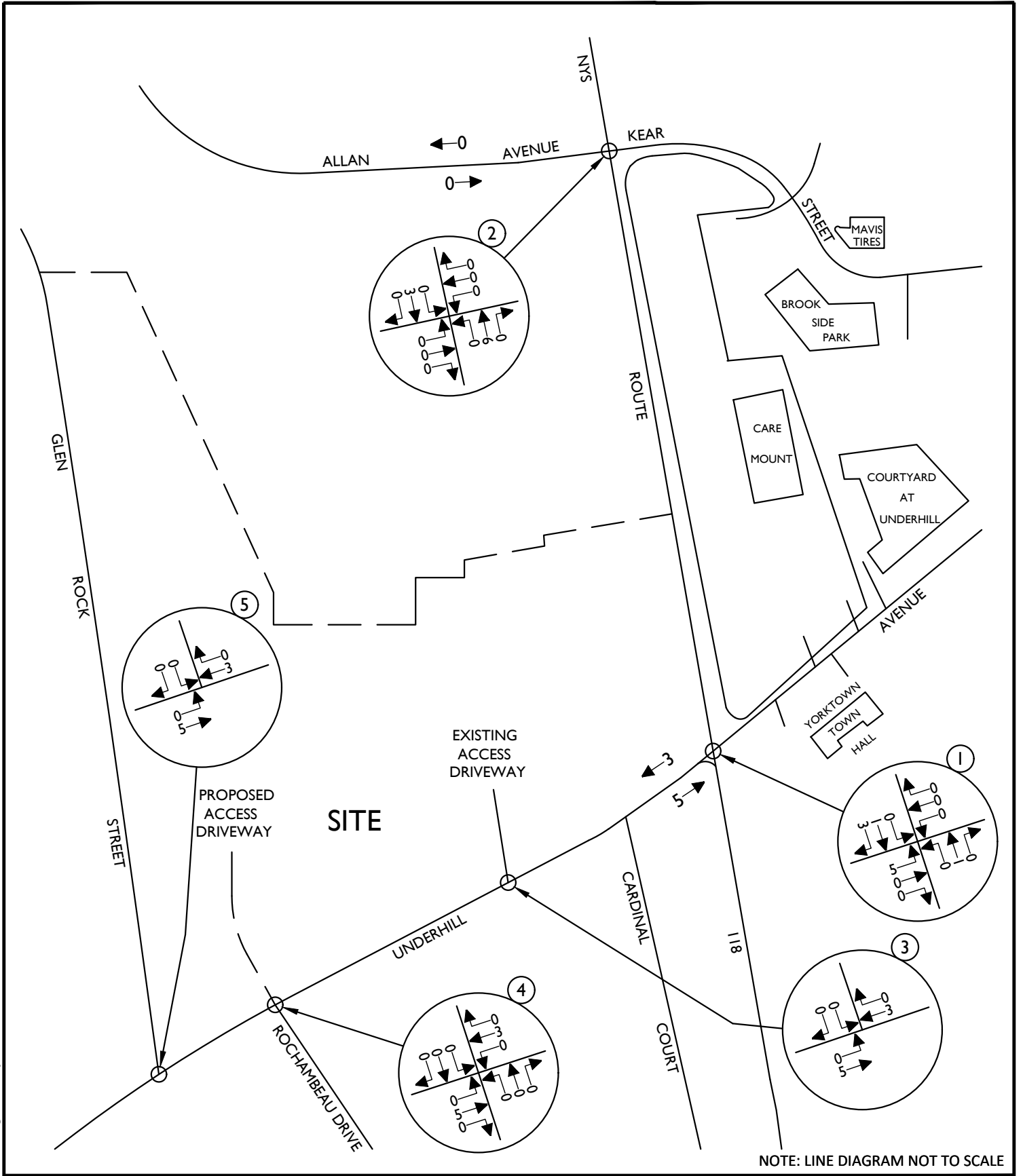
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PROJECT NUMBER: 20006297A	DRAWING NAME: 230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
BOUTIQUE HOTEL  
OTHER DEVELOPMENT TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR

SHEET NUMBER:  
12

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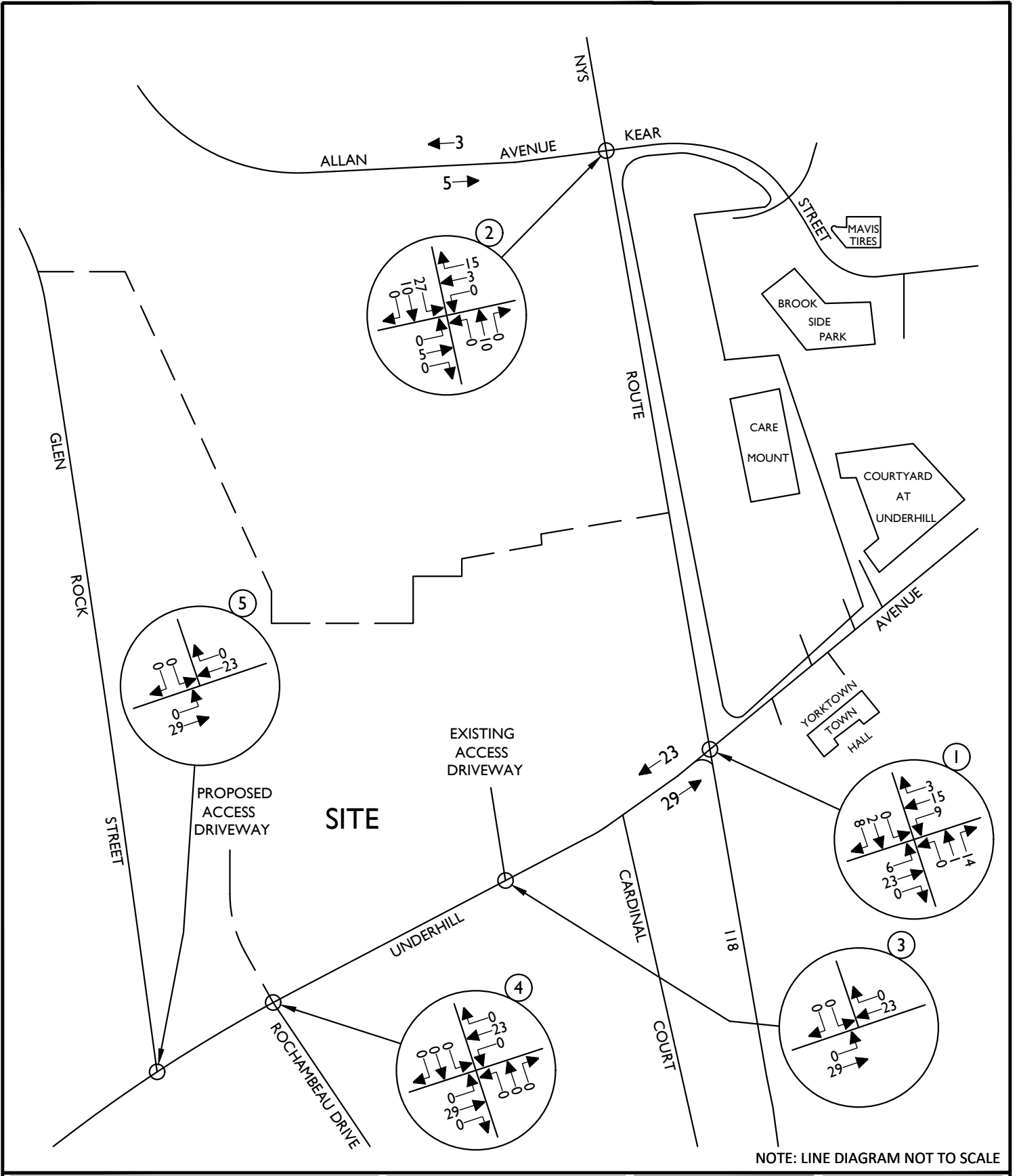
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PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
BOUQUETTE HOTEL (APPROVED)  
OTHER DEVELOPMENT TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR

SHEET NUMBER:

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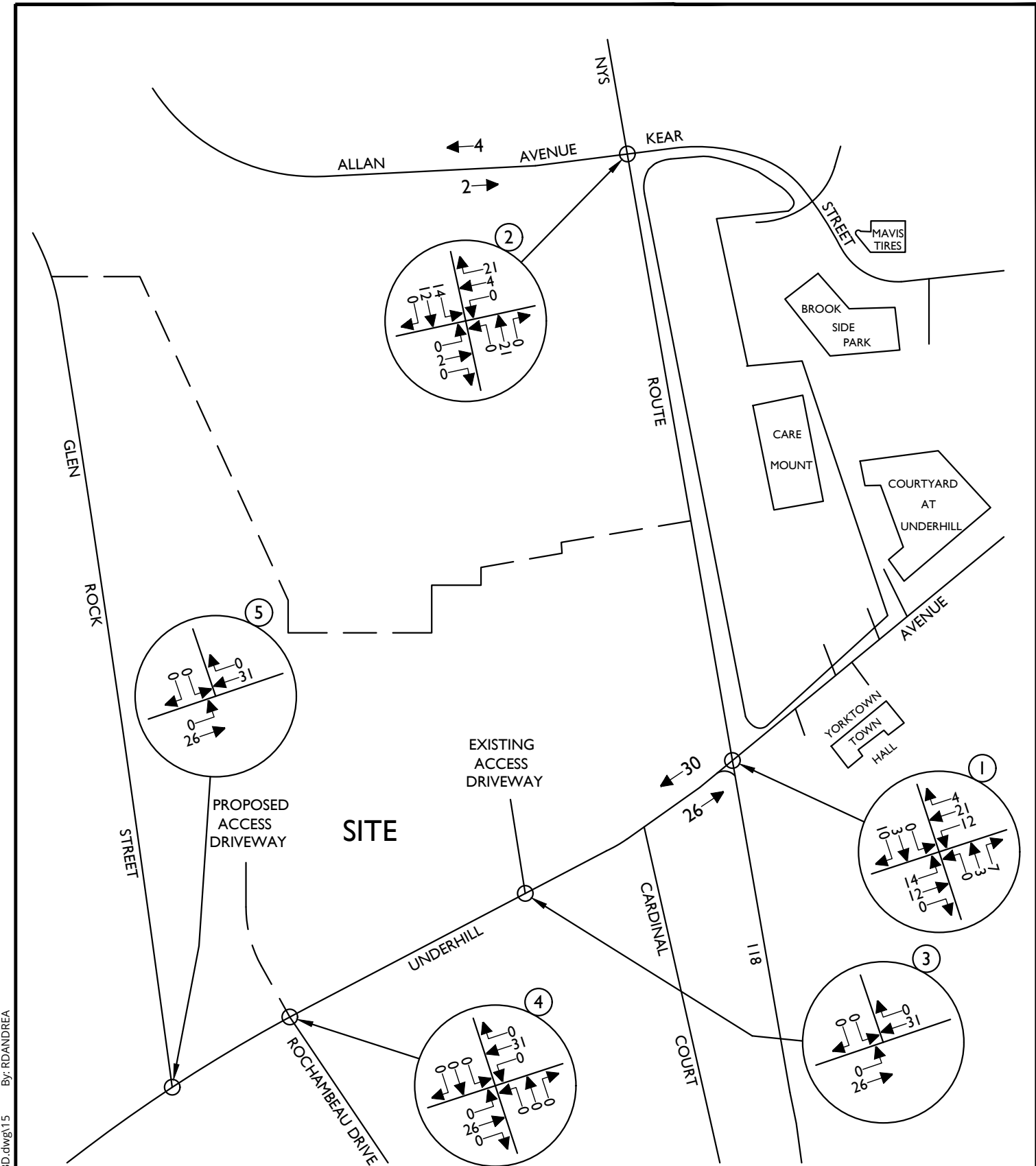
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PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
TOTAL APPROVED  
OTHER DEVELOPMENT TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR

SHEET NUMBER:

14



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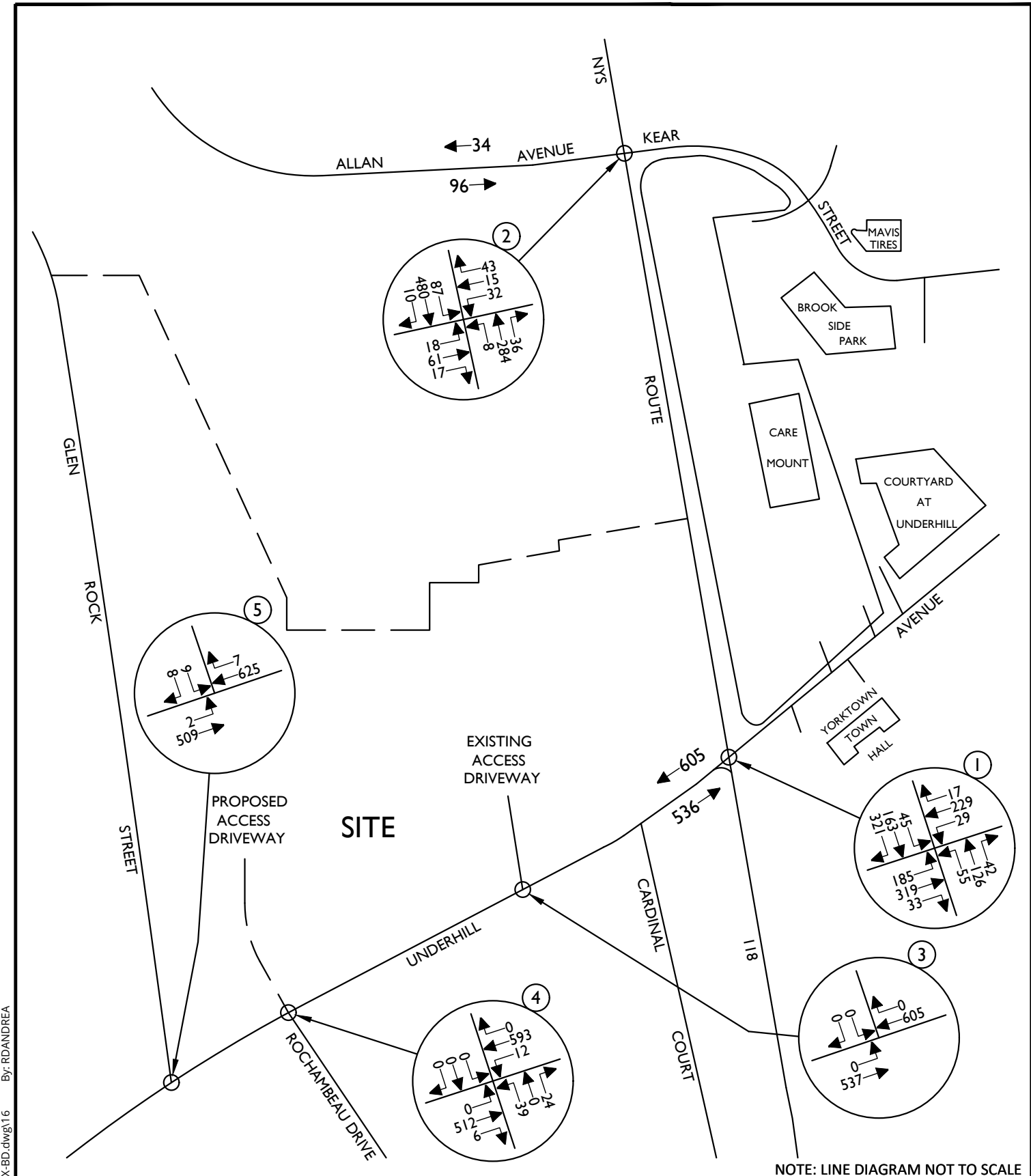
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PROJECT NUMBER:	DRAWING NAME:		
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SHEET TITLE:  
TOTAL APPROVED  
OTHER DEVELOPMENT TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR

SHEET NUMBER:  
15



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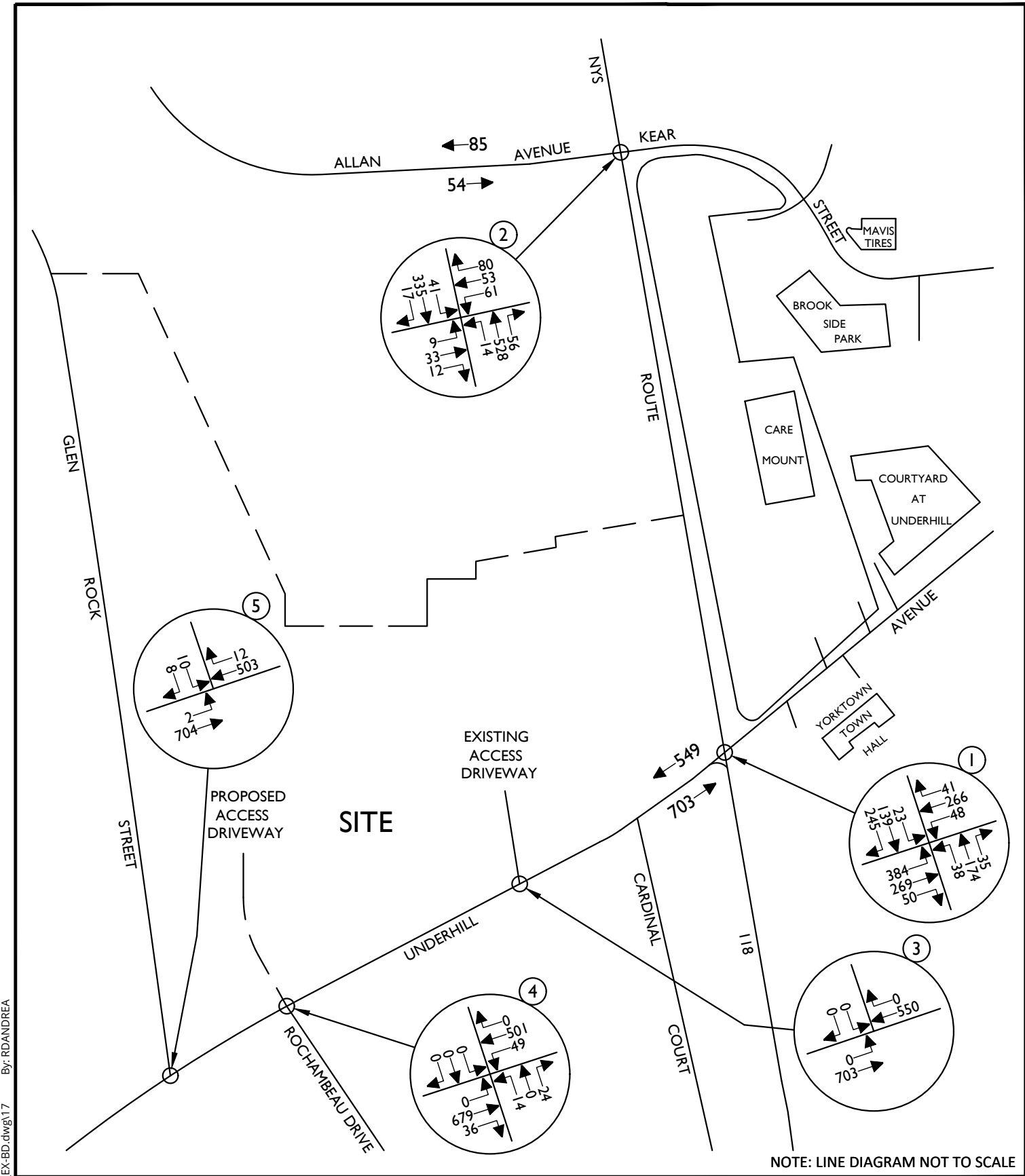
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AS SHOWN	3/26/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
**2025 NO-BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(W/ APPROVED O.D.)**

SHEET NUMBER:  
**16**



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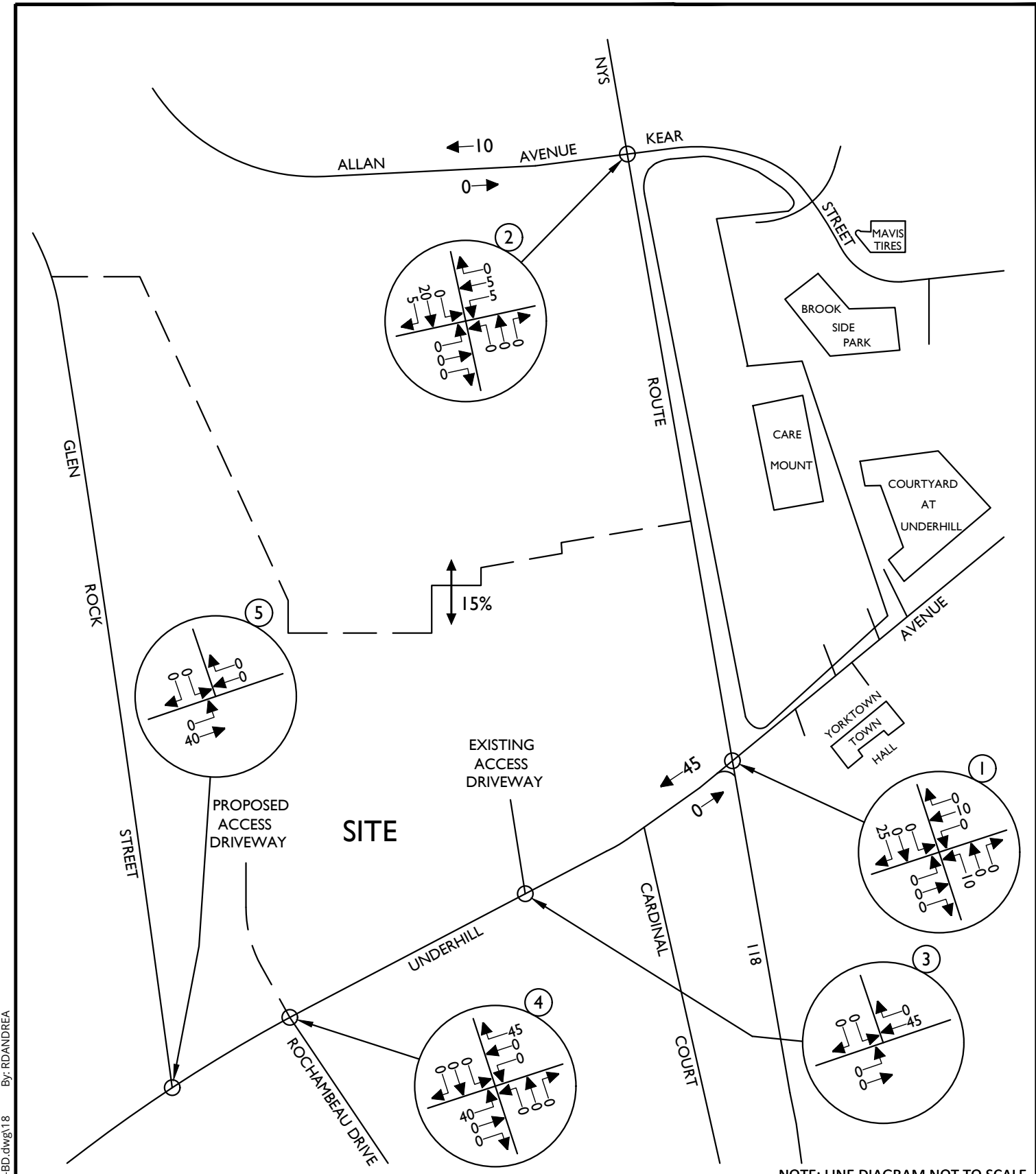
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PROJECT NUMBER: 20006297A	DRAWING NAME: 230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
**2025 NO-BUILD TRAFFIC VOLUMES WEEKDAY PEAK PM HOUR (W/ APPROVED O.D.)**

SHEET NUMBER:  
**17**

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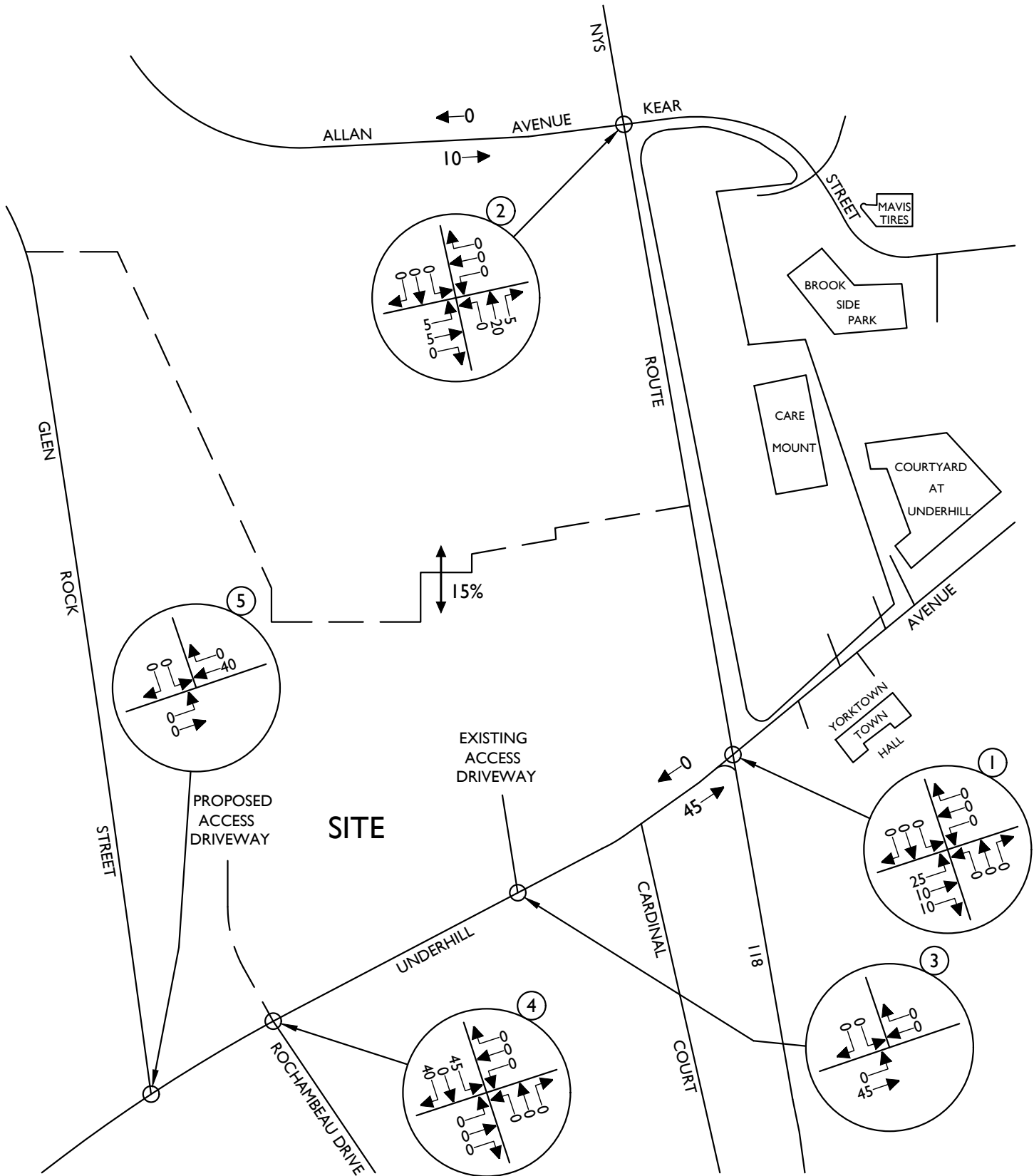
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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	3/26/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
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SHEET TITLE:  
**TOWNHOUSE  
ARRIVAL DISTRIBUTION  
(EXPRESSED AS A %)**

SHEET NUMBER:  
**18**

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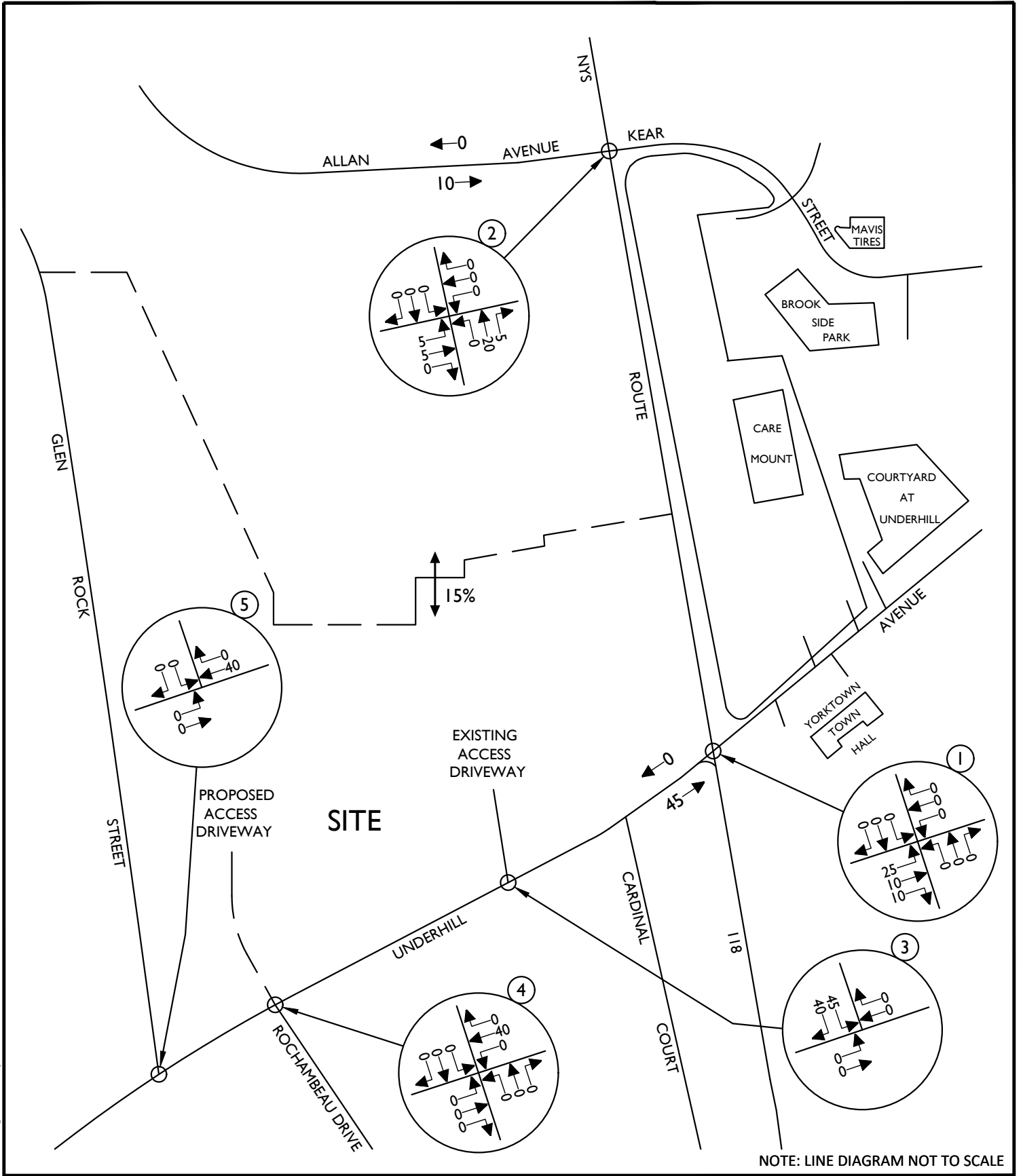
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AS SHOWN	3/26/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
TOWNHOUSE  
DEPARTURE DISTRIBUTION  
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SHEET NUMBER:

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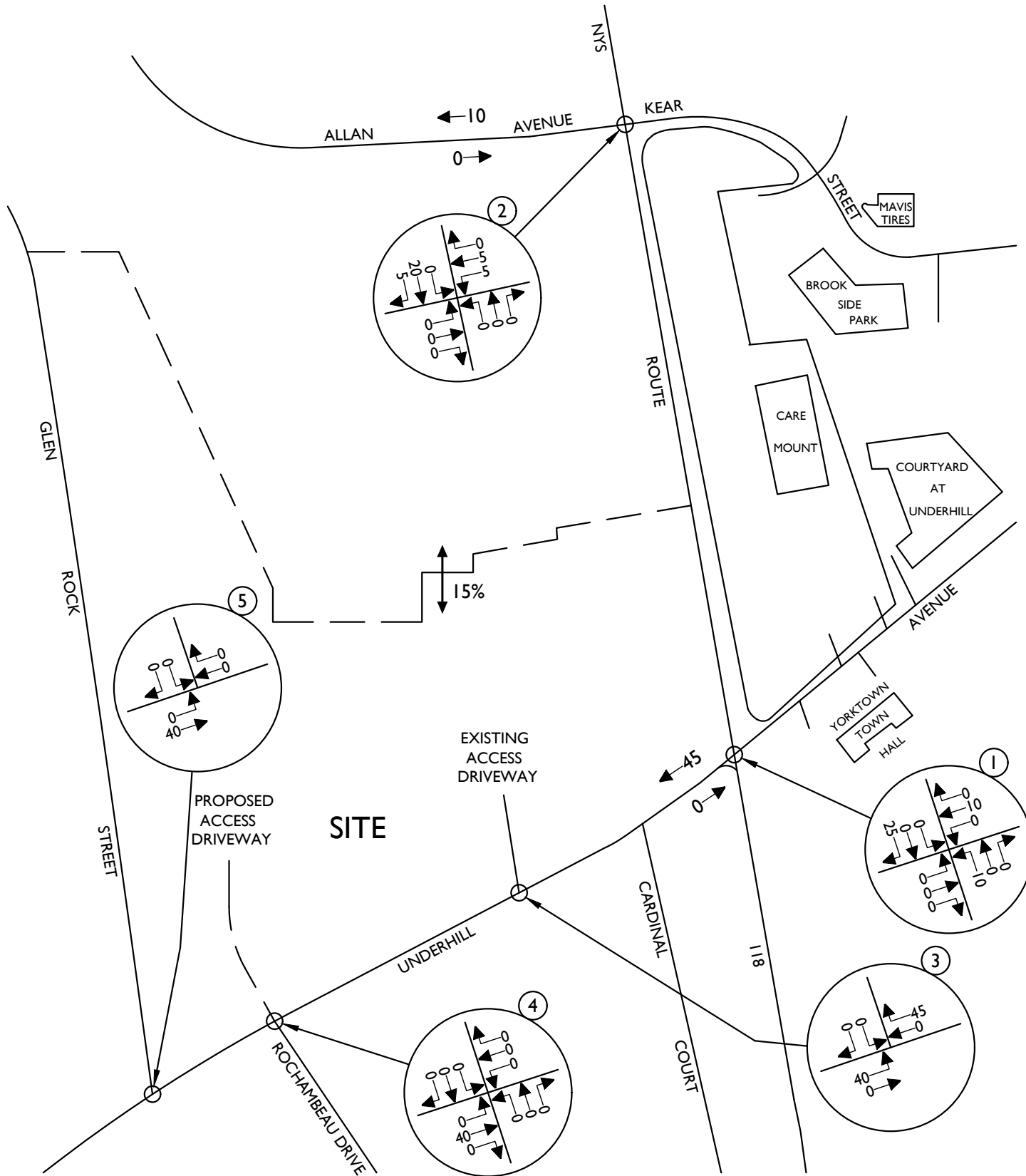
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PROJECT NUMBER: 20006297A	DRAWING NAME: 230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
APARTMENTS/CONDOS/COMMERCIAL  
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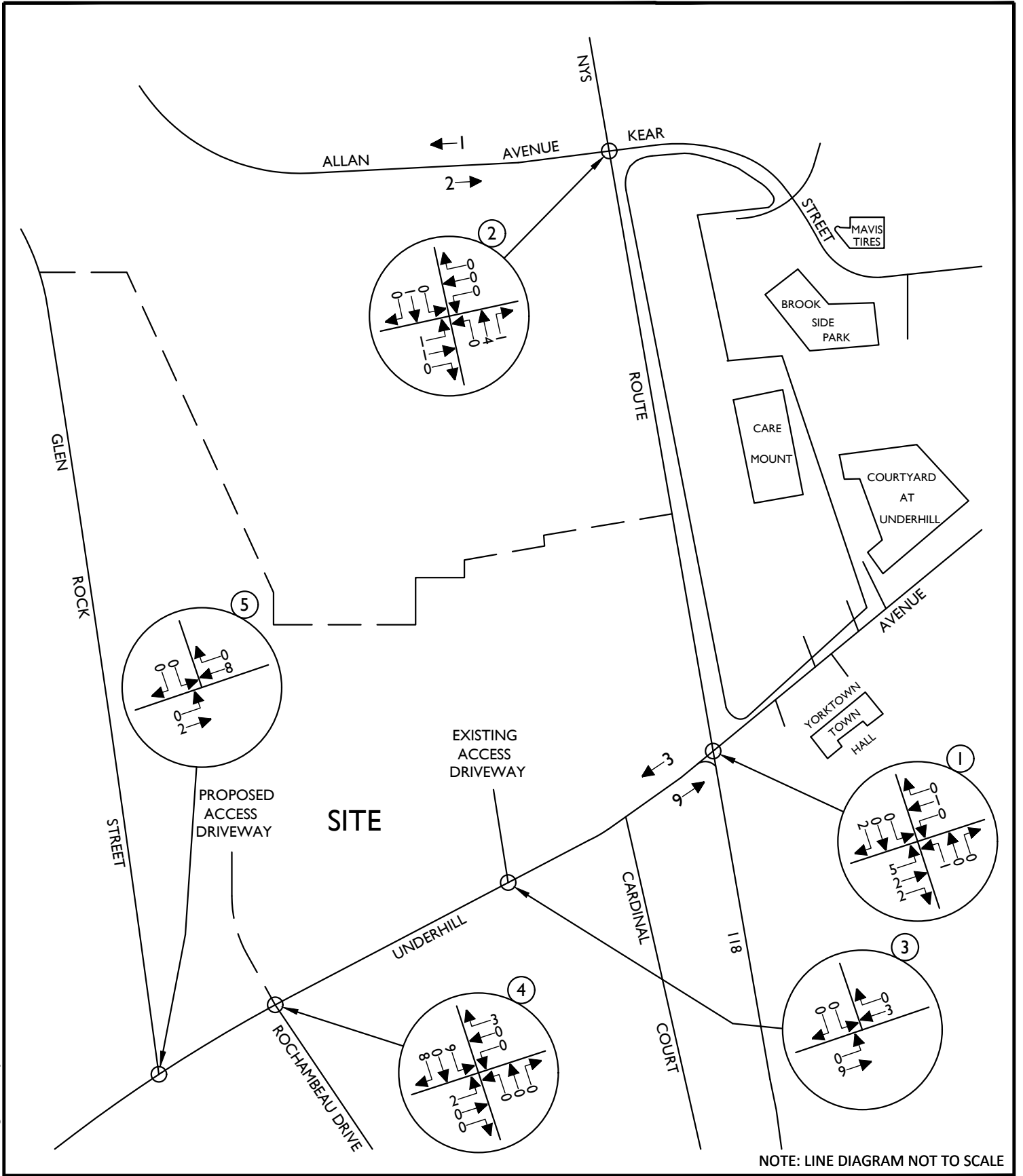
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20006297A	230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
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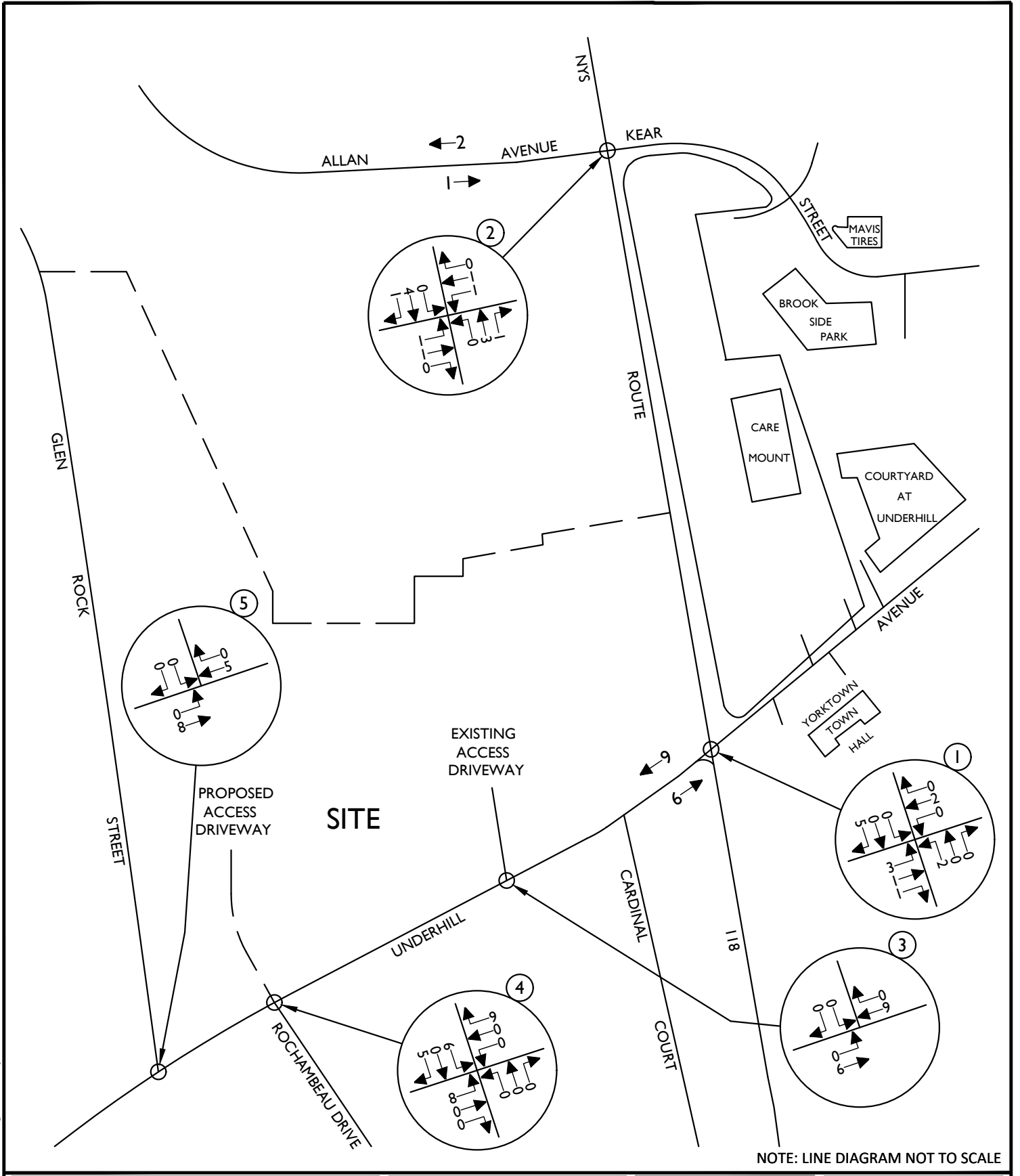
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PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_EX-BD		

SHEET TITLE:	TOWNHOUSE SITE GENERATED TRAFFIC VOLUMES WEEKDAY AM PEAK HOUR
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SHEET NUMBER:	22
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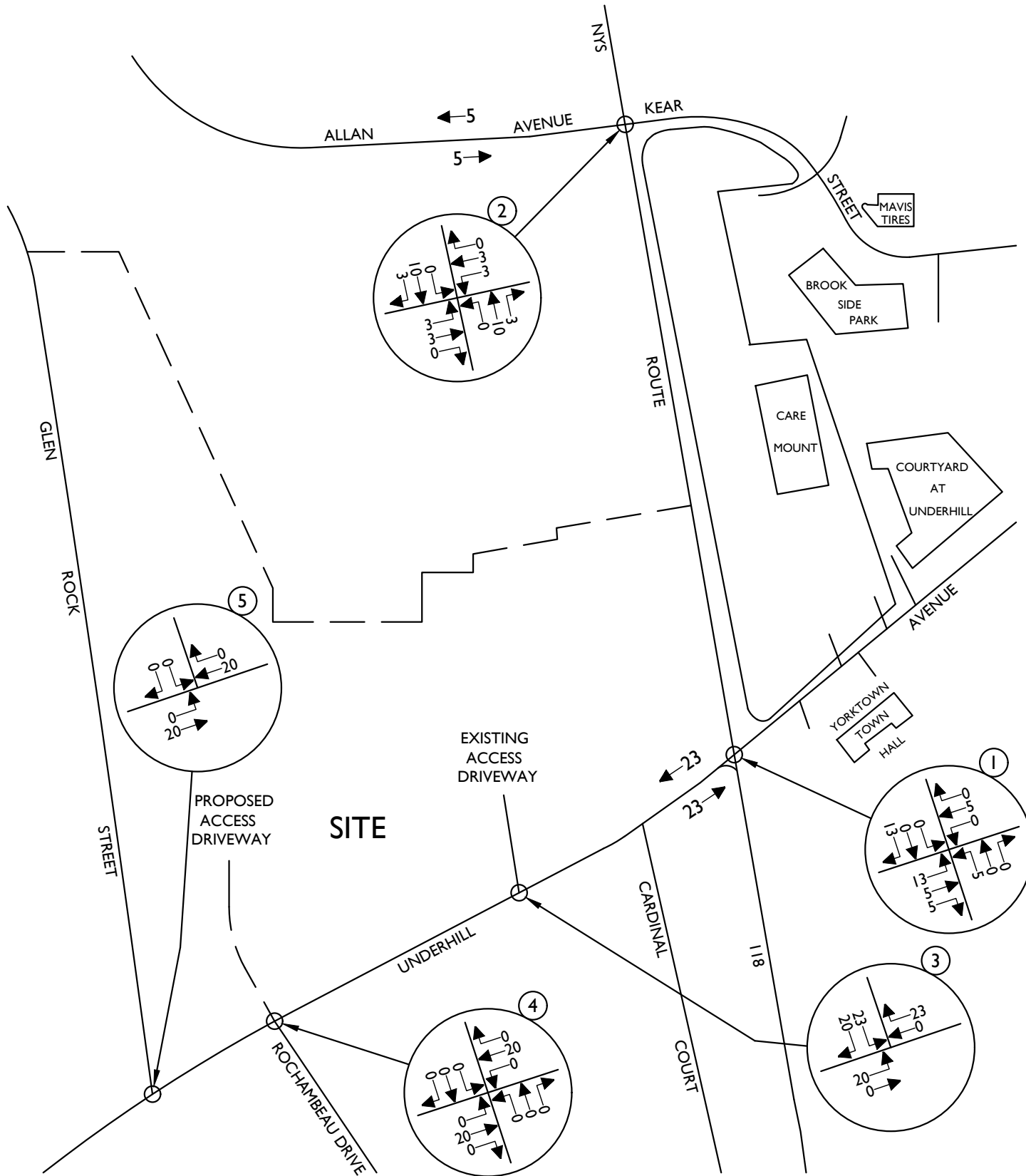
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PROJECT NUMBER:	DRAWING NAME:		
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SHEET NUMBER:	23
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TRAFFIC IMPACT STUDY

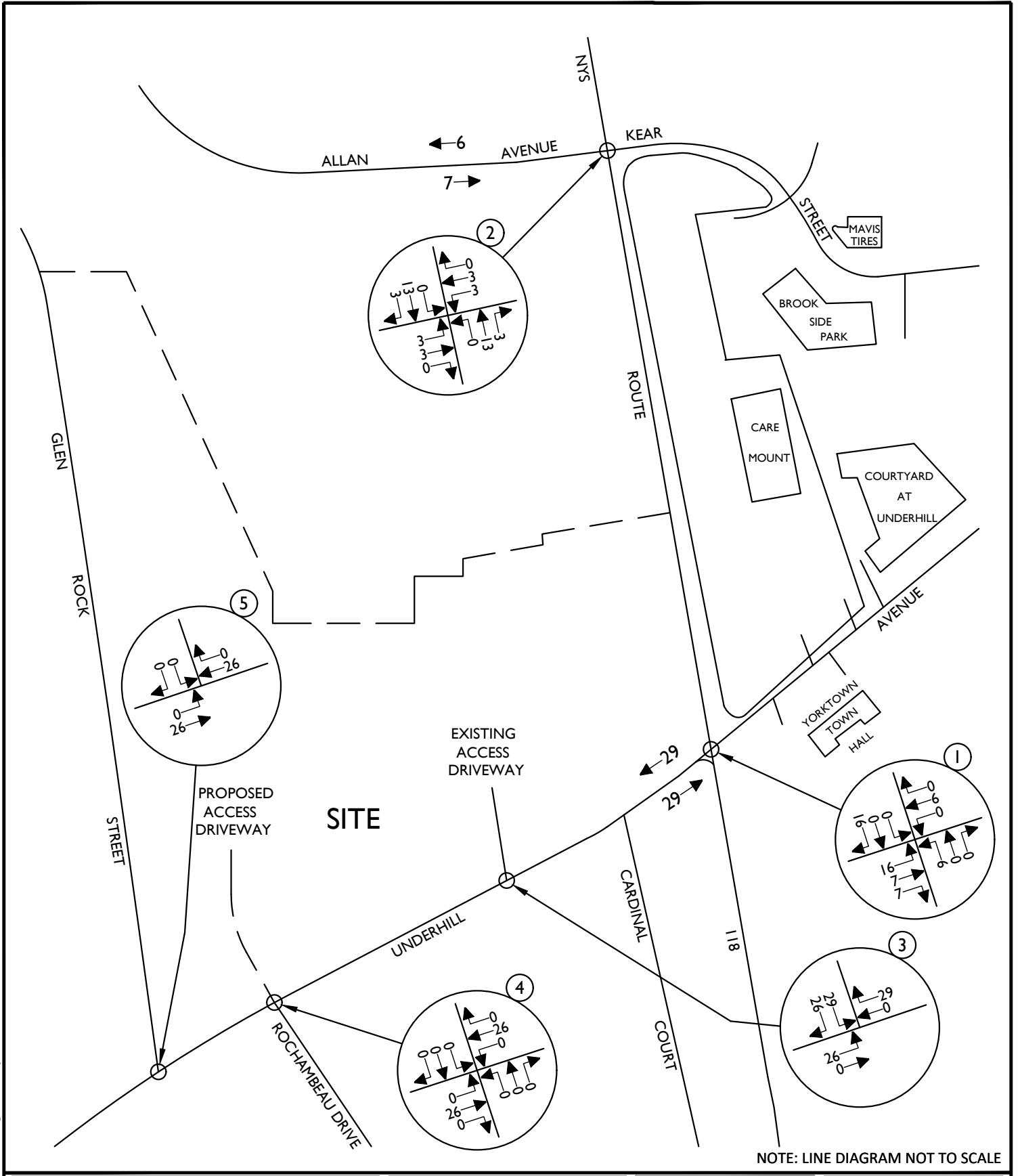
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PROJECT NUMBER:	DRAWING NAME:		
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SHEET TITLE:  
APARTMENTS/CONDOS/COMMERCIAL  
SITE GENERATED TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR

SHEET NUMBER:  
24

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PROJECT NUMBER:	DRAWING NAME:		
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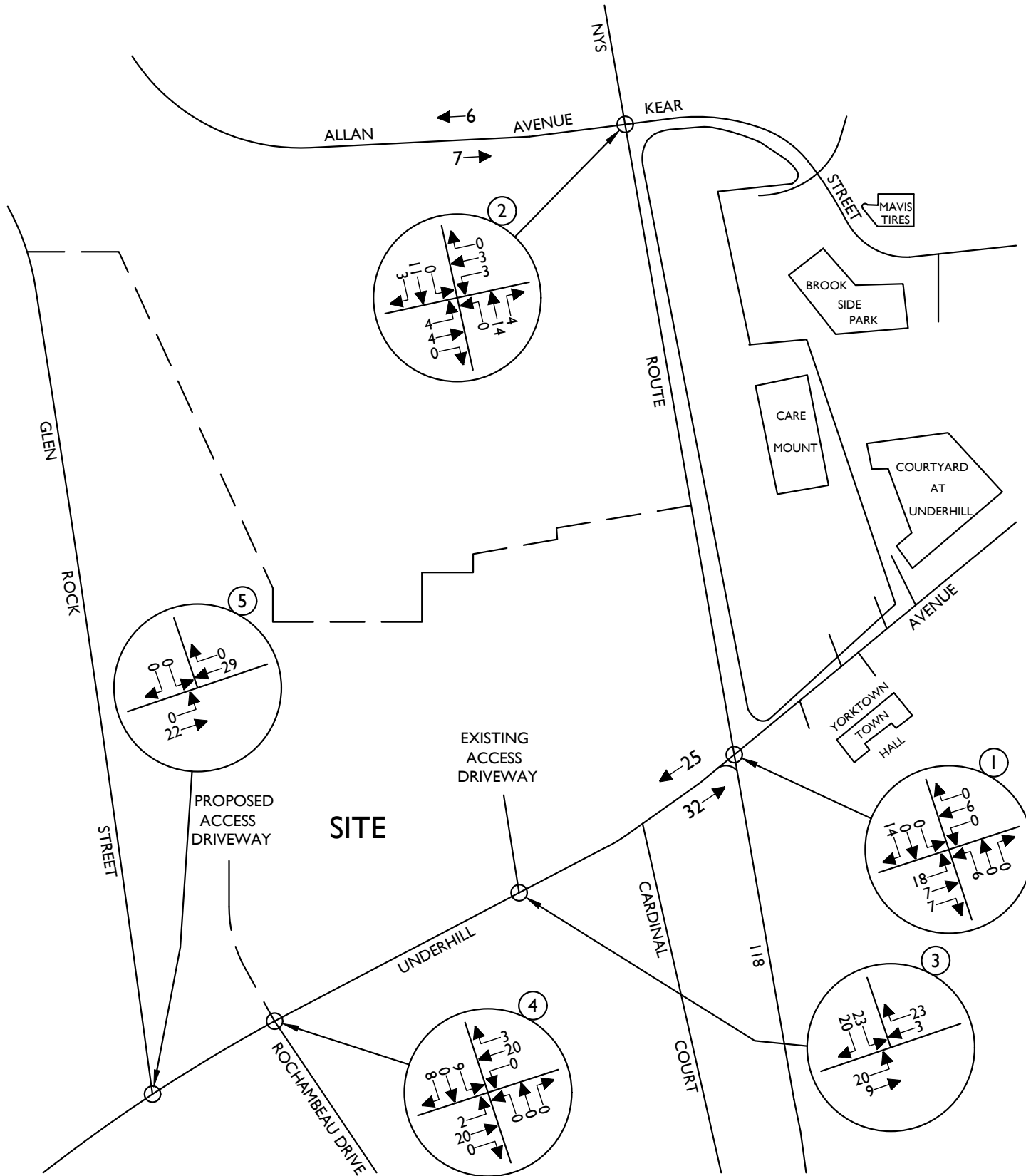
SHEET TITLE:  
APARTMENTS/CONDOS/COMMERCIAL  
SITE GENERATED TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR

SHEET NUMBER:

25



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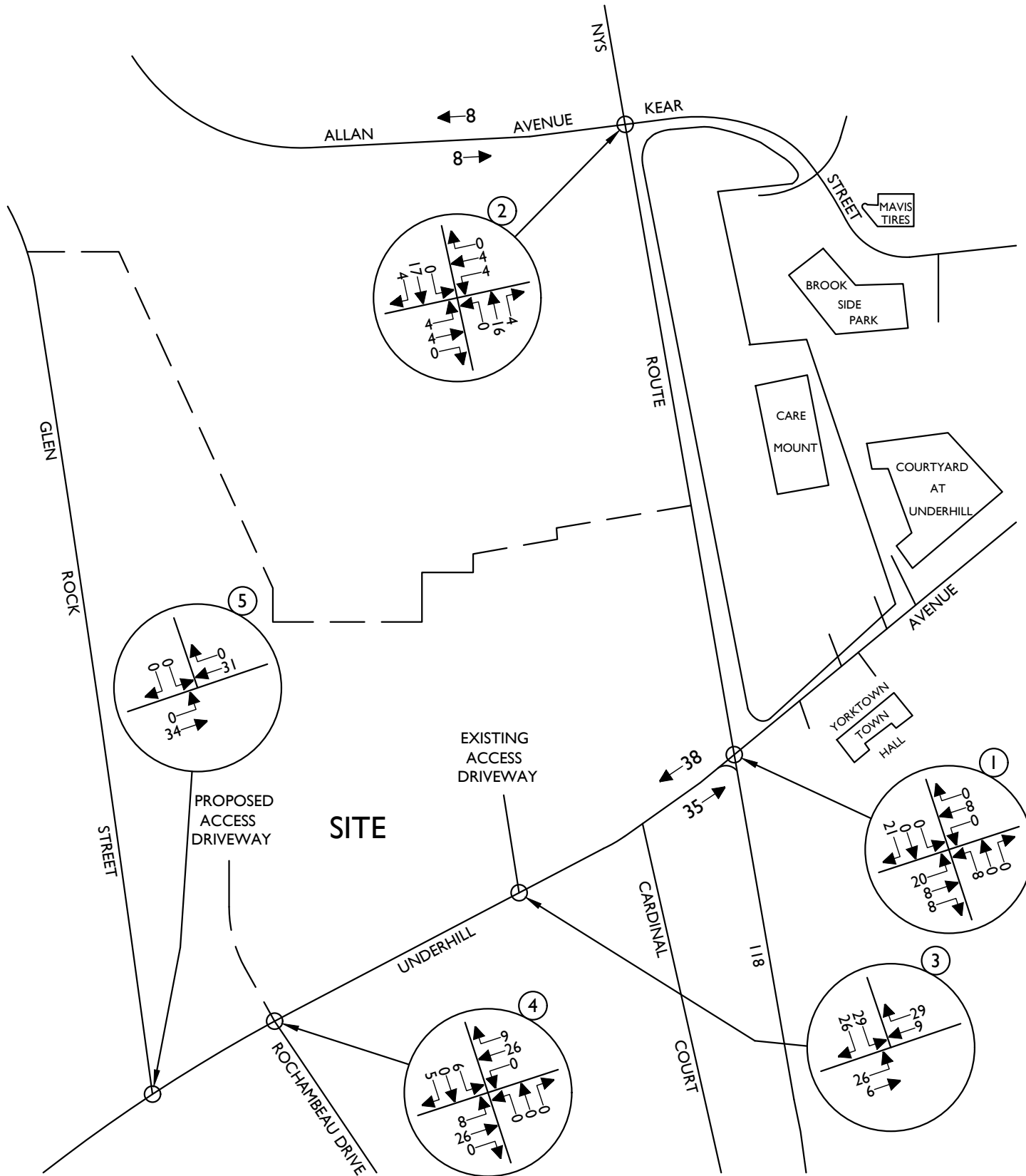
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PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
**TOTAL SITE GENERATED  
TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR**

SHEET NUMBER:

26

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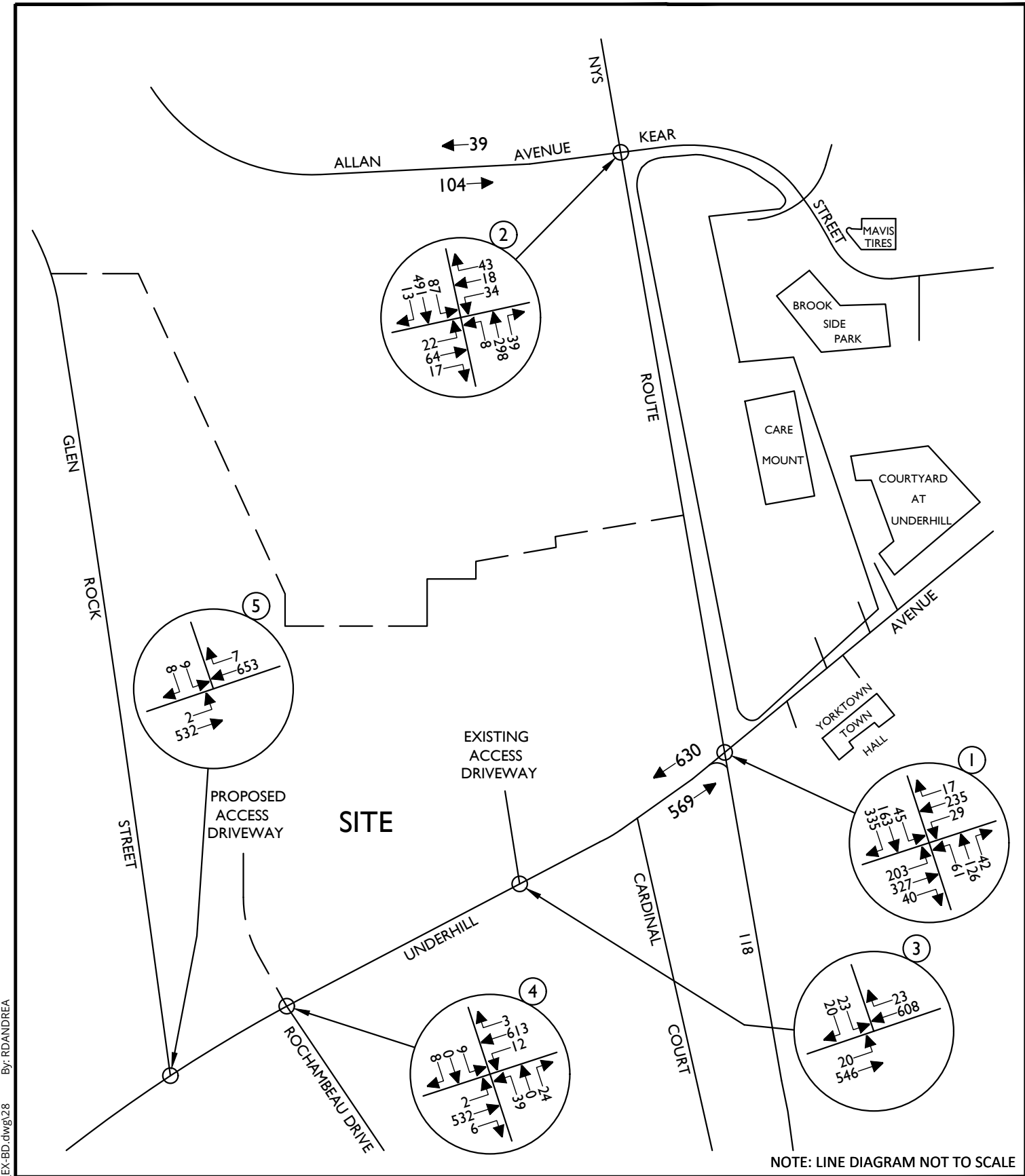
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PROJECT NUMBER:	DRAWING NAME:		
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SHEET TITLE:  
**TOTAL SITE GENERATED  
TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR**

SHEET NUMBER:  
**27**



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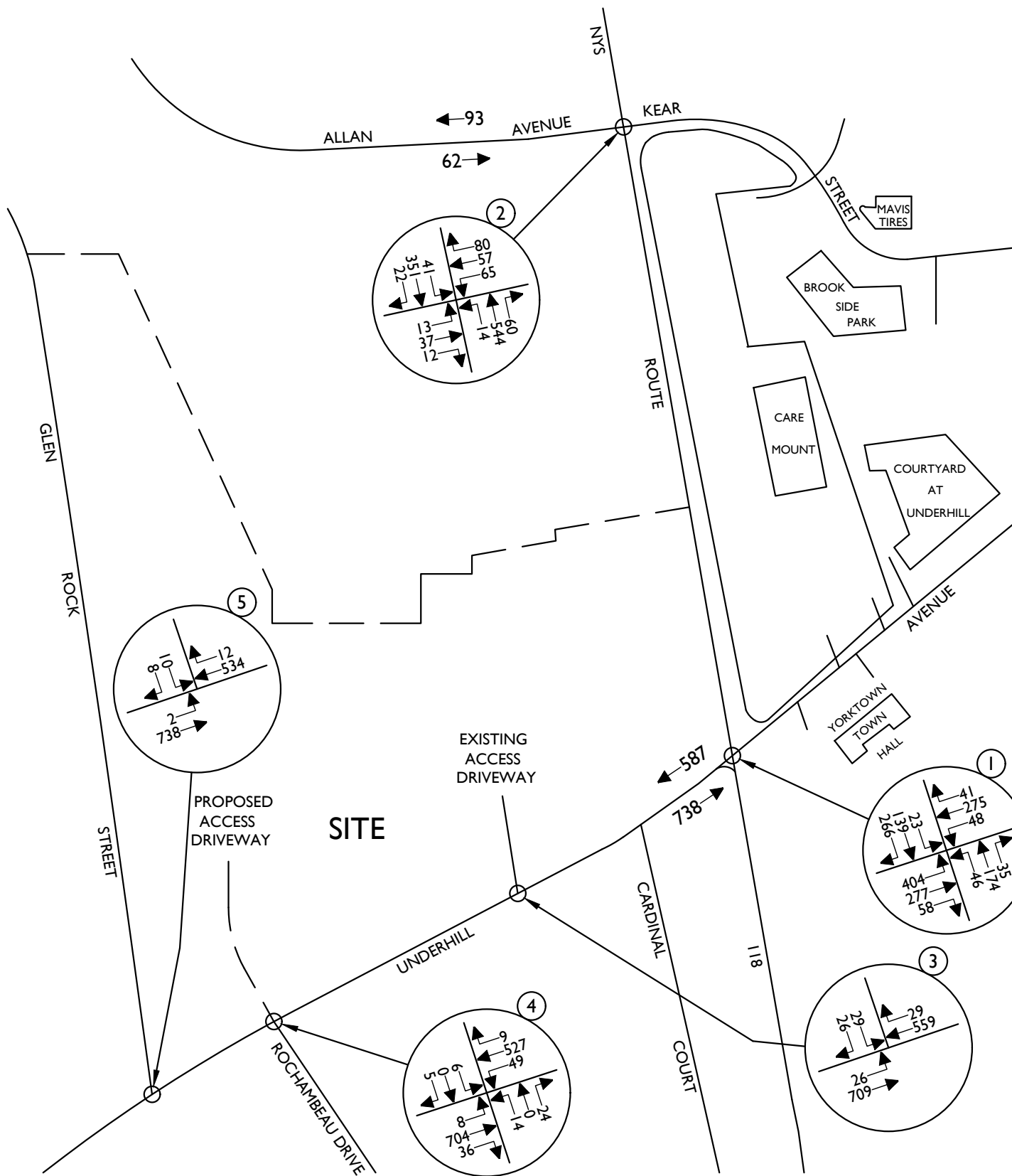
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AS SHOWN	3/26/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
**2025 BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(W/ APPROVED O.D.)**

SHEET NUMBER:  
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PROJECT NUMBER: 20006297A	DRAWING NAME: 230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
**2025 BUILD TRAFFIC VOLUMES WEEKDAY PEAK PM HOUR (W/ APPROVED O.D.)**

SHEET NUMBER:  
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# Traffic Impact Study

## Appendix B | Tables

**Table No. 1  
Hourly Trip Generation Rates (HTGR) and  
Anticipated Site Generated Traffic Volumes  
Peak Hour of Adjacent Street Traffic**

Underhill Farm Yorktown, NY	Entry			Exit		
	HTGR <sup>1</sup>	Volume	New Trips <sup>2</sup>	HTGR <sup>1</sup>	Volume	New Trips <sup>2</sup>
<b>Apartments/Condominiums/Townhouses</b> (148 Units)						
Peak AM Hour	0.11	16	16	0.36	53	53
Peak PM Hour	0.36	53	53	0.21	31	31
<b>Commercial - Office</b> (13,000 Sq. Ft.)						
Peak AM Hour	1.92	25	25	0.31	4	4
Peak PM Hour	0.38	5	5	2.00	26	26
<b>Commercial - Retail</b> (2,000 Sq. Ft.)						
Peak AM Hour	3.00	6	5	2.00	4	3
Peak PM Hour	6.00	12	9	6.50	13	10
<b>Quality Restaurant</b> (1,000 Sq. Ft.)						
Peak AM Hour	1.00	1	1	0.00	0	0
Peak PM Hour	5.00	5	4	3.00	3	2
<b>Total</b>						
Peak AM Hour	-	48	46	-	61	60
Peak PM Hour	-	75	71	-	73	69

**NOTES:**

- 1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 11TH EDITION, 2021. ITE LAND USE CODE - 220 - MULTIFAMILY HOUSING (MID-RISE), ITE LAND USE CODE - 931 - FINE DINING RESTAURANT, ITE LAND USE CODE - 712 - SMALL OFFICE, AND ITE LAND USE CODE - 822 - STRIP RETAIL PLAZA (<40K). PEAK HOUR OF ADJACENT STREET TRAFFIC RATES WERE UTILIZED FOR EACH LAND USE.
- 2) "NEW TRIPS" INCLUDE A 25% PASS-BY/DIVERTED LINK TRIP CREDIT FOR THE RETAIL AND RESTAURANT LAND USES.

**Table No. 1A  
Hourly Trip Generation Rates (HTGR) and  
Anticipated Site Generated Traffic Volumes  
Peak Hour of Generator**

Underhill Farm Yorktown, NY	Entry			Exit		
	HTGR <sup>1</sup>	Volume	New Trips <sup>2</sup>	HTGR <sup>1</sup>	Volume	New Trips <sup>2</sup>
<b>Apartments/Condominiums/Townhouses</b> (148 Units)						
Peak AM Hour	0.13	19	19	0.41	61	61
Peak PM Hour	0.41	60	60	0.25	37	37
<b>Commercial - Office<sup>3</sup></b> (13,000 Sq. Ft.)						
Peak AM Hour	1.92	25	25	0.31	4	4
Peak PM Hour	0.38	5	5	2.00	26	26
<b>Commercial - Retail</b> (2,000 Sq. Ft.)						
Peak AM Hour	4.00	8	6	3.50	7	5
Peak PM Hour	7.00	14	11	6.00	12	9
<b>Quality Restaurant</b> (1,000 Sq. Ft.)						
Peak AM Hour	4.00	4	3	0.00	0	0
Peak PM Hour	5.00	5	4	3.00	3	2
<b>Total</b>						
Peak AM Hour	-	56	53	-	72	70
Peak PM Hour	-	84	79	-	78	74

**NOTES:**

- 1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 11TH EDITION, 2021. ITE LAND USE CODE - 220 - MULTIFAMILY HOUSING (MID-RISE), ITE LAND USE CODE - 931 - FINE DINING RESTAURANT, ITE LAND USE CODE - 710 - GENERAL OFFICE BUILDING, AND ITE LAND USE CODE - 822 - STRIP RETAIL PLAZA (<40K). PEAK HOUR OF GENERATOR RATES WERE UTILIZED FOR EACH LAND USE.
- 2) "NEW TRIPS" INCLUDE A 25% PASS-BY/DIVERTED LINK TRIP CREDIT FOR THE RETAIL AND RESTAURANT LAND USES.
- 3) PEAK HOUR OF GENERATOR RATES ARE NOT PROVIDED BY ITE FOR LAND USE 710 - GENERAL OFFICE BUILDING SINCE IT IS ASSUMED THAT THE PEAK HOUR OF OFFICE GENERATED TRAFFIC IS COINCIDENT WITH PEAK HOUR OF ADJACENT STREET TRAFFIC. THEREFORE PEAK HOUR OF ADJACENT STREET TRAFFIC RATES HAVE BEEN UTILIZED.

**Table No. 2**  
**Level of Service Summary Table**  
**Weekday Peak AM Hour**

				2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.			
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	
1	NYS Route 118 & Underhill Avenue			Signalized									
		Underhill Avenue	EB	LT	0.66	C	22.8	0.75	C	27.5	0.81	C	32.2
				R	0.02	A	0.0	0.02	A	0.0	0.03	A	0.0
		Underhill Avenue	WB	LTR	0.32	B	15.5	0.38	B	16.9	0.40	B	17.8
		NYS Route 118	NB	LTR	0.54	C	24.0	0.57	C	24.4	0.60	C	25.3
		NYS Route 118	SB	LTR	0.88	D	35.7	0.89	D	37.0	0.89	D	37.2
				Overall	-	C	25.8	-	C	27.8	-	C	29.6
		<u>With Underhill Avenue Left Turn Lane &amp; NYS Route 118 SB Right Turn Lane</u>											
		Underhill Avenue	EB	L	-	-	-	-	-	-	0.40	B	12.0
				TR	-	-	-	-	-	-	0.46	B	17.4
		Underhill Avenue	WB	L	-	-	-	-	-	-	0.09	B	11.2
				TR	-	-	-	-	-	-	0.66	C	32.7
		NYS Route 118	NB	LTR	-	-	-	-	-	-	0.66	C	29.8
		NYS Route 118	SB	LT	-	-	-	-	-	-	0.54	C	26.2
				R	-	-	-	-	-	-	0.34	A	2.3
				Overall	-	-	-	-	-	-	-	B	18.8
		<u>With Left Turn Lanes All Approaches &amp; NYS Route 118 SB Right Turn Lane</u>											
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.38	A	8.6	
			TR	-	-	-	-	-	-	0.44	B	12.9	
	Underhill Avenue	WB	L	-	-	-	-	-	-	0.10	A	8.6	
			TR	-	-	-	-	-	-	0.65	C	27.8	
	NYS Route 118	NB	L	-	-	-	-	-	-	0.26	C	22.7	
			TR	-	-	-	-	-	-	0.52	C	24.3	
	NYS Route 118	SB	L	-	-	-	-	-	-	0.18	C	21.4	
			T	-	-	-	-	-	-	0.52	C	26.6	
			R	-	-	-	-	-	-	0.35	A	2.0	
			Overall	-	-	-	-	-	-	-	B	15.5	
2	NYS Route 118 & Allan Avenue/Kear Street			Unsignalized									
		Allan Avenue	EB	LTR	0.38	C	30.6	0.39	C	31.1	0.42	C	31.9
		Kear Street	WB	LTR	0.28	C	23.1	0.33	C	22.8	0.35	C	24.2
		NYS Route 118	NB	LTR	0.25	A	4.6	0.27	A	4.8	0.28	A	5.0
		NYS Route 118	SB	LTR	0.46	A	6.4	0.52	A	7.4	0.53	A	7.8
				Overall	-	A	9.2	-	A	10.0	-	B	10.5



**Table No. 2  
Level of Service Summary Table  
Weekday Peak AM Hour**

			2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.				
			v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay		
3	Underhill Avenue & East Site Access	Signalized											
		Underhill Avenue	EB	LT	-	-	-	-	-	-	0.03	A	9.1
		East Site Access	SB	LR	-	-	-	-	-	-	0.21	C	24.8
4	Underhill Avenue & Rochambeau Drive/West Site Access	Unsignalized											
		Underhill Avenue	EB	LTR	-	-	-	-	-	-	0.01	A	8.8
		Underhill Avenue	WB	LTR	0.01	A	8.4	0.01	A	8.5	0.01	A	8.9
		Rochambeau Drive	NB	LTR	0.15	C	15.0	0.17	C	15.8	0.22	C	20.1
		Site Access	SB	LTR	-	-	-	-	-	-	0.11	D	25.8
5	Underhill Avenue & Glen Rock Street	Unsignalized											
		Underhill Avenue	EB	LT	0.01	A	8.9	0.01	A	9.0	0.01	A	9.1
		Glen Rock Street	SB	LR	0.07	C	18.7	0.07	C	20.2	0.08	C	21.4

NOTES:

- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE

**Table No. 2**  
**Level of Service Summary Table**  
**Weekday Peak PM Hour**

				2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.			
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	
1	NYS Route 118 & Underhill Avenue	Signalized											
		Underhill Avenue	EB	LT	0.78	C	23.6	0.88	C	32.7	0.96	D	46.7
				R	0.03	A	0.0	0.03	A	0.0	0.04	A	0.0
		Underhill Avenue	WB	LTR	0.33	B	10.8	0.41	B	12.5	0.46	B	14.7
				NYS Route 118	NB	LTR	0.67	D	37.0	0.69	D	37.1	0.72
		NYS Route 118	SB	LTR	0.84	D	40.2	0.85	D	40.6	0.86	D	41.4
		Overall			-	C	26.4	-	C	30.1	-	D	36.3
	<u>With Underhill Avenue Left Turn Lane &amp; NYS Route 118 SB Right Turn Lane</u>												
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.62	B	13.1	
			TR	-	-	-	-	-	-	0.36	B	14.1	
	Underhill Avenue	WB	L	-	-	-	-	-	-	0.14	B	11.7	
			TR	-	-	-	-	-	-	0.78	D	42.1	
	NYS Route 118	NB	LTR	-	-	-	-	-	-	0.73	D	41.7	
	NYS Route 118	SB	LT	-	-	-	-	-	-	0.44	C	32.0	
			R	-	-	-	-	-	-	0.26	A	1.8	
	Overall			-	-	-	-	-	-	-	C	22.5	
	<u>With Left Turn Lanes All Approaches &amp; NYS Route 118 SB Right Turn Lane</u>												
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.63	B	12.1	
			TR	-	-	-	-	-	-	0.36	B	12.2	
Underhill Avenue	WB	L	-	-	-	-	-	-	0.15	A	9.8		
		TR	-	-	-	-	-	-	0.75	C	34.5		
NYS Route 118	NB	L	-	-	-	-	-	-	0.20	C	25.8		
		TR	-	-	-	-	-	-	0.60	C	31.5		
NYS Route 118	SB	L	-	-	-	-	-	-	0.11	C	24.7		
		T	-	-	-	-	-	-	0.41	C	28.1		
		R	-	-	-	-	-	-	0.27	A	2.0		
Overall			-	-	-	-	-	-	-	B	18.6		
2	NYS Route 118 & Allan Avenue/Kear Street	Unsignalized											
		Allan Avenue	EB	LTR	0.19	C	23.3	0.19	C	23.4	0.22	C	24.9
				Kear Street	WB	LTR	0.59	C	33.6	0.63	C	34.0	0.64
		NYS Route 118	NB	LTR	0.51	A	8.4	0.55	A	9.4	0.57	A	10.0
		NYS Route 118	SB	LTR	0.34	A	6.6	0.39	A	7.6	0.41	A	8.0
		Overall			-	B	12.2	-	B	13.3	-	B	13.9

**Table No. 2**  
**Level of Service Summary Table**  
**Weekday Peak PM Hour**

				2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.			
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	
3	Underhill Avenue & East Site Access	Signalized											
		Underhill Avenue	EB	LT	-	-	-	-	-	-	0.03	A	9.0
		East Site Access	SB	LR	-	-	-	-	-	-	0.31	D	31.3
4	Underhill Avenue & Rochambeau Drive/West Site Access	Unsignalized											
		Underhill Avenue	EB	LTR	-	-	-	-	-	-	0.01	A	8.6
		Underhill Avenue	WB	LTR	0.06	A	9.6	0.06	A	9.8	0.06	A	9.5
		Rochambeau Drive	NB	LTR	0.10	C	15.4	0.11	C	16.2	0.14	C	19.1
		Site Access	SB	LTR	-	-	-	-	-	-	0.10	D	33.2
5	Underhill Avenue & Glen Rock Street	Unsignalized											
		Underhill Avenue	EB	LT	0.01	A	8.4	0.01	A	8.6	0.01	A	8.7
		Glen Rock Street	SB	LR	0.07	C	19.2	0.08	C	21.0	0.09	C	22.6

NOTES:

- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE

# Traffic Impact Study

## Appendix C | Level of Service Standards

# Level of Service Standards

## Level of Service for Signalized Intersections

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

- **LOS A** describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
- **LOS B** describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
- **LOS C** describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate.
- **LOS D** describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long.
- **LOS E** describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long.
- **LOS F** describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long.

A lane group can incur a delay less than 80 s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

The Level of Service Criteria for signalized intersections are given in Exhibit 19-8 from the *Highway Capacity Manual, 6<sup>th</sup> Edition* published by the Transportation Research Board.

**Exhibit 19-8 LOS by Volume-to-Capacity Ratio**

Control Delay (s/veh)	$v/c \leq 1.0$	$v/c \geq 1.0$
$\leq 10$	A	F
>10-20	B	F
>20-35	C	F
>35-55	D	F
>55-80	E	F
>80	F	F

For approach-based and intersection wide assessments, LOS is defined solely by control delay.

## Level of Service Criteria For Two-Way Stop-Controlled (TWSC) Unsignalized Intersections

Level of Service (LOS) for a two-way stop-controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches.

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 20-2 from the Highway Capacity Manual, 6th Edition published by the Transportation Research Board.

### Exhibit 20-2 LOS by Volume-to-Capacity Ratio

Control Delay (s/veh)	$v/c \leq 1.0$	$v/c \geq 1.0$
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

As Exhibit 20-2 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

## Level of Service Criteria For All-Way Stop-Controlled (AWSC) Unsignalized Intersections

The Levels of Service (LOS) for all-way stop-controlled (AWSC) intersections are given in Exhibit 21-8. As the exhibit notes, LOS F is assigned if the volume-to-capacity (v/c) ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

The Level of Service Criteria for AWSC unsignalized intersections are given in Exhibit 21-8 from the *Highway Capacity Manual, 6<sup>th</sup> Edition* published by the Transportation Research Board.

**Exhibit 21-8 LOS by Volume-to-Capacity Ratio**

Control Delay (s/veh)	v/c ≤ 1.0	v/c ≥ 1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

For approaches and intersection wide assessment, LOS is defined solely by control delay.



# Traffic Impact Study

## Appendix D | Capacity Analysis

2021 Existing Traffic Volumes  
1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	175	291	32	20	210	14	54	122	28	44	158	307
Future Volume (vph)	175	291	32	20	210	14	54	122	28	44	158	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.982			0.919	
Flt Protected		0.982			0.996			0.987			0.996	
Satd. Flow (prot)	0	2017	1577	0	1809	0	0	1578	0	0	1647	0
Flt Permitted		0.769			0.943			0.701			0.952	
Satd. Flow (perm)	0	1580	1577	0	1713	0	0	1121	0	0	1574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		3			10			94	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	0%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	190	316	35	22	228	15	59	133	30	48	172	334
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	506	35	0	265	0	0	222	0	0	554	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2021 Existing Traffic Volumes  
1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
04/03/2023

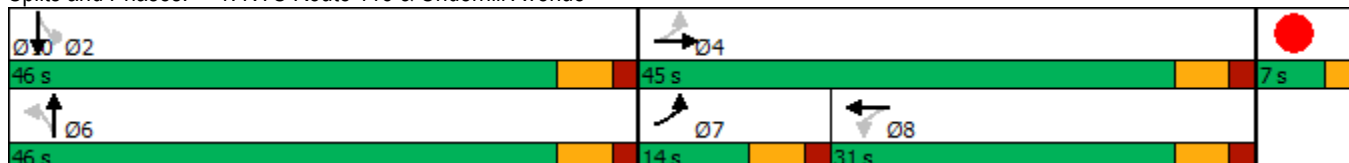


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	3.0	5.0		5.0	5.0		10.0	10.0		10.0		10.0
Minimum Split (s)	9.0	11.0		11.0	11.0		16.0	16.0		16.0		16.0
Total Split (s)	14.0	45.0		31.0	31.0		46.0	46.0		46.0		46.0
Total Split (%)	14.3%	45.9%		31.6%	31.6%		46.9%	46.9%		46.9%		46.9%
Maximum Green (s)	8.0	39.0		25.0	25.0		40.0	40.0		40.0		40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Lost Time Adjust (s)		0.0			0.0			0.0				0.0
Total Lost Time (s)		6.0			6.0			6.0				6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Recall Mode	None	None		None	None		Min	Min		None		None
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		38.6	79.7		38.6			28.9				28.9
Actuated g/C Ratio		0.48	1.00		0.48			0.36				0.36
v/c Ratio		0.66	0.02		0.32			0.54				0.88
Control Delay		22.8	0.0		15.5			24.0				35.7
Queue Delay		0.0	0.0		0.0			0.0				0.0
Total Delay		22.8	0.0		15.5			24.0				35.7
LOS		C	A		B			C				D
Approach Delay		21.3			15.5			24.0				35.7
Approach LOS		C			B			C				D

Intersection Summary

Area Type: Other  
 Cycle Length: 98  
 Actuated Cycle Length: 79.7  
 Natural Cycle: 75  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.88  
 Intersection Signal Delay: 25.8  
 Intersection LOS: C  
 Intersection Capacity Utilization 84.8%  
 ICU Level of Service E  
 Analysis Period (min) 15

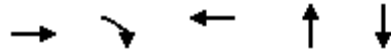
Splits and Phases: 1: NYS Route 118 & Underhill Avenue



Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	7%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

2021 Existing Traffic Volumes  
 1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
 04/03/2023



Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	506	35	265	222	554
v/c Ratio	0.66	0.02	0.32	0.54	0.88
Control Delay	22.8	0.0	15.5	24.0	35.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	0.0	15.5	24.0	35.7
Queue Length 50th (ft)	184	0	77	82	216
Queue Length 95th (ft)	367	0	160	146	352
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	784	1577	831	575	847
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.65	0.02	0.32	0.39	0.65
<b>Intersection Summary</b>					

2021 Existing Traffic Volumes  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak AM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	18	55	17	31	12	28	8	268	35	59	461	10
Future Volume (vph)	18	55	17	31	12	28	8	268	35	59	461	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.975			0.947			0.985			0.997	
Fl <sub>t</sub> Protected		0.990			0.979			0.999			0.994	
Satd. Flow (prot)	0	1747	0	0	1908	0	0	1754	0	0	1767	0
Fl <sub>t</sub> Permitted		0.933			0.858			0.985			0.927	
Satd. Flow (perm)	0	1646	0	0	1672	0	0	1730	0	0	1648	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			25			6			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	59	18	33	13	30	9	285	37	63	490	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	76	0	0	331	0	0	564	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Fr't	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	



2021 Existing Traffic Volumes  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak AM Hour  
04/03/2023

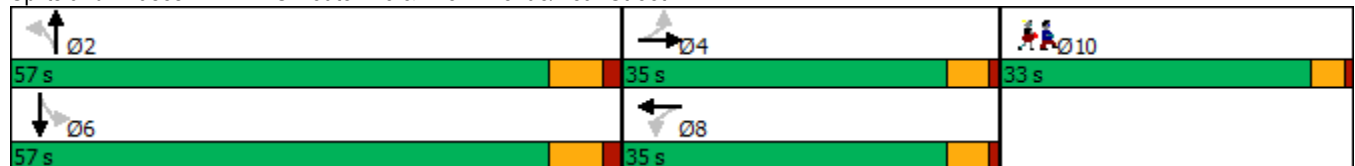


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		10.6			10.6			52.7			52.7	
Actuated g/C Ratio		0.15			0.15			0.75			0.75	
v/c Ratio		0.38			0.28			0.25			0.46	
Control Delay		30.6			23.1			4.6			6.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		30.6			23.1			4.6			6.4	
LOS		C			C			A			A	
Approach Delay		30.6			23.1			4.6			6.4	
Approach LOS		C			C			A			A	

**Intersection Summary**

Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	70.2
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.46
Intersection Signal Delay:	9.2
Intersection LOS:	A
Intersection Capacity Utilization:	69.0%
ICU Level of Service:	C
Analysis Period (min):	15

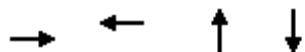
Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

2021 Existing Traffic Volumes  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak AM Hour  
 04/03/2023



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	96	76	331	564
v/c Ratio	0.38	0.28	0.25	0.46
Control Delay	30.6	23.1	4.6	6.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.6	23.1	4.6	6.4
Queue Length 50th (ft)	36	20	45	95
Queue Length 95th (ft)	78	56	84	175
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	712	733	1300	1237
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.10	0.25	0.46
<b>Intersection Summary</b>				

2021 Existing Traffic Volumes  
4: Rochambeau Drive & Underhill Avenue

Peak AM Hour  
04/03/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Volume (vph)	474	6	12	559	38	24
Future Volume (vph)	474	6	12	559	38	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12
Grade (%)	-6%			6%	-7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998				0.948	
Flt Protected				0.999	0.970	
Satd. Flow (prot)	1934	0	0	1806	1892	0
Flt Permitted				0.999	0.970	
Satd. Flow (perm)	1934	0	0	1806	1892	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	220			425	323	
Travel Time (s)	5.0			9.7	7.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	0%	2%	0%	5%
Adj. Flow (vph)	494	6	13	582	40	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	500	0	0	595	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	14	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.96	0.96	1.04	1.04	0.88	0.96
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	49.3%
ICU Level of Service	A
Analysis Period (min)	15

2021 Existing Traffic Volumes  
4: Rochambeau Drive & Underhill Avenue

Peak AM Hour  
04/03/2023

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	474	6	12	559	38	24
Future Vol, veh/h	474	6	12	559	38	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-6	-	-	6	-7	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	0	0	2	0	5
Mvmt Flow	494	6	13	582	40	25

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	500	0	1105 497
Stage 1	-	-	-	-	497 -
Stage 2	-	-	-	-	608 -
Critical Hdwy	-	-	4.1	-	5 5.55
Critical Hdwy Stg 1	-	-	-	-	4 -
Critical Hdwy Stg 2	-	-	-	-	4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.345
Pot Cap-1 Maneuver	-	-	1075	-	362 625
Stage 1	-	-	-	-	747 -
Stage 2	-	-	-	-	693 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1075	-	355 625
Mov Cap-2 Maneuver	-	-	-	-	355 -
Stage 1	-	-	-	-	747 -
Stage 2	-	-	-	-	681 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	426	-	-	1075	-
HCM Lane V/C Ratio	0.152	-	-	0.012	-
HCM Control Delay (s)	15	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

2021 Existing Traffic Volumes  
5: Underhill Avenue & Glen Rock Street

Peak AM Hour  
04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	471	590	7	9	8
Future Volume (vph)	2	471	590	7	9	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998		0.936	
Flt Protected					0.974	
Satd. Flow (prot)	0	1804	1769	0	1501	0
Flt Permitted					0.974	
Satd. Flow (perm)	0	1804	1769	0	1501	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	8%	4%	2%	2%	14%
Adj. Flow (vph)	2	518	648	8	10	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	520	656	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	41.5%
ICU Level of Service	A
Analysis Period (min)	15

2021 Existing Traffic Volumes  
5: Underhill Avenue & Glen Rock Street

Peak AM Hour  
04/03/2023

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	2	471	590	7	9	8
Future Vol, veh/h	2	471	590	7	9	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	8	4	2	2	14
Mvmt Flow	2	518	648	8	10	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	656	0	-	0	1174 652
Stage 1	-	-	-	-	652 -
Stage 2	-	-	-	-	522 -
Critical Hdwy	4.12	-	-	-	6.42 6.34
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.426
Pot Cap-1 Maneuver	931	-	-	-	212 447
Stage 1	-	-	-	-	518 -
Stage 2	-	-	-	-	595 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	931	-	-	-	211 447
Mov Cap-2 Maneuver	-	-	-	-	211 -
Stage 1	-	-	-	-	516 -
Stage 2	-	-	-	-	595 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	931	-	-	-	281
HCM Lane V/C Ratio	0.002	-	-	-	0.066
HCM Control Delay (s)	8.9	0	-	-	18.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

2025 No-Build Traffic Volumes W/Approved Other Development  
1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	185	319	33	29	229	17	55	126	42	45	163	321
Future Volume (vph)	185	319	33	29	229	17	55	126	42	45	163	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.974			0.918	
Flt Protected		0.982			0.995			0.988			0.996	
Satd. Flow (prot)	0	2005	1577	0	1804	0	0	1565	0	0	1646	0
Flt Permitted		0.750			0.914			0.708			0.951	
Satd. Flow (perm)	0	1531	1577	0	1657	0	0	1122	0	0	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		3			14			96	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	201	347	36	32	249	18	60	137	46	49	177	349
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	548	36	0	299	0	0	243	0	0	575	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 No-Build Traffic Volumes W/Approved Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	3.0	5.0		5.0	5.0		10.0	10.0		10.0		10.0
Minimum Split (s)	9.0	11.0		11.0	11.0		16.0	16.0		16.0		16.0
Total Split (s)	14.0	45.0		31.0	31.0		46.0	46.0		46.0		46.0
Total Split (%)	14.3%	45.9%		31.6%	31.6%		46.9%	46.9%		46.9%		46.9%
Maximum Green (s)	8.0	39.0		25.0	25.0		40.0	40.0		40.0		40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Lost Time Adjust (s)		0.0			0.0			0.0				0.0
Total Lost Time (s)		6.0			6.0			6.0				6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Recall Mode	None	None		None	None		Min	Min		None		None
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		39.4	82.1		39.4			30.6				30.6
Actuated g/C Ratio		0.48	1.00		0.48			0.37				0.37
v/c Ratio		0.75	0.02		0.38			0.57				0.89
Control Delay		27.5	0.0		16.9			24.4				37.0
Queue Delay		0.0	0.0		0.0			0.0				0.0
Total Delay		27.5	0.0		16.9			24.4				37.0
LOS		C	A		B			C				D
Approach Delay		25.8			16.9			24.4				37.0
Approach LOS		C			B			C				D
Queue Length 50th (ft)		224	0		95			91				230
Queue Length 95th (ft)		#463	0		184			161				374
Internal Link Dist (ft)		310			219			381				978
Turn Bay Length (ft)			50									
Base Capacity (vph)		734	1577		796			559				821
Starvation Cap Reductn		0	0		0			0				0
Spillback Cap Reductn		0	0		0			0				0
Storage Cap Reductn		0	0		0			0				0
Reduced v/c Ratio		0.75	0.02		0.38			0.43				0.70

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	82.1
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	27.8
Intersection Capacity Utilization:	90.1%
Intersection LOS:	C
ICU Level of Service:	E

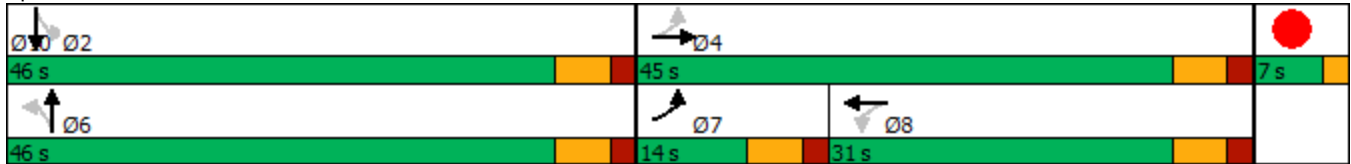
Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	7%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

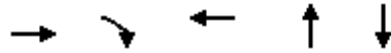
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	548	36	299	243	575
v/c Ratio	0.75	0.02	0.38	0.57	0.89
Control Delay	27.5	0.0	16.9	24.4	37.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	0.0	16.9	24.4	37.0
Queue Length 50th (ft)	224	0	95	91	230
Queue Length 95th (ft)	#463	0	184	161	374
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	734	1577	796	559	821
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.02	0.38	0.43	0.70

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 No-Build Traffic Volumes W/Approved Other Development  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak AM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	18	61	17	32	15	43	8	284	36	87	480	10
Future Volume (vph)	18	61	17	32	15	43	8	284	36	87	480	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976			0.935			0.985			0.998	
Flt Protected		0.991			0.983			0.999			0.992	
Satd. Flow (prot)	0	1750	0	0	1892	0	0	1754	0	0	1765	0
Flt Permitted		0.936			0.871			0.985			0.890	
Satd. Flow (perm)	0	1653	0	0	1676	0	0	1730	0	0	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			35			6			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	65	18	34	16	46	9	302	38	93	511	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	0	0	96	0	0	349	0	0	615	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Fr <sub>t</sub>	
Fl <sub>t</sub> Protected	
Satd. Flow (prot)	
Fl <sub>t</sub> Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 No-Build Traffic Volumes W/Approved Other Development  
2: NYS Route 118 & Allen Avenue/Kear Street

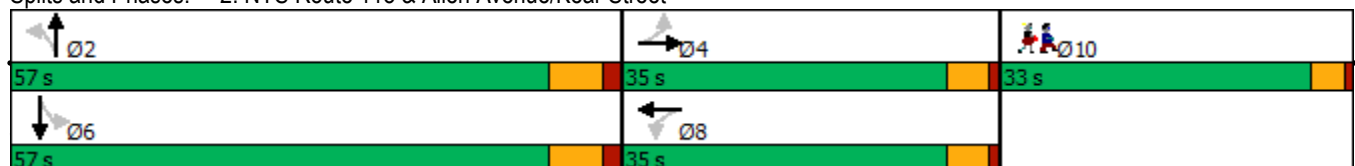
Peak AM Hour  
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		10.7			10.7			52.2			52.2	
Actuated g/C Ratio		0.15			0.15			0.75			0.75	
v/c Ratio		0.39			0.33			0.27			0.52	
Control Delay		31.1			22.8			4.8			7.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		31.1			22.8			4.8			7.4	
LOS		C			C			A			A	
Approach Delay		31.1			22.8			4.8			7.4	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		39			25			48			112	
Queue Length 95th (ft)		82			65			91			213	
Internal Link Dist (ft)		269			289			978			263	
Turn Bay Length (ft)												
Base Capacity (vph)		723			748			1298			1186	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.14			0.13			0.27			0.52	

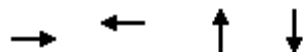
Intersection Summary	
Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	69.7
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.52
Intersection Signal Delay:	10.0
Intersection LOS:	A
Intersection Capacity Utilization:	73.4%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street





Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	102	96	349	615
v/c Ratio	0.39	0.33	0.27	0.52
Control Delay	31.1	22.8	4.8	7.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.1	22.8	4.8	7.4
Queue Length 50th (ft)	39	25	48	112
Queue Length 95th (ft)	82	65	91	213
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	723	748	1298	1186
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.14	0.13	0.27	0.52
<b>Intersection Summary</b>				

2025 No-Build Traffic Volumes W/Approved Other Development  
 4: Rochambeau Drive & Underhill Avenue

Peak AM Hour  
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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	
Traffic Volume (vph)	512	6	12	593	39	24
Future Volume (vph)	512	6	12	593	39	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12
Grade (%)	-6%			6%	-7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998				0.949	
Flt Protected				0.999	0.970	
Satd. Flow (prot)	1934	0	0	1806	1895	0
Flt Permitted				0.999	0.970	
Satd. Flow (perm)	1934	0	0	1806	1895	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	220			425	323	
Travel Time (s)	5.0			9.7	7.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	0%	2%	0%	5%
Adj. Flow (vph)	533	6	13	618	41	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	539	0	0	631	66	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	14	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.96	0.96	1.04	1.04	0.88	0.96
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.1%
ICU Level of Service	A
Analysis Period (min)	15

2025 No-Build Traffic Volumes W/Approved Other Development  
 4: Rochambeau Drive & Underhill Avenue

Peak AM Hour  
 04/03/2023

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	512	6	12	593	39	24
Future Vol, veh/h	512	6	12	593	39	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-6	-	-	6	-7	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	0	0	2	0	5
Mvmt Flow	533	6	13	618	41	25

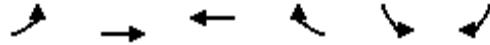
Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	539	0	1180
Stage 1	-	-	-	-	536
Stage 2	-	-	-	-	644
Critical Hdwy	-	-	4.1	-	5
Critical Hdwy Stg 1	-	-	-	-	4
Critical Hdwy Stg 2	-	-	-	-	4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1040	-	336
Stage 1	-	-	-	-	728
Stage 2	-	-	-	-	677
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1040	-	330
Mov Cap-2 Maneuver	-	-	-	-	330
Stage 1	-	-	-	-	728
Stage 2	-	-	-	-	664

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	398	-	-	1040	-
HCM Lane V/C Ratio	0.165	-	-	0.012	-
HCM Control Delay (s)	15.8	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

2025 No-Build Traffic Volumes W/Approved Other Development  
 5: Underhill Avenue & Glen Rock Street

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	509	625	7	9	8
Future Volume (vph)	2	509	625	7	9	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998		0.936	
Flt Protected					0.974	
Satd. Flow (prot)	0	1804	1769	0	1501	0
Flt Permitted					0.974	
Satd. Flow (perm)	0	1804	1769	0	1501	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	8%	4%	2%	2%	14%
Adj. Flow (vph)	2	559	687	8	10	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	561	695	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.3%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	509	625	7	9	8
Future Vol, veh/h	2	509	625	7	9	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	8	4	2	2	14
Mvmt Flow	2	559	687	8	10	9

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	695	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	901	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	901	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	901	-	-	-	256
HCM Lane V/C Ratio	0.002	-	-	-	0.073
HCM Control Delay (s)	9	0	-	-	20.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

2025 Build Traffic Volumes W/Approved Other Development  
1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	203	327	40	29	235	17	61	126	42	45	163	335
Future Volume (vph)	203	327	40	29	235	17	61	126	42	45	163	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.975			0.917	
Flt Protected		0.981			0.995			0.987			0.996	
Satd. Flow (prot)	0	2002	1577	0	1804	0	0	1569	0	0	1646	0
Flt Permitted		0.735			0.886			0.677			0.951	
Satd. Flow (perm)	0	1500	1577	0	1606	0	0	1076	0	0	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		3			14			100	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	221	355	43	32	255	18	66	137	46	49	177	364
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	576	43	0	305	0	0	249	0	0	590	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	



2025 Build Traffic Volumes W/Approved Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	3.0	5.0		5.0	5.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	11.0		11.0	11.0		16.0	16.0		16.0	16.0	
Total Split (s)	14.0	45.0		31.0	31.0		46.0	46.0		46.0	46.0	
Total Split (%)	14.3%	45.9%		31.6%	31.6%		46.9%	46.9%		46.9%	46.9%	
Maximum Green (s)	8.0	39.0		25.0	25.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		Min	Min		None	None	
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		39.4	83.1		39.4			31.6				31.6
Actuated g/C Ratio		0.47	1.00		0.47			0.38				0.38
v/c Ratio		0.81	0.03		0.40			0.60				0.89
Control Delay		32.2	0.0		17.8			25.3				37.2
Queue Delay		0.0	0.0		0.0			0.0				0.0
Total Delay		32.2	0.0		17.8			25.3				37.2
LOS		C	A		B			C				D
Approach Delay		29.9			17.8			25.3				37.2
Approach LOS		C			B			C				D
Queue Length 50th (ft)		255	0		101			95				239
Queue Length 95th (ft)		#508	0		191			170				#401
Internal Link Dist (ft)		310			219			381				978
Turn Bay Length (ft)			50									
Base Capacity (vph)		710	1577		762			529				814
Starvation Cap Reductn		0	0		0			0				0
Spillback Cap Reductn		0	0		0			0				0
Storage Cap Reductn		0	0		0			0				0
Reduced v/c Ratio		0.81	0.03		0.40			0.47				0.72

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	83.1
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	29.6
Intersection Capacity Utilization:	92.3%
Intersection LOS:	C
ICU Level of Service:	F

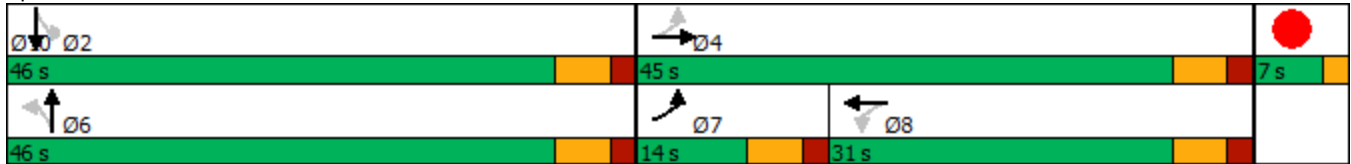
Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	7%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

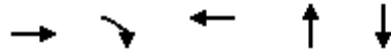
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	576	43	305	249	590
v/c Ratio	0.81	0.03	0.40	0.60	0.89
Control Delay	32.2	0.0	17.8	25.3	37.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	0.0	17.8	25.3	37.2
Queue Length 50th (ft)	255	0	101	95	239
Queue Length 95th (ft)	#508	0	191	170	#401
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	710	1577	762	529	814
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.81	0.03	0.40	0.47	0.72

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 Build Traffic Volumes W/Approved Other Development  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak AM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	22	64	17	34	18	43	8	298	39	87	491	13
Future Volume (vph)	22	64	17	34	18	43	8	298	39	87	491	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.939			0.985			0.997	
Flt Protected		0.990			0.982			0.999			0.993	
Satd. Flow (prot)	0	1752	0	0	1898	0	0	1754	0	0	1765	0
Flt Permitted		0.921			0.858			0.985			0.889	
Satd. Flow (perm)	0	1630	0	0	1658	0	0	1730	0	0	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			32			6			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	23	68	18	36	19	46	9	317	41	93	522	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	0	0	101	0	0	367	0	0	629	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Fr <sub>t</sub>	
Fl <sub>t</sub> Protected	
Satd. Flow (prot)	
Fl <sub>t</sub> Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 Build Traffic Volumes W/Approved Other Development  
 2: NYS Route 118 & Allen Avenue/Kear Street

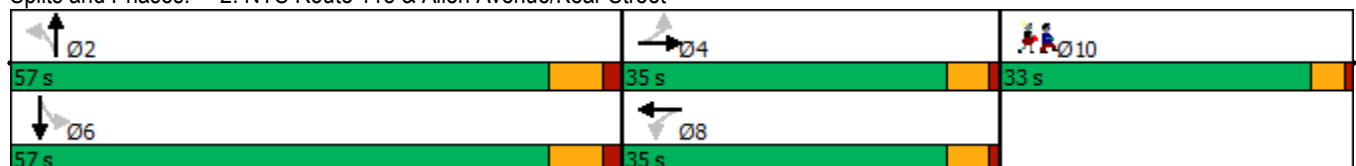
Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		10.9			10.9			52.2			52.2	
Actuated g/C Ratio		0.16			0.16			0.75			0.75	
v/c Ratio		0.42			0.35			0.28			0.53	
Control Delay		31.9			24.2			5.0			7.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		31.9			24.2			5.0			7.8	
LOS		C			C			A			A	
Approach Delay		31.9			24.2			5.0			7.8	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		42			28			51			116	
Queue Length 95th (ft)		88			70			100			229	
Internal Link Dist (ft)		269			289			978			263	
<b>Turn Bay Length (ft)</b>												
Base Capacity (vph)		711			737			1294			1181	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.15			0.14			0.28			0.53	

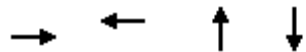
<b>Intersection Summary</b>	
Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	69.9
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.53
Intersection Signal Delay:	10.5
Intersection Capacity Utilization	74.9%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	D

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	





Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	109	101	367	629
v/c Ratio	0.42	0.35	0.28	0.53
Control Delay	31.9	24.2	5.0	7.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.9	24.2	5.0	7.8
Queue Length 50th (ft)	42	28	51	116
Queue Length 95th (ft)	88	70	100	229
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	711	737	1294	1181
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.15	0.14	0.28	0.53
<b>Intersection Summary</b>				

2025 Build Traffic Volumes W/Approved Other Development  
 3: Underhill Avenue & Site Access

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Volume (vph)	20	550	609	23	23	20
Future Volume (vph)	20	550	609	23	23	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.995		0.938	
Flt Protected		0.998			0.974	
Satd. Flow (prot)	0	1803	1774	0	1702	0
Flt Permitted		0.998			0.974	
Satd. Flow (perm)	0	1803	1774	0	1702	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	8%	4%	2%	2%	2%
Adj. Flow (vph)	22	611	677	26	26	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	633	703	0	48	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	55.1%
Analysis Period (min)	15
	ICU Level of Service B

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	20	550	609	23	23	20
Future Vol, veh/h	20	550	609	23	23	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	8	4	2	2	2
Mvmt Flow	22	611	677	26	26	22

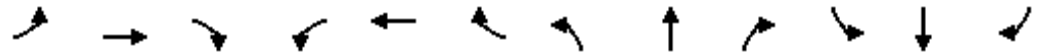
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	703	0	-	0	1345 690
Stage 1	-	-	-	-	690 -
Stage 2	-	-	-	-	655 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	895	-	-	-	167 445
Stage 1	-	-	-	-	498 -
Stage 2	-	-	-	-	517 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	895	-	-	-	161 445
Mov Cap-2 Maneuver	-	-	-	-	161 -
Stage 1	-	-	-	-	480 -
Stage 2	-	-	-	-	517 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	24.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	895	-	-	-	229
HCM Lane V/C Ratio	0.025	-	-	-	0.209
HCM Control Delay (s)	9.1	0	-	-	24.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

2025 Build Traffic Volumes W/Approved Other Development  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	532	6	12	613	4	39	0	24	13	0	8
Future Volume (vph)	2	532	6	12	613	4	39	0	24	13	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.999			0.949			0.951	
Flt Protected					0.999			0.970			0.969	
Satd. Flow (prot)	0	1808	0	0	1764	0	0	1828	0	0	1717	0
Flt Permitted					0.999			0.970			0.969	
Satd. Flow (perm)	0	1808	0	0	1764	0	0	1828	0	0	1717	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			425			323			173	
Travel Time (s)		5.0			9.7			7.3			3.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	8%	20%	17%	4%	2%	6%	2%	5%	2%	2%	2%
Adj. Flow (vph)	2	554	6	13	639	4	41	0	25	14	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	562	0	0	656	0	0	66	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.2%
ICU Level of Service	A
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved Other Development  
4: Rochambeau Drive/Site Access & Underhill Avenue

Peak AM Hour  
04/03/2023

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	532	6	12	613	4	39	0	24	13	0	8
Future Vol, veh/h	2	532	6	12	613	4	39	0	24	13	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	8	20	17	4	2	6	2	5	2	2	2
Mvmt Flow	2	554	6	13	639	4	41	0	25	14	0	8

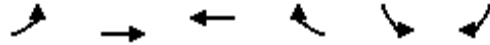
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	643	0	0	560	0	0	1232	1230	557	1241	1231	641
Stage 1	-	-	-	-	-	-	561	561	-	667	667	-
Stage 2	-	-	-	-	-	-	671	669	-	574	564	-
Critical Hdwy	4.12	-	-	4.27	-	-	5.76	5.12	5.55	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	4.76	4.12	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.76	4.12	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.353	-	-	3.554	4.018	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	942	-	-	940	-	-	244	286	584	152	177	475
Stage 1	-	-	-	-	-	-	628	634	-	448	457	-
Stage 2	-	-	-	-	-	-	570	591	-	504	508	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	942	-	-	940	-	-	235	279	584	143	173	475
Mov Cap-2 Maneuver	-	-	-	-	-	-	235	279	-	143	173	-
Stage 1	-	-	-	-	-	-	626	632	-	447	447	-
Stage 2	-	-	-	-	-	-	548	578	-	481	506	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.2			20.1			25.8		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	304	942	-	-	940	-	-	195
HCM Lane V/C Ratio	0.216	0.002	-	-	0.013	-	-	0.112
HCM Control Delay (s)	20.1	8.8	0	-	8.9	0	-	25.8
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.4

2025 Build Traffic Volumes W/Approved Other Development  
5: Underhill Avenue & Glen Rock Street

Peak AM Hour  
04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	532	653	7	9	8
Future Volume (vph)	2	532	653	7	9	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.936	
Flt Protected					0.974	
Satd. Flow (prot)	0	1804	1771	0	1501	0
Flt Permitted					0.974	
Satd. Flow (perm)	0	1804	1771	0	1501	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	8%	4%	2%	2%	14%
Adj. Flow (vph)	2	585	718	8	10	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	587	726	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	44.8%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	532	653	7	9	8
Future Vol, veh/h	2	532	653	7	9	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	8	4	2	2	14
Mvmt Flow	2	585	718	8	10	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	726	0	-	0	1311 722
Stage 1	-	-	-	-	722 -
Stage 2	-	-	-	-	589 -
Critical Hdwy	4.12	-	-	-	6.42 6.34
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.426
Pot Cap-1 Maneuver	877	-	-	-	175 407
Stage 1	-	-	-	-	481 -
Stage 2	-	-	-	-	554 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	877	-	-	-	174 407
Mov Cap-2 Maneuver	-	-	-	-	174 -
Stage 1	-	-	-	-	480 -
Stage 2	-	-	-	-	554 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	877	-	-	-	238
HCM Lane V/C Ratio	0.003	-	-	-	0.078
HCM Control Delay (s)	9.1	0	-	-	21.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

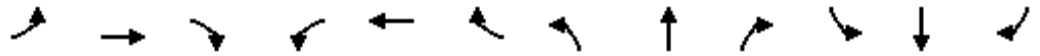
2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes on Pedestrian Ave)  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	203	327	40	29	235	17	61	126	42	45	163	335
Future Volume (vph)	203	327	40	29	235	17	61	126	42	45	163	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.990			0.975			0.850	
Flt Protected	0.950			0.950				0.987			0.989	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	0	1569	0	0	1657	1607
Flt Permitted	0.385			0.527				0.828			0.878	
Satd. Flow (perm)	679	1889	0	833	1826	0	0	1317	0	0	1471	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			3			10			325	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	221	355	43	32	255	18	66	137	46	49	177	364
Shared Lane Traffic (%)												
Lane Group Flow (vph)	221	398	0	32	273	0	0	249	0	0	226	364
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0



2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes of Pedal Avenue)  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



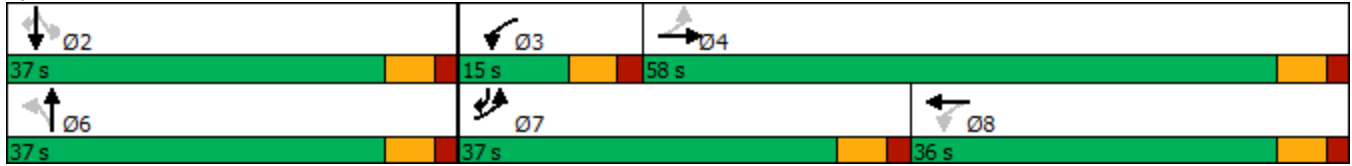
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		9.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	33.6	29.4		21.3	14.6			18.3			18.3	37.3
Actuated g/C Ratio	0.52	0.45		0.33	0.23			0.28			0.28	0.58
v/c Ratio	0.40	0.46		0.09	0.66			0.66			0.54	0.34
Control Delay	12.0	17.4		11.2	32.7			29.8			26.2	2.3
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	12.0	17.4		11.2	32.7			29.8			26.2	2.3
LOS	B	B		B	C			C			C	A
Approach Delay		15.5			30.4			29.8			11.5	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	41	80		5	93			79			72	6
Queue Length 95th (ft)	109	265		22	215			185			165	41
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	898	1546		410	903			676			750	1448
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.25	0.26		0.08	0.30			0.37			0.30	0.25

**Intersection Summary**

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	64.7
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	18.8
Intersection Capacity Utilization	68.3%
Intersection LOS:	B
ICU Level of Service	C

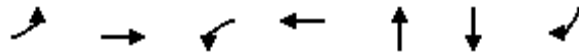
Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes of Pedraza Ave)  
 1: NYS Route 118 & Underhill Avenue

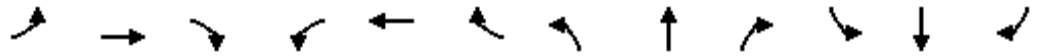
04/03/2023



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	221	398	32	273	249	226	364
v/c Ratio	0.40	0.46	0.09	0.66	0.66	0.54	0.34
Control Delay	12.0	17.4	11.2	32.7	29.8	26.2	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	17.4	11.2	32.7	29.8	26.2	2.3
Queue Length 50th (ft)	41	80	5	93	79	72	6
Queue Length 95th (ft)	109	265	22	215	185	165	41
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	898	1546	410	903	676	750	1448
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.26	0.08	0.30	0.37	0.30	0.25

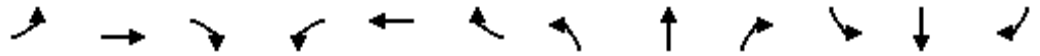
Intersection Summary

2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approaches)  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	203	327	40	29	235	17	61	126	42	45	163	335
Future Volume (vph)	203	327	40	29	235	17	61	126	42	45	163	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.984			0.990			0.962			0.850	
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	1669	1513	0	1617	1554	1607
Flt Permitted	0.397			0.527			0.637			0.642	0.988	
Satd. Flow (perm)	701	1889	0	833	1826	0	1119	1513	0	1093	1537	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			3			17				363
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	221	355	43	32	255	18	66	137	46	49	177	364
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	221	398	0	32	273	0	66	183	0	44	182	364
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approaches)  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		5.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	30.0	26.3		17.7	12.5		12.4	12.4		12.4	12.4	29.9
Actuated g/C Ratio	0.55	0.48		0.32	0.23		0.23	0.23		0.23	0.23	0.55
v/c Ratio	0.38	0.44		0.10	0.65		0.26	0.52		0.18	0.52	0.35
Control Delay	8.6	12.9		8.6	27.8		22.7	24.3		21.4	26.6	2.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.6	12.9		8.6	27.8		22.7	24.3		21.4	26.6	2.0
LOS	A	B		A	C		C	C		C	C	A
Approach Delay		11.4			25.8			23.9			11.0	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	30	58		4	75		17	46		11	53	0
Queue Length 95th (ft)	75	194		16	174		55	120		42	133	32
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	733	1639		332	1137		843	1145		824	1159	1230
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.30	0.24		0.10	0.24		0.08	0.16		0.05	0.16	0.30

**Intersection Summary**

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 54.8

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 15.5

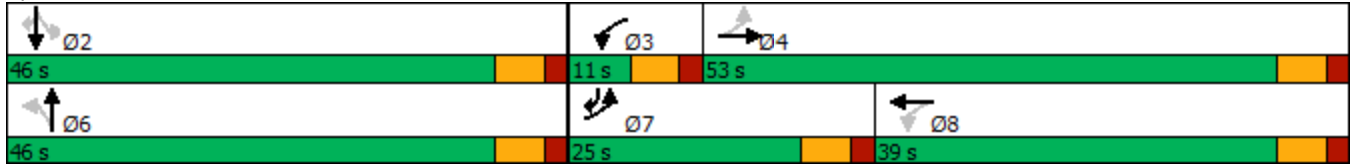
Intersection Capacity Utilization 62.4%

Intersection LOS: B

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approaches)  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	221	398	32	273	66	183	44	182	364
v/c Ratio	0.38	0.44	0.10	0.65	0.26	0.52	0.18	0.52	0.35
Control Delay	8.6	12.9	8.6	27.8	22.7	24.3	21.4	26.6	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	12.9	8.6	27.8	22.7	24.3	21.4	26.6	2.0
Queue Length 50th (ft)	30	58	4	75	17	46	11	53	0
Queue Length 95th (ft)	75	194	16	174	55	120	42	133	32
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	733	1639	332	1137	843	1145	824	1159	1230
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.24	0.10	0.24	0.08	0.16	0.05	0.16	0.30
<b>Intersection Summary</b>									

2021 Existing Traffic Volumes  
1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	363	252	49	35	241	36	37	167	27	23	134	231
Future Volume (vph)	363	252	49	35	241	36	37	167	27	23	134	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.984			0.984			0.920	
Flt Protected		0.971			0.994			0.992			0.997	
Satd. Flow (prot)	0	1989	1655	0	1777	0	0	1735	0	0	1678	0
Flt Permitted		0.658			0.899			0.780			0.972	
Satd. Flow (perm)	0	1348	1655	0	1607	0	0	1365	0	0	1636	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		6			7			76	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	374	260	51	36	248	37	38	172	28	24	138	238
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	634	51	0	321	0	0	238	0	0	400	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2021 Existing Traffic Volumes  
1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		16.0	16.0		16.0	16.0	
Total Split (s)	26.0	57.0		31.0	31.0		46.0	46.0		46.0	46.0	
Total Split (%)	23.6%	51.8%		28.2%	28.2%		41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	20.0	51.0		25.0	25.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		Min	Min		None	None	
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		51.3	85.3		51.3			21.9			21.9	
Actuated g/C Ratio		0.60	1.00		0.60			0.26			0.26	
v/c Ratio		0.78	0.03		0.33			0.67			0.84	
Control Delay		23.6	0.0		10.8			37.0			40.2	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		23.6	0.0		10.8			37.0			40.2	
LOS		C	A		B			D			D	
Approach Delay		21.9			10.8			37.0			40.2	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)		230	0		75			110			166	
Queue Length 95th (ft)		#563	0		168			185			271	
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)			50									
Base Capacity (vph)		811	1655		969			648			812	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.78	0.03		0.33			0.37			0.49	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	85.3
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	26.4
Intersection Capacity Utilization:	90.0%
Intersection LOS:	C
ICU Level of Service:	E

Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	6%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

2021 Existing Traffic Volumes  
 1: NYS Route 118 & Underhill Avenue

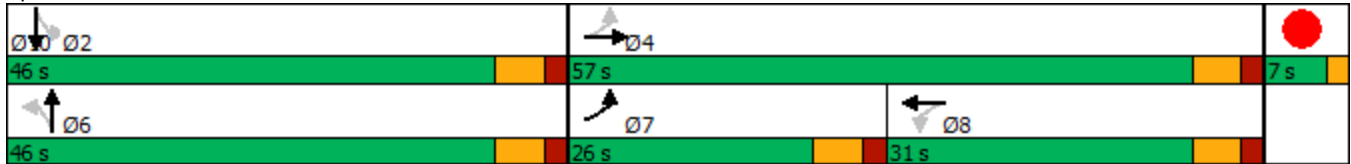
Peak PM Hour  
 04/03/2023

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

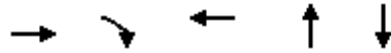
Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2021 Existing Traffic Volumes  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	634	51	321	238	400
v/c Ratio	0.78	0.03	0.33	0.67	0.84
Control Delay	23.6	0.0	10.8	37.0	40.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	0.0	10.8	37.0	40.2
Queue Length 50th (ft)	230	0	75	110	166
Queue Length 95th (ft)	#563	0	168	185	271
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	811	1655	969	648	812
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.78	0.03	0.33	0.37	0.49

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2021 Existing Traffic Volumes  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	9	30	12	60	48	58	14	497	55	26	316	17
Future Volume (vph)	9	30	12	60	48	58	14	497	55	26	316	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967			0.953			0.987			0.994	
Flt Protected		0.992			0.982			0.999			0.996	
Satd. Flow (prot)	0	1736	0	0	1926	0	0	1758	0	0	1765	0
Flt Permitted		0.951			0.859			0.988			0.942	
Satd. Flow (perm)	0	1664	0	0	1685	0	0	1738	0	0	1669	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			20			5			2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	32	13	63	51	61	15	523	58	27	333	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	54	0	0	175	0	0	596	0	0	378	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Fr <sub>t</sub>	
Fl <sub>t</sub> Protected	
Satd. Flow (prot)	
Fl <sub>t</sub> Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2021 Existing Traffic Volumes  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
04/03/2023

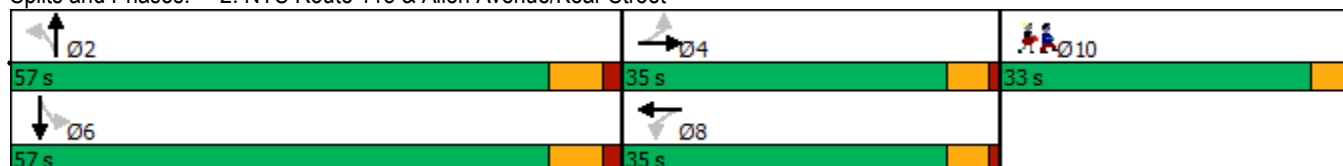


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		12.5			12.5			50.1			50.1	
Actuated g/C Ratio		0.17			0.17			0.67			0.67	
v/c Ratio		0.19			0.59			0.51			0.34	
Control Delay		23.3			33.6			8.4			6.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.3			33.6			8.4			6.6	
LOS		C			C			A			A	
Approach Delay		23.3			33.6			8.4			6.6	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		17			66			113			61	
Queue Length 95th (ft)		46			126			221			123	
Internal Link Dist (ft)		269			289			978			263	
Turn Bay Length (ft)												
Base Capacity (vph)		677			690			1168			1120	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.08			0.25			0.51			0.34	

Intersection Summary

Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	74.6
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.59
Intersection Signal Delay:	12.2
Intersection Capacity Utilization	59.2%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	B

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street

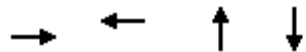




Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

2021 Existing Traffic Volumes  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
 04/03/2023



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	54	175	596	378
v/c Ratio	0.19	0.59	0.51	0.34
Control Delay	23.3	33.6	8.4	6.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.3	33.6	8.4	6.6
Queue Length 50th (ft)	17	66	113	61
Queue Length 95th (ft)	46	126	221	123
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	677	690	1168	1120
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.25	0.51	0.34
<b>Intersection Summary</b>				

2021 Existing Traffic Volumes  
4: Rochambeau Drive & Underhill Avenue

Peak PM Hour  
04/03/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	640	35	48	461	14	24
Future Volume (vph)	640	35	48	461	14	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12
Grade (%)	-6%			6%	-7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993				0.916	
Flt Protected				0.995	0.982	
Satd. Flow (prot)	1789	0	0	1743	1791	0
Flt Permitted				0.995	0.982	
Satd. Flow (perm)	1789	0	0	1743	1791	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	220			425	323	
Travel Time (s)	5.0			9.7	7.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	8%	20%	17%	4%	6%	5%
Adj. Flow (vph)	667	36	50	480	15	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	703	0	0	530	40	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	14	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.96	0.96	1.04	1.04	0.88	0.96
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	74.2%
ICU Level of Service	D
Analysis Period (min)	15

2021 Existing Traffic Volumes  
4: Rochambeau Drive & Underhill Avenue

Peak PM Hour  
04/03/2023

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	640	35	48	461	14	24
Future Vol, veh/h	640	35	48	461	14	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-6	-	-	6	-7	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	8	20	17	4	6	5
Mvmt Flow	667	36	50	480	15	25

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	703	0	1265 685
Stage 1	-	-	-	-	685 -
Stage 2	-	-	-	-	580 -
Critical Hdwy	-	-	4.27	-	5.06 5.55
Critical Hdwy Stg 1	-	-	-	-	4.06 -
Critical Hdwy Stg 2	-	-	-	-	4.06 -
Follow-up Hdwy	-	-	2.353	-	3.554 3.345
Pot Cap-1 Maneuver	-	-	829	-	300 506
Stage 1	-	-	-	-	644 -
Stage 2	-	-	-	-	692 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	829	-	275 506
Mov Cap-2 Maneuver	-	-	-	-	275 -
Stage 1	-	-	-	-	644 -
Stage 2	-	-	-	-	635 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	386	-	-	829	-
HCM Lane V/C Ratio	0.103	-	-	0.06	-
HCM Control Delay (s)	15.4	-	-	9.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

2021 Existing Traffic Volumes  
5: Underhill Avenue & Glen Rock Street

Peak PM Hour  
04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	2	665	463	12	10	8
Future Volume (vph)	2	665	463	12	10	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997		0.939	
Flt Protected					0.973	
Satd. Flow (prot)	0	1909	1801	0	1588	0
Flt Permitted					0.973	
Satd. Flow (perm)	0	1909	1801	0	1588	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	723	503	13	11	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	725	516	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.6%
Analysis Period (min)	15
	ICU Level of Service A

2021 Existing Traffic Volumes  
5: Underhill Avenue & Glen Rock Street

Peak PM Hour  
04/03/2023

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	665	463	12	10	8
Future Vol, veh/h	2	665	463	12	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	723	503	13	11	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	516	0	-	0	1237 510
Stage 1	-	-	-	-	510 -
Stage 2	-	-	-	-	727 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1050	-	-	-	194 563
Stage 1	-	-	-	-	603 -
Stage 2	-	-	-	-	478 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1050	-	-	-	193 563
Mov Cap-2 Maneuver	-	-	-	-	193 -
Stage 1	-	-	-	-	601 -
Stage 2	-	-	-	-	478 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1050	-	-	-	273
HCM Lane V/C Ratio	0.002	-	-	-	0.072
HCM Control Delay (s)	8.4	0	-	-	19.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

2025 No-Build Traffic Volumes W/Approved Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/03/2023



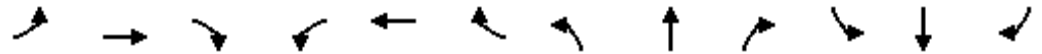
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	384	269	50	48	266	41	38	174	35	23	139	245
Future Volume (vph)	384	269	50	48	266	41	38	174	35	23	139	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.984			0.981			0.919	
Flt Protected		0.971			0.993			0.992			0.997	
Satd. Flow (prot)	0	1989	1655	0	1772	0	0	1728	0	0	1676	0
Flt Permitted		0.630			0.843			0.783			0.973	
Satd. Flow (perm)	0	1291	1655	0	1505	0	0	1364	0	0	1636	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		6			8			78	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	396	277	52	49	274	42	39	179	36	24	143	253
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	673	52	0	365	0	0	254	0	0	420	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	



2025 No-Build Traffic Volumes W/Approved Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		16.0	16.0		16.0	16.0	
Total Split (s)	26.0	57.0		31.0	31.0		46.0	46.0		46.0	46.0	
Total Split (%)	23.6%	51.8%		28.2%	28.2%		41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	20.0	51.0		25.0	25.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		Min	Min		None	None	
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		51.3	86.6		51.3			23.2			23.2	
Actuated g/C Ratio		0.59	1.00		0.59			0.27			0.27	
v/c Ratio		0.88	0.03		0.41			0.69			0.85	
Control Delay		32.7	0.0		12.5			37.1			40.6	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		32.7	0.0		12.5			37.1			40.6	
LOS		C	A		B			D			D	
Approach Delay		30.4			12.5			37.1			40.6	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)		284	0		95			119			178	
Queue Length 95th (ft)		#656	0		210			198			287	
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)			50									
Base Capacity (vph)		765	1655		894			638			802	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.88	0.03		0.41			0.40			0.52	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	86.6
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.88
Intersection Signal Delay:	30.1
Intersection Capacity Utilization:	95.7%
Intersection LOS:	C
ICU Level of Service:	F

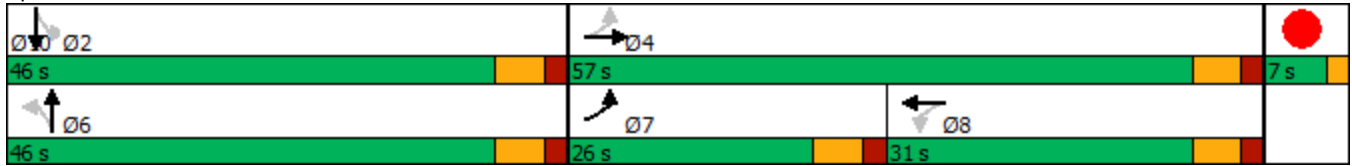
Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	6%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

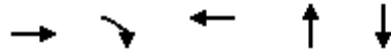
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





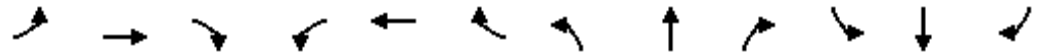
Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	673	52	365	254	420
v/c Ratio	0.88	0.03	0.41	0.69	0.85
Control Delay	32.7	0.0	12.5	37.1	40.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	0.0	12.5	37.1	40.6
Queue Length 50th (ft)	284	0	95	119	178
Queue Length 95th (ft)	#656	0	210	198	287
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	765	1655	894	638	802
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.88	0.03	0.41	0.40	0.52

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 No-Build Traffic Volumes W/Approved Other Development  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	9	33	12	61	53	80	14	528	56	41	335	17
Future Volume (vph)	9	33	12	61	53	80	14	528	56	41	335	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.969			0.944			0.987			0.994	
Fl <sub>t</sub> Protected		0.992			0.985			0.999			0.995	
Satd. Flow (prot)	0	1740	0	0	1914	0	0	1758	0	0	1763	0
Fl <sub>t</sub> Permitted		0.951			0.873			0.988			0.901	
Satd. Flow (perm)	0	1668	0	0	1696	0	0	1738	0	0	1597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			27			5			2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	35	13	64	56	84	15	556	59	43	353	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	204	0	0	630	0	0	414	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 No-Build Traffic Volumes W/Approved Other Development  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
04/03/2023

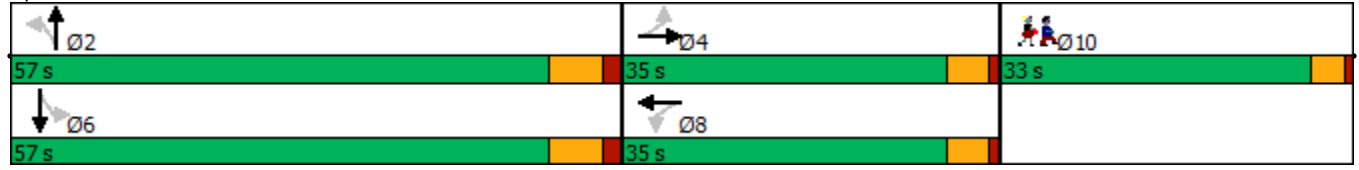


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		13.4			13.4			50.1			50.1	
Actuated g/C Ratio		0.18			0.18			0.66			0.66	
v/c Ratio		0.19			0.63			0.55			0.39	
Control Delay		23.4			34.0			9.4			7.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.4			34.0			9.4			7.6	
LOS		C			C			A			A	
Approach Delay		23.4			34.0			9.4			7.6	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		18			77			130			74	
Queue Length 95th (ft)		48			143			256			150	
Internal Link Dist (ft)		269			289			978			263	
<b>Turn Bay Length (ft)</b>												
Base Capacity (vph)		670			691			1154			1059	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.09			0.30			0.55			0.39	

**Intersection Summary**

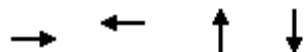
Area Type: Other  
 Cycle Length: 125  
 Actuated Cycle Length: 75.5  
 Natural Cycle: 105  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.63  
 Intersection Signal Delay: 13.3  
 Intersection Capacity Utilization 67.5%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

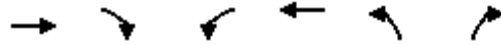




Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	57	204	630	414
v/c Ratio	0.19	0.63	0.55	0.39
Control Delay	23.4	34.0	9.4	7.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.4	34.0	9.4	7.6
Queue Length 50th (ft)	18	77	130	74
Queue Length 95th (ft)	48	143	256	150
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	670	691	1154	1059
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.30	0.55	0.39
<b>Intersection Summary</b>				

2025 No-Build Traffic Volumes W/Approved Other Development  
 4: Rochambeau Drive & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	679	36	49	501	14	24
Future Volume (vph)	679	36	49	501	14	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12
Grade (%)	-6%			6%	-7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993			0.916		
Flt Protected				0.996	0.982	
Satd. Flow (prot)	1789	0	0	1746	1791	0
Flt Permitted				0.996	0.982	
Satd. Flow (perm)	1789	0	0	1746	1791	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	220			425	323	
Travel Time (s)	5.0			9.7	7.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	8%	20%	17%	4%	6%	5%
Adj. Flow (vph)	707	38	51	522	15	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	745	0	0	573	40	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	14	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.96	0.96	1.04	1.04	0.88	0.96
Turning Speed (mph)	9		15	15		9
Sign Control	Free			Free	Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	77.1%
ICU Level of Service	D
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	679	36	49	501	14	24
Future Vol, veh/h	679	36	49	501	14	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-6	-	-	6	-7	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	8	20	17	4	6	5
Mvmt Flow	707	38	51	522	15	25

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	745	0	1350 726
Stage 1	-	-	-	-	726 -
Stage 2	-	-	-	-	624 -
Critical Hdwy	-	-	4.27	-	5.06 5.55
Critical Hdwy Stg 1	-	-	-	-	4.06 -
Critical Hdwy Stg 2	-	-	-	-	4.06 -
Follow-up Hdwy	-	-	2.353	-	3.554 3.345
Pot Cap-1 Maneuver	-	-	799	-	275 483
Stage 1	-	-	-	-	626 -
Stage 2	-	-	-	-	671 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	799	-	250 483
Mov Cap-2 Maneuver	-	-	-	-	250 -
Stage 1	-	-	-	-	626 -
Stage 2	-	-	-	-	611 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	16.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	360	-	-	799	-
HCM Lane V/C Ratio	0.11	-	-	0.064	-
HCM Control Delay (s)	16.2	-	-	9.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

2025 No-Build Traffic Volumes W/Approved Other Development  
 5: Underhill Avenue & Glen Rock Street

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	↙
Traffic Volume (vph)	2	704	503	12	10	8
Future Volume (vph)	2	704	503	12	10	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997		0.939	
Flt Protected					0.973	
Satd. Flow (prot)	0	1909	1801	0	1588	0
Flt Permitted					0.973	
Satd. Flow (perm)	0	1909	1801	0	1588	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	765	547	13	11	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	767	560	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.6%
Analysis Period (min)	15
	ICU Level of Service A

**Intersection**

Int Delay, s/veh 0.3

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	2	704	503	12	10	8
Future Vol, veh/h	2	704	503	12	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	765	547	13	11	9

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	560	0	-	0	1323	554
Stage 1	-	-	-	-	554	-
Stage 2	-	-	-	-	769	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1011	-	-	-	172	532
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	457	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1011	-	-	-	171	532
Mov Cap-2 Maneuver	-	-	-	-	171	-
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	457	-

**Approach** EB WB SB

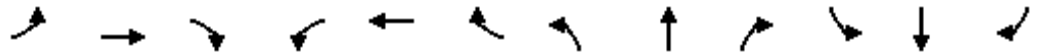
HCM Control Delay, s	0	0	21
HCM LOS			C

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1011	-	-	-	245
HCM Lane V/C Ratio	0.002	-	-	-	0.08
HCM Control Delay (s)	8.6	0	-	-	21
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2025 Build Traffic Volumes W/Approved Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	404	277	58	48	275	41	46	174	35	23	139	266
Future Volume (vph)	404	277	58	48	275	41	46	174	35	23	139	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	11	12	12	11	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.985			0.981			0.916	
Flt Protected		0.971			0.994			0.991			0.997	
Satd. Flow (prot)	0	1989	1655	0	1777	0	0	1670	0	0	1615	0
Flt Permitted		0.618			0.790			0.742			0.973	
Satd. Flow (perm)	0	1266	1655	0	1412	0	0	1250	0	0	1576	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		5			8			84	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	416	286	60	49	284	42	47	179	36	24	143	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	702	60	0	375	0	0	262	0	0	441	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.07	1.02	0.99	1.04	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 Build Traffic Volumes W/Approved Other Development  
1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		16.0	16.0		16.0	16.0	
Total Split (s)	26.0	57.0		31.0	31.0		46.0	46.0		46.0	46.0	
Total Split (%)	23.6%	51.8%		28.2%	28.2%		41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	20.0	51.0		25.0	25.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		Min	Min		None	None	
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		51.4	89.0		51.4			25.4			25.4	
Actuated g/C Ratio		0.58	1.00		0.58			0.29			0.29	
v/c Ratio		0.96	0.04		0.46			0.72			0.86	
Control Delay		46.7	0.0		14.7			39.1			41.4	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		46.7	0.0		14.7			39.1			41.4	
LOS		D	A		B			D			D	
Approach Delay		43.0			14.7			39.1			41.4	
Approach LOS		D			B			D			D	
Queue Length 50th (ft)		342	0		109			127			192	
Queue Length 95th (ft)		#743	0		244			210			307	
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)			50									
Base Capacity (vph)		731	1655		818			571			760	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.96	0.04		0.46			0.46			0.58	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	89
Natural Cycle:	110
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	36.3
Intersection Capacity Utilization	99.9%
Intersection LOS:	D
ICU Level of Service	F



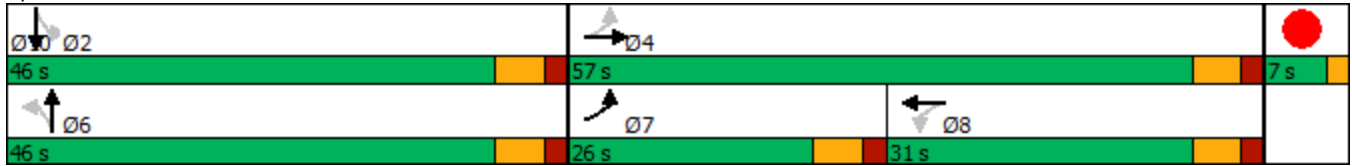
Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	6%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

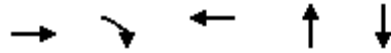
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	702	60	375	262	441
v/c Ratio	0.96	0.04	0.46	0.72	0.86
Control Delay	46.7	0.0	14.7	39.1	41.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	0.0	14.7	39.1	41.4
Queue Length 50th (ft)	342	0	109	127	192
Queue Length 95th (ft)	#743	0	244	210	307
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	731	1655	818	571	760
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.96	0.04	0.46	0.46	0.58

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 Build Traffic Volumes W/Approved Other Development  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	13	37	12	65	57	80	14	544	60	41	351	22
Future Volume (vph)	13	37	12	65	57	80	14	544	60	41	351	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.973			0.947			0.987			0.993	
Fl <sub>t</sub> Protected		0.990			0.984			0.999			0.995	
Satd. Flow (prot)	0	1743	0	0	1918	0	0	1758	0	0	1761	0
Fl <sub>t</sub> Permitted		0.919			0.873			0.988			0.902	
Satd. Flow (perm)	0	1618	0	0	1702	0	0	1738	0	0	1597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			25			5			3	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	39	13	68	60	84	15	573	63	43	369	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	0	0	212	0	0	651	0	0	435	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Frnt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 Build Traffic Volumes W/Approved Other Development  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
04/03/2023

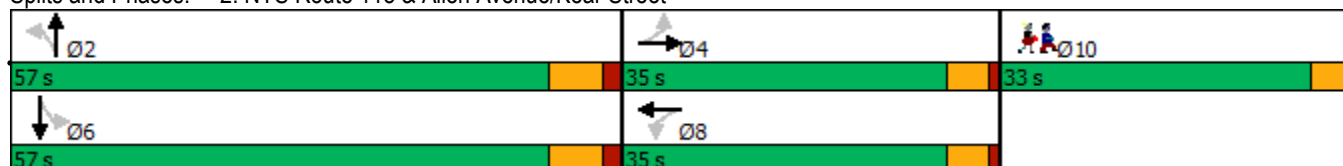


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		13.8			13.8			50.1			50.1	
Actuated g/C Ratio		0.18			0.18			0.66			0.66	
v/c Ratio		0.22			0.64			0.57			0.41	
Control Delay		24.9			34.6			10.0			8.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.9			34.6			10.0			8.0	
LOS		C			C			A			A	
Approach Delay		24.9			34.6			10.0			8.0	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		23			82			140			81	
Queue Length 95th (ft)		55			149			277			164	
Internal Link Dist (ft)		269			289			978			263	
Turn Bay Length (ft)												
Base Capacity (vph)		645			688			1147			1054	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.10			0.31			0.57			0.41	

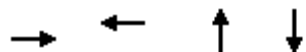
Intersection Summary

Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	75.9
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	13.9
Intersection Capacity Utilization:	69.3%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	C

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	66	212	651	435
v/c Ratio	0.22	0.64	0.57	0.41
Control Delay	24.9	34.6	10.0	8.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.9	34.6	10.0	8.0
Queue Length 50th (ft)	23	82	140	81
Queue Length 95th (ft)	55	149	277	164
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	645	688	1147	1054
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.31	0.57	0.41
<b>Intersection Summary</b>				



2025 Build Traffic Volumes W/Approved Other Development  
 3: Underhill Avenue & Site Access

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	26	711	562	29	29	26
Future Volume (vph)	26	711	562	29	29	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993		0.936	
Flt Protected		0.998			0.974	
Satd. Flow (prot)	0	1905	1803	0	1698	0
Flt Permitted		0.998			0.974	
Satd. Flow (perm)	0	1905	1803	0	1698	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	790	624	32	32	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	819	656	0	61	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	68.5%
ICU Level of Service	C
Analysis Period (min)	15

**Intersection**

Int Delay, s/veh 1.4

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	26	711	562	29	29	26
Future Vol, veh/h	26	711	562	29	29	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	790	624	32	32	29

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	656	0	-	0	1488	640
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	848	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	931	-	-	-	137	475
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	420	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	931	-	-	-	129	475
Mov Cap-2 Maneuver	-	-	-	-	129	-
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	420	-

**Approach** EB WB SB

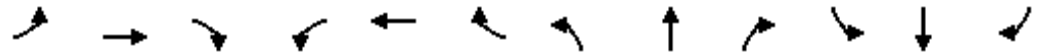
HCM Control Delay, s	0.3	0	31.3
HCM LOS			D

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	931	-	-	-	197
HCM Lane V/C Ratio	0.031	-	-	-	0.31
HCM Control Delay (s)	9	0	-	-	31.3
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1.3

2025 Build Traffic Volumes W/Approved Other Development  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	8	704	36	49	527	12	14	0	24	8	0	5
Future Volume (vph)	8	704	36	49	527	12	14	0	24	8	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.993			0.997			0.916			0.948	
Fl <sub>t</sub> Protected		0.999			0.996			0.982			0.970	
Satd. Flow (prot)	0	1921	0	0	1794	0	0	1816	0	0	1713	0
Fl <sub>t</sub> Permitted		0.999			0.996			0.982			0.970	
Satd. Flow (perm)	0	1921	0	0	1794	0	0	1816	0	0	1713	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			425			323			150	
Travel Time (s)		5.0			9.7			7.3			3.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	1%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
Adj. Flow (vph)	8	733	38	51	549	13	15	0	25	8	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	0	0	613	0	0	40	0	0	13	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	69.9%
ICU Level of Service	C
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved Other Development  
4: Rochambeau Drive/Site Access & Underhill Avenue

Peak PM Hour  
04/03/2023

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	704	36	49	527	12	14	0	24	8	0	5
Future Vol, veh/h	8	704	36	49	527	12	14	0	24	8	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	1	2	2	2	2	2	2	5	2	2	2
Mvmt Flow	8	733	38	51	549	13	15	0	25	8	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	562	0	0	771	0	0	1428	1432	752	1439	1445	556
Stage 1	-	-	-	-	-	-	768	768	-	658	658	-
Stage 2	-	-	-	-	-	-	660	664	-	781	787	-
Critical Hdwy	4.12	-	-	4.12	-	-	5.72	5.12	5.55	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	1009	-	-	844	-	-	196	234	469	111	132	531
Stage 1	-	-	-	-	-	-	532	554	-	453	461	-
Stage 2	-	-	-	-	-	-	584	593	-	388	403	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1009	-	-	844	-	-	179	210	469	97	119	531
Mov Cap-2 Maneuver	-	-	-	-	-	-	179	210	-	97	119	-
Stage 1	-	-	-	-	-	-	525	546	-	447	420	-
Stage 2	-	-	-	-	-	-	527	541	-	362	397	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.8			19.1			33.2		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	294	1009	-	-	844	-	-	141
HCM Lane V/C Ratio	0.135	0.008	-	-	0.06	-	-	0.096
HCM Control Delay (s)	19.1	8.6	0	-	9.5	0	-	33.2
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.5	0	-	-	0.2	-	-	0.3

2025 Build Traffic Volumes W/Approved Other Development  
 5: Underhill Avenue & Glen Rock Street

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	738	534	12	10	8
Future Volume (vph)	2	738	534	12	10	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997		0.939	
Flt Protected					0.973	
Satd. Flow (prot)	0	1909	1801	0	1588	0
Flt Permitted					0.973	
Satd. Flow (perm)	0	1909	1801	0	1588	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	802	580	13	11	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	804	593	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.4%
Analysis Period (min)	15
	ICU Level of Service A

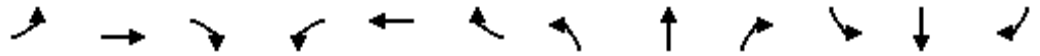
Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	738	534	12	10	8
Future Vol, veh/h	2	738	534	12	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	802	580	13	11	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	593	0	-	0	1393 587
Stage 1	-	-	-	-	587 -
Stage 2	-	-	-	-	806 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	983	-	-	-	156 510
Stage 1	-	-	-	-	556 -
Stage 2	-	-	-	-	439 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	983	-	-	-	155 510
Mov Cap-2 Maneuver	-	-	-	-	155 -
Stage 1	-	-	-	-	554 -
Stage 2	-	-	-	-	439 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	22.6
HCM LOS			C

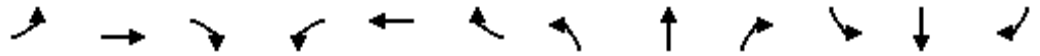
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	983	-	-	-	224
HCM Lane V/C Ratio	0.002	-	-	-	0.087
HCM Control Delay (s)	8.7	0	-	-	22.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes of Peak PM Hour)  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	404	277	58	48	275	41	46	174	35	23	139	266
Future Volume (vph)	404	277	58	48	275	41	46	174	35	23	139	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.981			0.981			0.850	
Flt Protected	0.950			0.950				0.991			0.993	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	0	1727	0	0	1833	1546
Flt Permitted	0.298			0.553				0.904			0.910	
Satd. Flow (perm)	536	1866	0	882	1797	0	0	1576	0	0	1680	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			7			7				274
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	416	286	60	49	284	42	47	179	36	24	143	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	416	346	0	49	326	0	0	262	0	0	167	274
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0

2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes of Ped and PM Hov) 04/03/2023  
 1: NYS Route 118 & Underhill Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		9.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	46.0	39.1		24.5	17.5			17.0			17.0	45.5
Actuated g/C Ratio	0.61	0.52		0.32	0.23			0.22			0.22	0.60
v/c Ratio	0.62	0.36		0.14	0.78			0.73			0.44	0.26
Control Delay	13.1	14.1		11.7	42.1			41.7			32.0	1.8
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	13.1	14.1		11.7	42.1			41.7			32.0	1.8
LOS	B	B		B	D			D			C	A
Approach Delay		13.6			38.1			41.7			13.2	
Approach LOS		B			D			D			B	
Queue Length 50th (ft)	83	97		8	133			106			65	0
Queue Length 95th (ft)	202	210		27	293			244			157	31
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	844	1364		396	765			694			735	1223
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.49	0.25		0.12	0.43			0.38			0.23	0.22

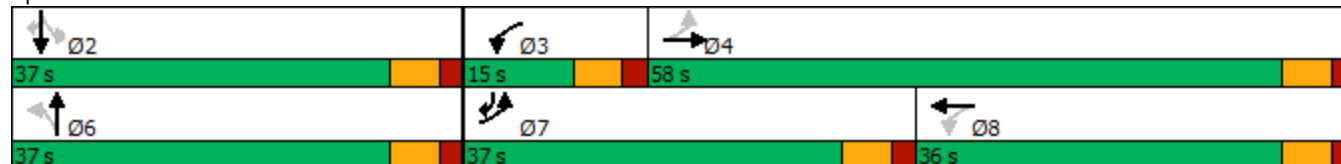
**Intersection Summary**

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	75.9
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	22.5
Intersection Capacity Utilization:	81.8%
Intersection LOS:	C
ICU Level of Service:	D

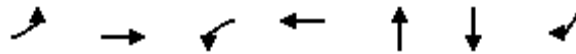


Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



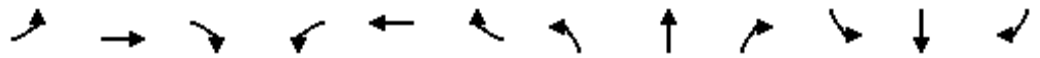
2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes of Peak PM Hour)  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	416	346	49	326	262	167	274
v/c Ratio	0.62	0.36	0.14	0.78	0.73	0.44	0.26
Control Delay	13.1	14.1	11.7	42.1	41.7	32.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.1	14.1	11.7	42.1	41.7	32.0	1.8
Queue Length 50th (ft)	83	97	8	133	106	65	0
Queue Length 95th (ft)	202	210	27	293	244	157	31
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	844	1364	396	765	694	735	1223
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.25	0.12	0.43	0.38	0.23	0.22

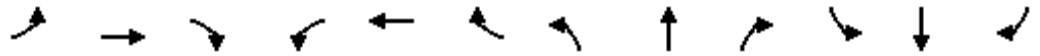
Intersection Summary

2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approaches)  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	404	277	58	48	275	41	46	174	35	23	139	266
Future Volume (vph)	404	277	58	48	275	41	46	174	35	23	139	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.974			0.981			0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	1669	1724	0	1666	1743	1546
Flt Permitted	0.313			0.553			0.660			0.557	0.995	
Satd. Flow (perm)	563	1866	0	882	1797	0	1159	1724	0	977	1736	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			7			10				274
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	416	286	60	49	284	42	47	179	36	24	143	274
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	416	346	0	49	326	0	47	215	0	22	145	274
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approaches)  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		5.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	40.2	34.2		21.0	15.9		13.5	13.5		13.5	13.5	37.8
Actuated g/C Ratio	0.61	0.52		0.32	0.24		0.20	0.20		0.20	0.20	0.57
v/c Ratio	0.63	0.36		0.15	0.75		0.20	0.60		0.11	0.41	0.27
Control Delay	12.1	12.2		9.8	34.5		25.8	31.5		24.7	28.1	2.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	12.1	12.2		9.8	34.5		25.8	31.5		24.7	28.1	2.0
LOS	B	B		A	C		C	C		C	C	A
Approach Delay		12.2			31.3			30.5			11.7	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	71	84		7	117		16	76		7	53	0
Queue Length 95th (ft)	162	170		22	224		47	158		28	117	32
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	681	1367		329	925		720	1076		607	1079	1027
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.61	0.25		0.15	0.35		0.07	0.20		0.04	0.13	0.27

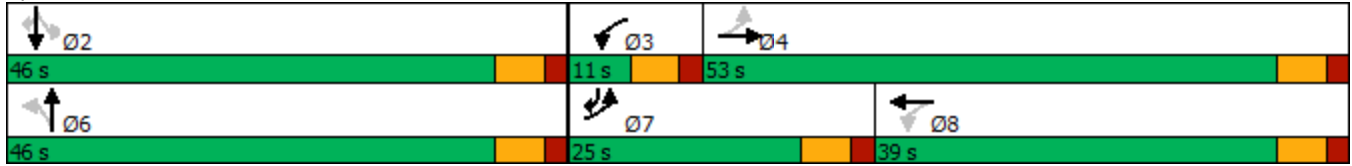
**Intersection Summary**

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	66
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	18.6
Intersection Capacity Utilization	79.0%
Intersection LOS:	B
ICU Level of Service	D

2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approaches)  
 1: NYS Route 118 & Underhill Avenue 04/03/2023

Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approaches)  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	416	346	49	326	47	215	22	145	274
v/c Ratio	0.63	0.36	0.15	0.75	0.20	0.60	0.11	0.41	0.27
Control Delay	12.1	12.2	9.8	34.5	25.8	31.5	24.7	28.1	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	12.2	9.8	34.5	25.8	31.5	24.7	28.1	2.0
Queue Length 50th (ft)	71	84	7	117	16	76	7	53	0
Queue Length 95th (ft)	162	170	22	224	47	158	28	117	32
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	681	1367	329	925	720	1076	607	1079	1027
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.25	0.15	0.35	0.07	0.20	0.04	0.13	0.27

Intersection Summary



# Traffic Impact Study

## Appendix E | Accident Data



**TABLE A**  
**ACCIDENT SUMMARY - TOWN ACCIDENT DATA**  
**VARIOUS INTERSECTIONS IN THE TOWN OF YORKTOWN**

Node/Link	Location	Mile Marker	Date	Time	Traffic Control	Accident Class	# of Vehicles Injuries	Light Condition	Road Condition	Weather	Manner of Collision	Apparent Contributing Factors
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	09/22/19	04:30pm	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLEAR	OTHER	TURNING IMPROPER
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	07/24/19	12:45pm	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLEAR	OVERTAKING	PASSING OR LANE USAGE IMPROPERLY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	03/03/19	08:30am	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLEAR	RIGHT ANGLE	TRAFFIC CONTROL DEVICES DISREGARDED
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	05/21/16	11:20am	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLOUDY	UNKNOWN	NOT ENTERED
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	11/30/19	11:02pm	TRAFFIC SIGNAL	N/R	2-0	DARK-ROAD LIGHTED	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	06/03/19	04:45pm	TRAFFIC SIGNAL	I	2-1	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	10/30/18	06:24am	TRAFFIC SIGNAL	PDO	2-0	DAWN	DRY	CLEAR	RN (AGAINST OTH	FAILURE TO YIELD RIGHT OF WAY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	12/05/16	06:10pm	TRAFFIC SIGNAL	PDO & I	2-4	DARK-ROAD UNLIGHTED	DRY	CLOUDY	REAR END	DRIVER INATTENTION
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	11/14/19	08:23am	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	10/18/19	03:32pm	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLEAR	HEAD ON	TURNING IMPROPER
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	09/27/19	07:35am	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	12/14/18	04:06pm	TRAFFIC SIGNAL	PDO & I	2-1	DUSK	WET	CLOUDY	RN (AGAINST OTH	FAILURE TO YIELD RIGHT OF WAY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	10/07/18	04:30am	TRAFFIC SIGNAL	PDO	1-0	DARK-ROAD LIGHTED	WET	RAIN	OTHER	UNSAFE SPEED
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	09/09/18	01:45pm	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLOUDY	OTHER	TURNING IMPROPER
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	06/22/18	08:38am	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLOUDY	REAR END	FOLLOWING TOO CLOSELY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	01/26/18	12:07pm	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLEAR	RN (AGAINST OTH	FAILURE TO YIELD RIGHT OF WAY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	01/03/18	08:11am	TRAFFIC SIGNAL	PDO	3-0	DAYLIGHT	DRY	CLEAR	OTHER	FOLLOWING TOO CLOSELY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	02/21/17	04:15pm	UNKNOWN	PDO	1-0	UNKNOWN	UNKNOWN	UNKNOWN	OTHER	NOT ENTERED
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	03/14/16	12:00am	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	WET	CLOUDY	REAR END	NOT ENTERED
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ UNDERHILL AVE	118 87011037	01/05/16	05:02pm	TRAFFIC SIGNAL	PDO	2-0	DARK-ROAD LIGHTED	DRY	CLEAR	RIGHT ANGLE	UNSAFE SPEED
ROUTE 118/SAW MILL RIVER ROAD	SAW MILL RIVER RD	118 87011038	09/24/17	04:29pm	TRAFFIC SIGNAL	PDO & I	2-3	DAYLIGHT	DRY	CLEAR	UNKNOWN	FAILURE TO YIELD RIGHT OF WAY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ ALLAN AVE	118 87011039	11/11/16	03:36pm	TRAFFIC SIGNAL	PDO & I	2-1	DAYLIGHT	DRY	CLEAR	UNKNOWN	TURNING IMPROPER
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ ALLAN AVE	118 87011039	09/26/19	05:55pm	TRAFFIC SIGNAL	PDO & I	2-1	DAYLIGHT	WET	CLEAR	OTHER	PASSING OR LANE USAGE IMPROPERLY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ KEAR ST	118 87011039	01/08/18	06:06pm	TRAFFIC SIGNAL	PDO	2-0	DARK-ROAD UNLIGHTED	WET	T/HAIL/FREEZING	REAR END	NOT APPLICABLE
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ ALLAN AVE	118 87011039	01/01/18	10:18pm	NONE	PDO & I	1-1	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	FATIGUED/DROWSY
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ ALLAN AVE	118 87011039	10/20/17	11:45am	TRAFFIC SIGNAL	I	2-1	DAYLIGHT	DRY	CLEAR	UNKNOWN	OTHER (VEHICLE)
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ ALLAN AVE	118 87011039	01/18/17	06:19pm	TRAFFIC SIGNAL	PDO & I	1-1	DARK-ROAD UNLIGHTED	WET	CLOUDY	OTHER	NOT APPLICABLE
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ KEAR ST	118 87011039	12/16/16	09:10pm	TRAFFIC SIGNAL	PDO	2-0	DARK-ROAD LIGHTED	DRY	CLEAR	URN (WITH OTHI	NOT APPLICABLE
ROUTE 118/SAW MILL RIVER ROAD	AT INT. W/ ALLAN AVE	118 87011039	02/27/16	02:00pm	TRAFFIC SIGNAL	PDO & I	2-2	DAYLIGHT	WET	RAIN	RIGHT ANGLE	NOT ENTERED

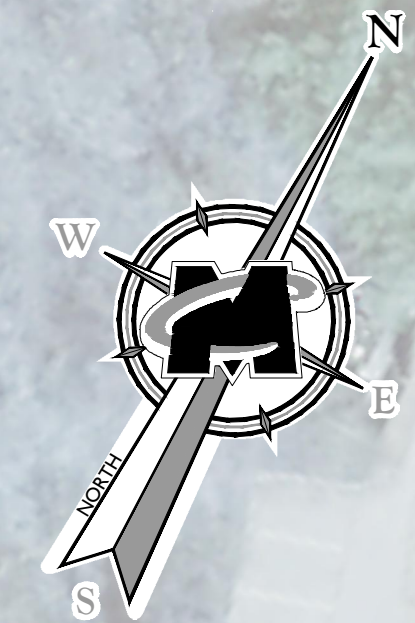
TABLE A (Continued)

ACCIDENT SUMMARY - TOWN ACCIDENT DATA  
VARIOUS INTERSECTIONS IN THE TOWN OF YORKTOWN

Node/Link	Location	Mile Marker	Date	Time	Traffic Control	Accident Class	# of Vehicles Injuries	Light Condition	Road Condition	Weather	Manner of Collision	Apparent Contributing Factors
OVERHILL ST	OVERHILL ST		08/01/20	08:00pm	NONE	N/R	1-0	DAYLIGHT	DRY	CLEAR	OTHER	TURNING IMPROPER
UNDERHILL AVE	AT INT. W/ ROCHAMBEAU DR		11/24/19	11:22am	NONE	PDO	2-0	DAYLIGHT	WET	RAIN	REAR END	FOLLOWING TOO CLOSELY
UNDERHILL AVE	AT INT. W/ CARDINAL CT		08/22/19	02:52pm	TRAFFIC SIGNAL	N/R	2-0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
UNDERHILL AVE	AT INT. W/ ROCHAMBEAU DR		06/30/19	02:53pm	NONE	PDO & I	2-1	DAYLIGHT	WET	RAIN	REAR END	FOLLOWING TOO CLOSELY
UNDERHILL AVE	AT INT. W/ CARDINAL CT		05/22/19	03:34pm	NONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
UNDERHILL AVE	AT INT. W/ ROCHAMBEAU DR		03/05/19	04:48pm	TRAFFIC SIGNAL	PDO	2-0	DUSK	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
UNDERHILL AVE	AT INT. W/ ROCHAMBEAU DR		01/10/19	04:17pm	NONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	IN (AGAINST OT)	GLARE
UNDERHILL AVE	AT INT. W/ FRENCH HILL RD		09/05/18	05:35pm	STOP SIGN	PDO & I	2-1	DAYLIGHT	DRY	CLEAR	IN (AGAINST OT)	FAILURE TO YIELD RIGHT OF WAY
UNDERHILL AVE	AT INT. W/ ROCHAMBEAU DR		06/29/18	06:58pm	NONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
UNDERHILL AVE	AT INT. W/ FRENCH HILL RD		06/12/18	06:18pm	NONE	PDO & I	3-1	DAYLIGHT	DRY	CLEAR	OTHER	DRIVER INATTENTION
UNDERHILL AVE	AT INT. W/ ROCHAMBEAU DR		03/09/18	08:40pm	NONE	PDO	2-0	DARK-ROAD UNLIGHTED	WET	CLEAR	REAR END	FOLLOWING TOO CLOSELY
UNDERHILL AVE	AT INT. W/ ROCHAMBEAU DR		12/22/17	05:25pm	NONE	PDO	3-0	DARK-ROAD LIGHTED	WET	CLOUDY	OTHER	ALCOHOL INVOLVEMENT
UNDERHILL AVE	AT INT. W/ ROCHAMBEAU DR		09/26/17	03:32pm	NONE	PDO & I	3-1	DAYLIGHT	DRY	CLEAR	OTHER	FOLLOWING TOO CLOSELY
UNDERHILL AVE	AT INT. W/ ROCHAMBEAU DR		05/30/17	03:58pm	NO PASSING ZONE	PDO & I	3-3	DAYLIGHT	DRY	CLEAR	OTHER	NOT APPLICABLE
UNDERHILL AVE	AT INT. W/ OVERHILL ST		05/17/17	03:55pm	NOT ENTERED	N/R	2-0	NOT ENTERED	NOT ENTERED	NOT ENTERED	NOT ENTERED	UNKNOWN
UNDERHILL AVE	AT INT. W/ ROCHAMBEAU DR		02/04/17	12:46pm	NONE	PDO	3-0	DAYLIGHT	DRY	CLEAR	OTHER	FOLLOWING TOO CLOSELY
UNDERHILL AVE	AT INT. W/ OVERHILL ST		11/18/16	08:40pm	NONE	PDO	2-0	DARK-ROAD LIGHTED	DRY	CLEAR	UNKNOWN	PASSING OR LANE USAGE IMPROPERLY
UNDERHILL AVE	AT INT. W/ FRENCH HILL RD		10/18/16	01:50pm	NONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	IN (AGAINST OT)	NOT ENTERED
UNDERHILL AVE	AT INT. W/ CARDINAL CT		03/03/16	04:52pm	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
UNDERHILL AVE	UNDERHILL AVE		01/16/20	04:44pm	TRAFFIC SIGNAL	PDO	3-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	NOT APPLICABLE
UNDERHILL AVE	UNDERHILL AVE		10/04/19	03:20pm	NONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
UNDERHILL AVE	UNDERHILL AVE		01/09/18	04:31pm	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	WET	CLEAR	REAR END	FOLLOWING TOO CLOSELY
UNDERHILL AVE	UNDERHILL AVE		02/14/17	02:00pm	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLEAR	REAR END	DRIVER INATTENTION
UNDERHILL AVE	UNDERHILL AVE		04/15/16	04:25pm	TRAFFIC SIGNAL	PDO & I	3-1	DAYLIGHT	DRY	CLEAR	OTHER	NOT ENTERED

# Traffic Impact Study

## Appendix F | Proposed Traffic and Pedestrian Improvement Plans



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REV	DATE	DRAWN BY	DESCRIPTION
1	4/1/23	RGD	REVISIONS PER PLANNING BOARD/CONSULTANT COMMENTS

**PRELIMINARY**

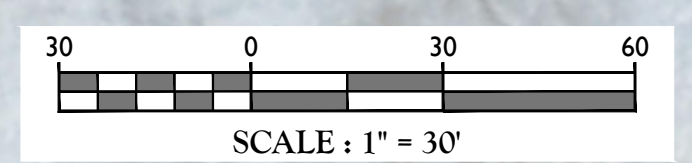
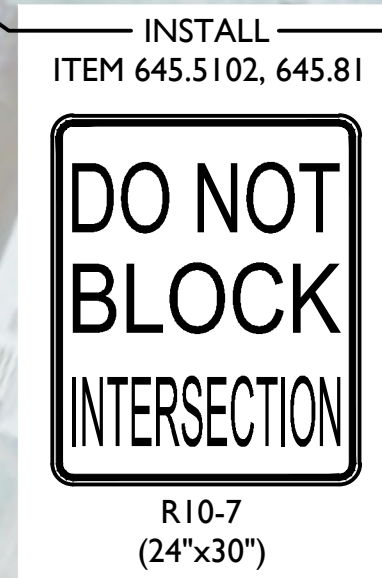
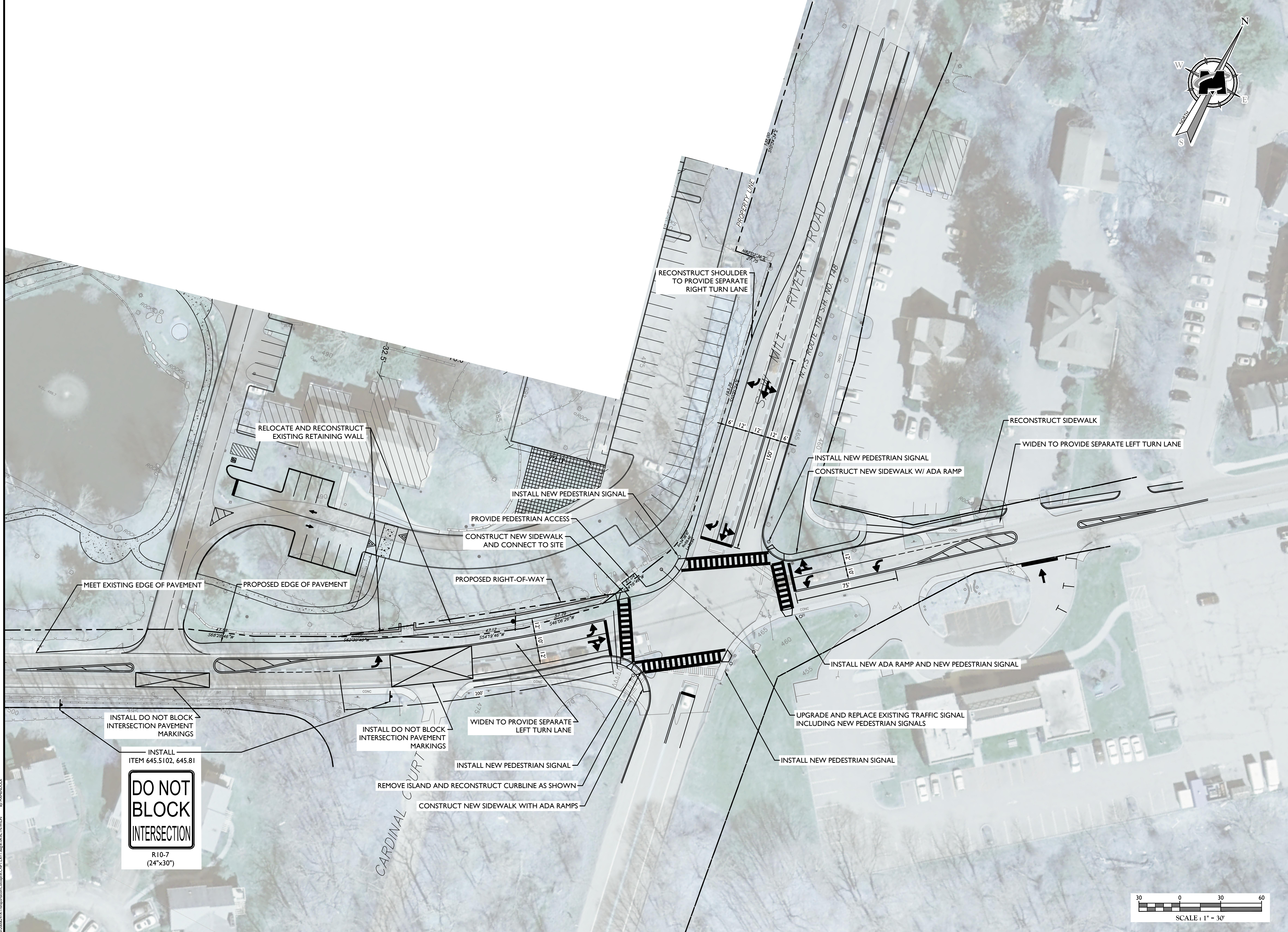
FUTURE INTERSECTION IMPROVEMENT PLAN  
 ALTERNATE 1  
 NYS ROUTE 118 & UNDERHILL AVENUE  
 TOWN OF YORKTOWN  
 WESTCHESTER COUNTY  
 NEW YORK

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 WESTCHESTER OFFICE  
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 Suite 180E  
 Valhalla, NY 10595  
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 Fax: 914.347.7266

SCALE: AS SHOWN	DATE: 1/5/21	DRAWN BY: P.W.G.	CHECKED BY: P.J.G.
PROJECT NUMBER: 20006297A	DRAWING NAME: R-CNPT-LAYT		

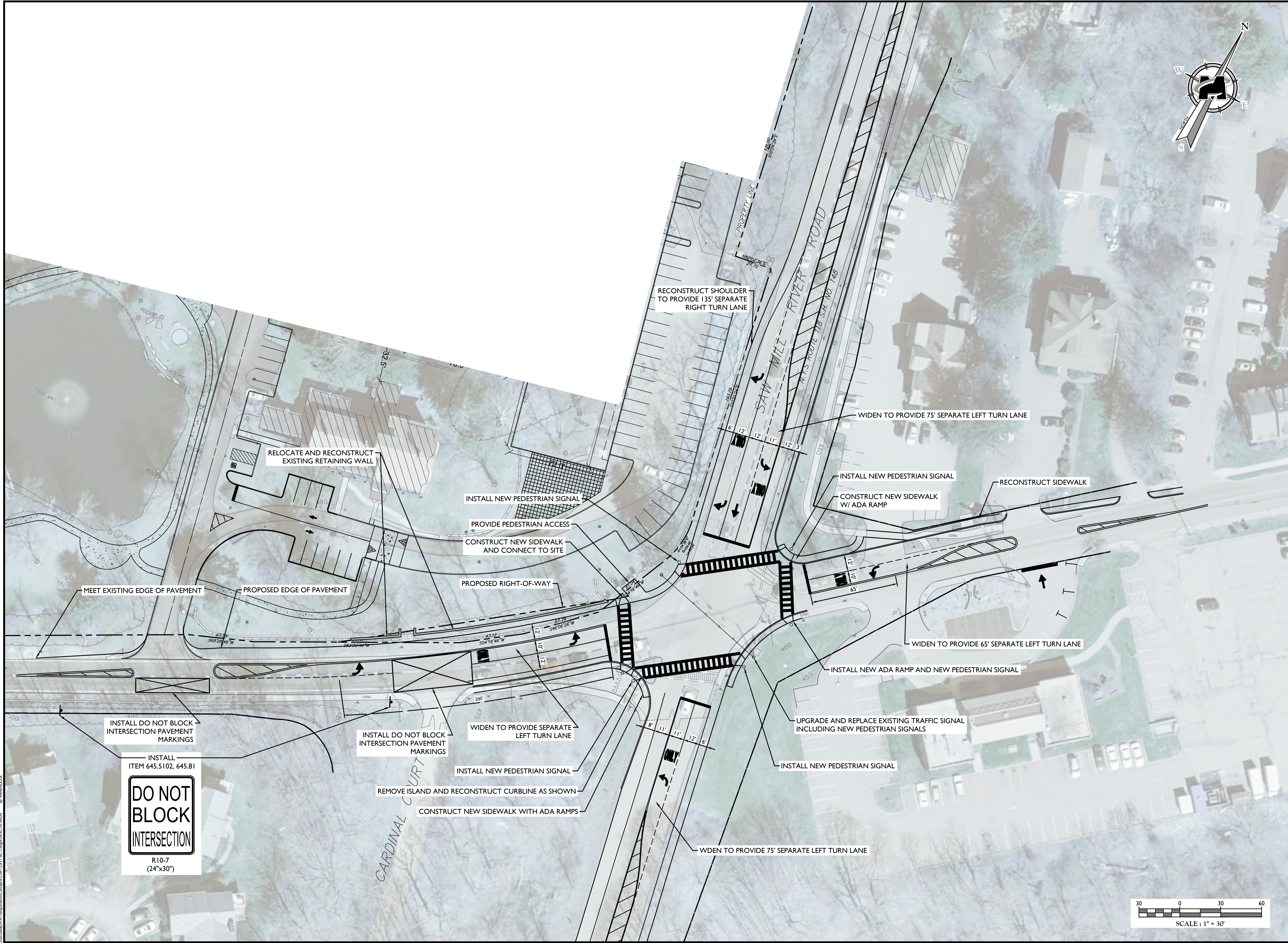
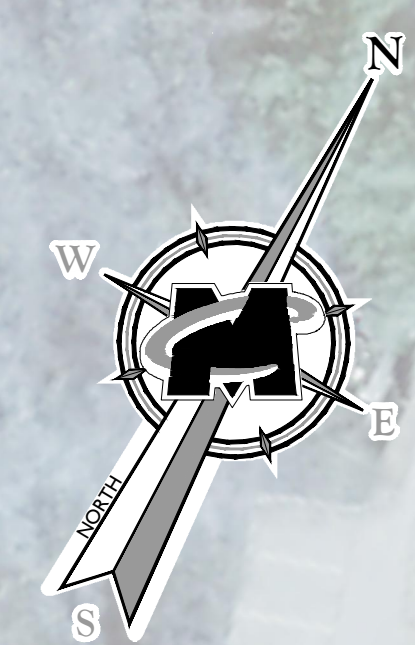
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**ALTERNATE INTERSECTION IMPROVEMENT PLAN**

SHEET NUMBER:  
 1 of 2



# Traffic Impact Study

## Appendix G | Potential Future Intersection Improvement Plans



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1	4/1/23	RGD	REVISIONS PER PLANNING BOARD/CONSULTANT COMMENTS

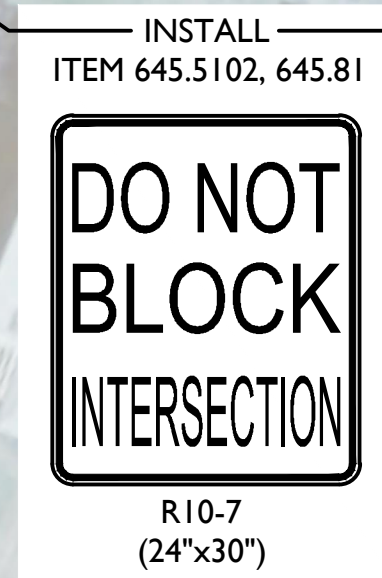
**PRELIMINARY**

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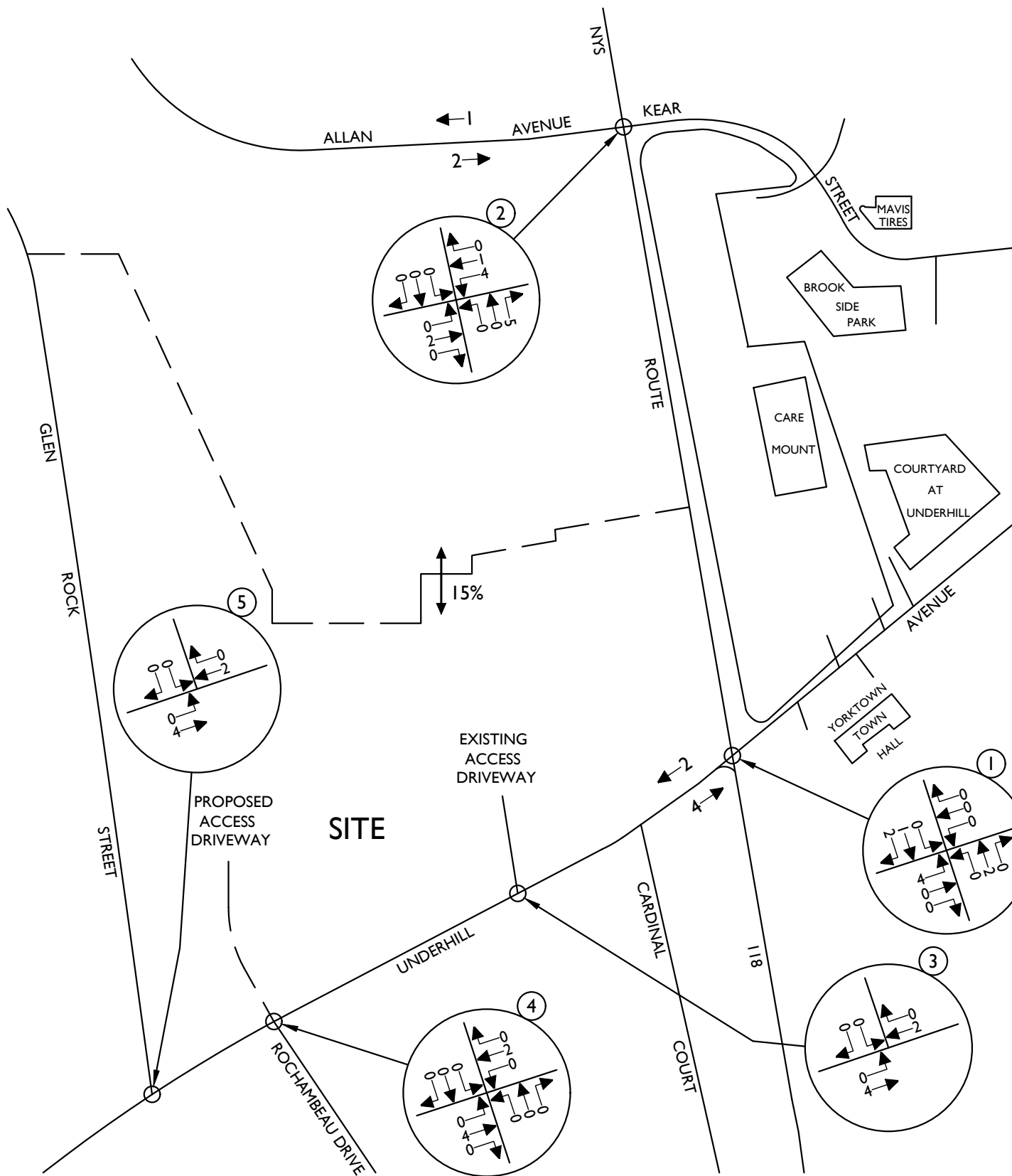
# Traffic Impact Study

## Appendix H | Analysis with Potential Future Other Development Traffic

# Figures



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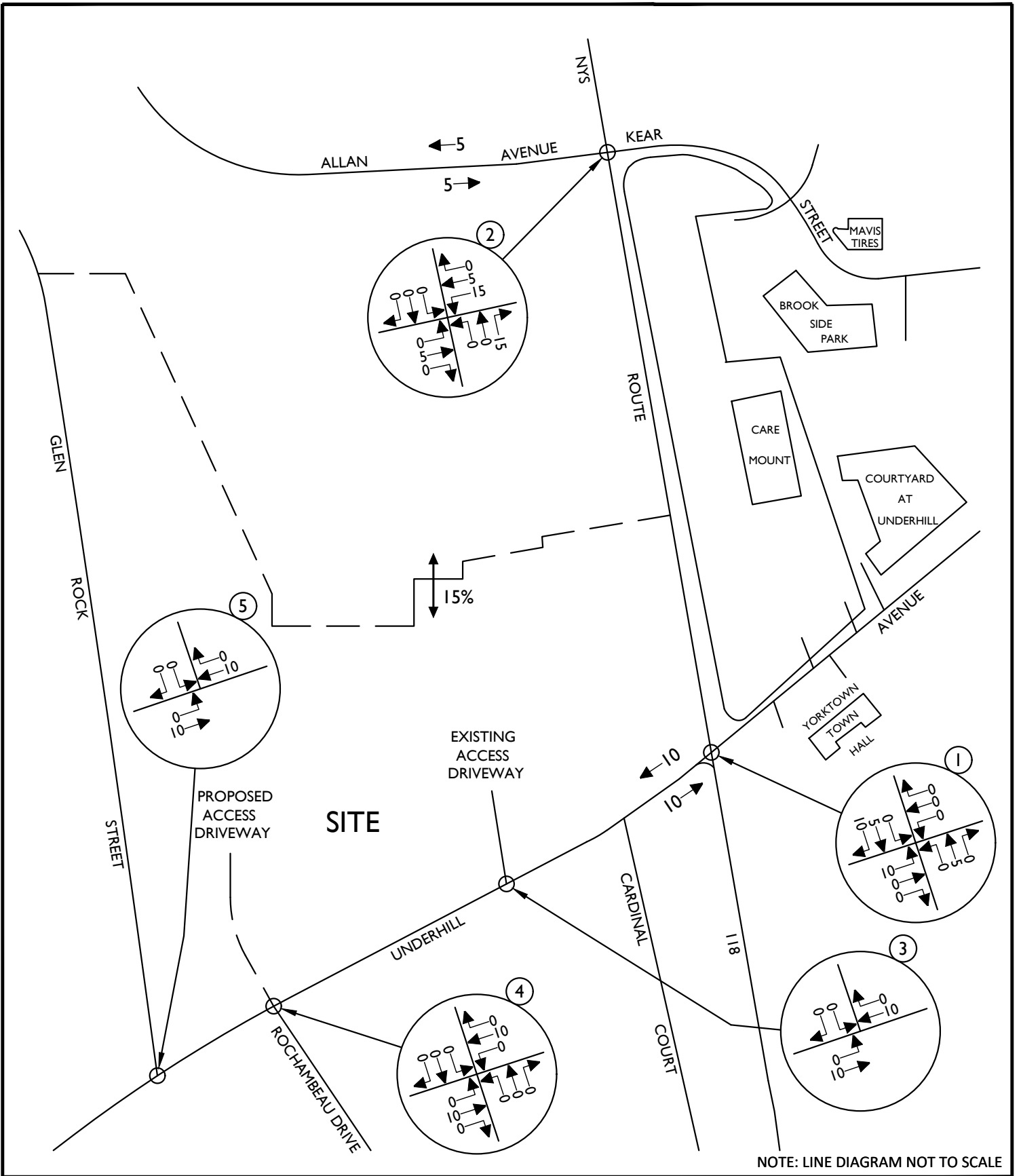
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 (POTENTIAL)  
 OTHER DEVELOPMENT TRAFFIC VOLUMES  
 WEEKDAY AM PEAK HOUR

SHEET NUMBER:  
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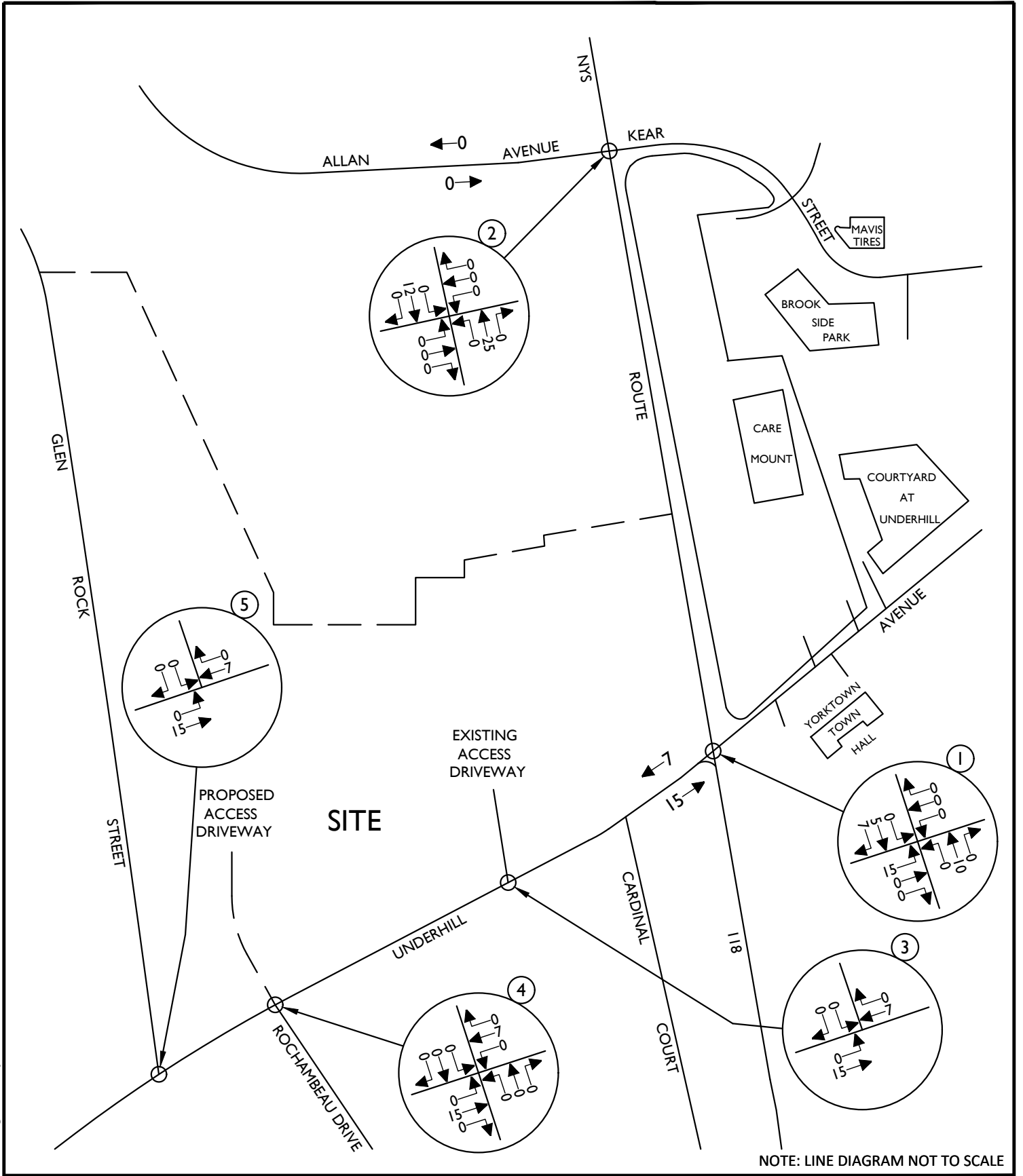
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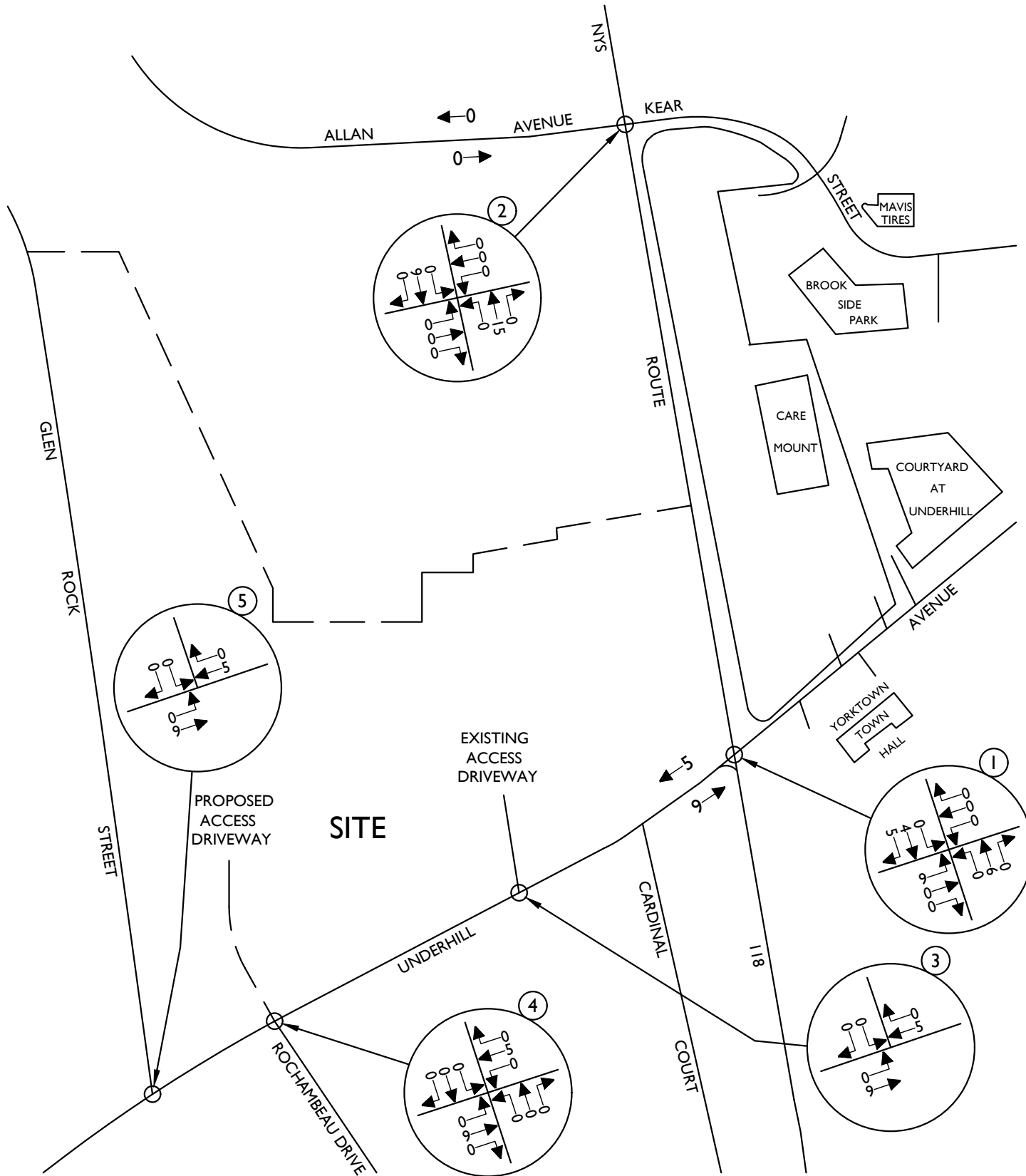
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(POTENTIAL)  
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WEEKDAY PEAK AM HOUR

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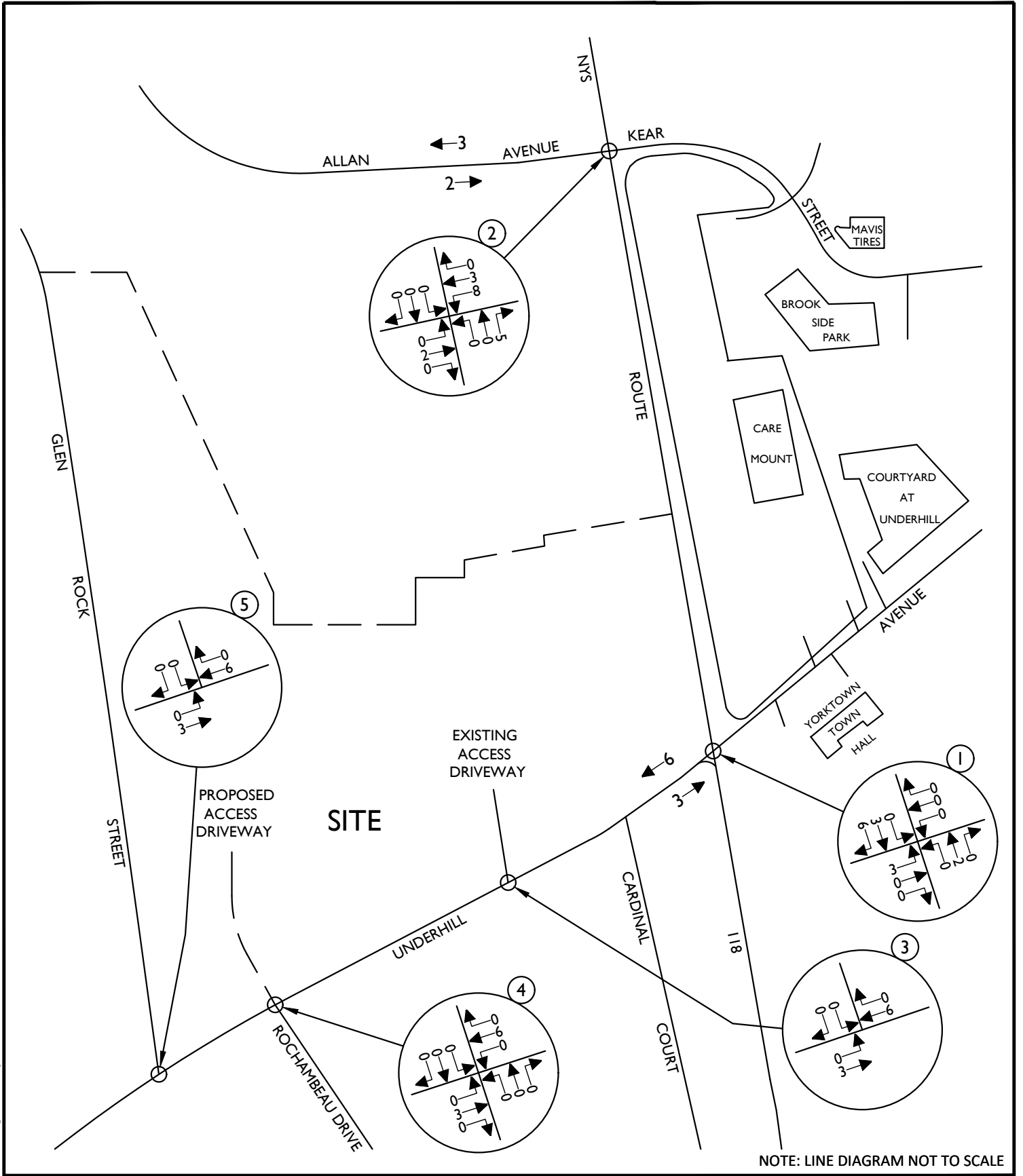
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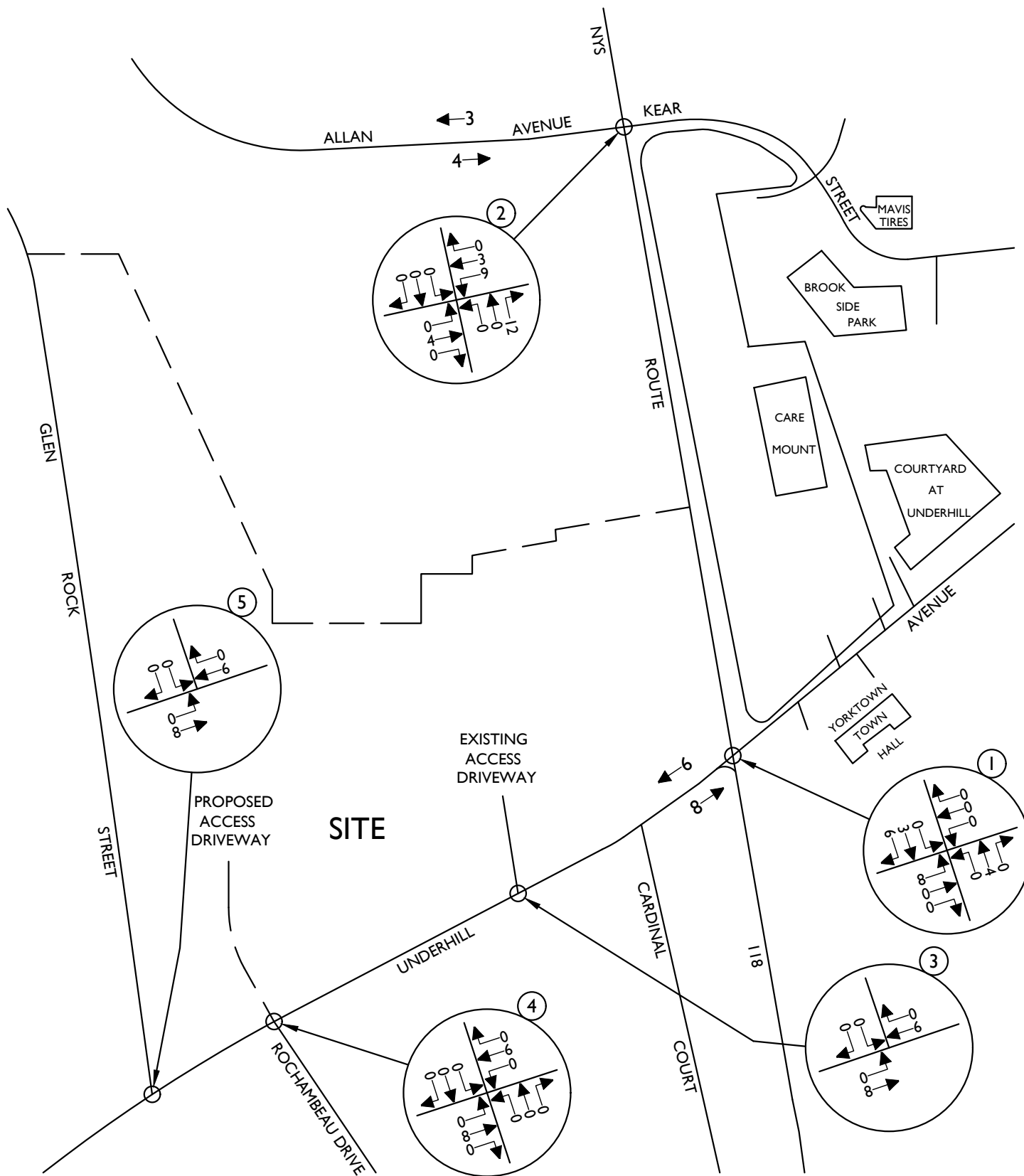
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OTHER DEVELOPMENT TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR

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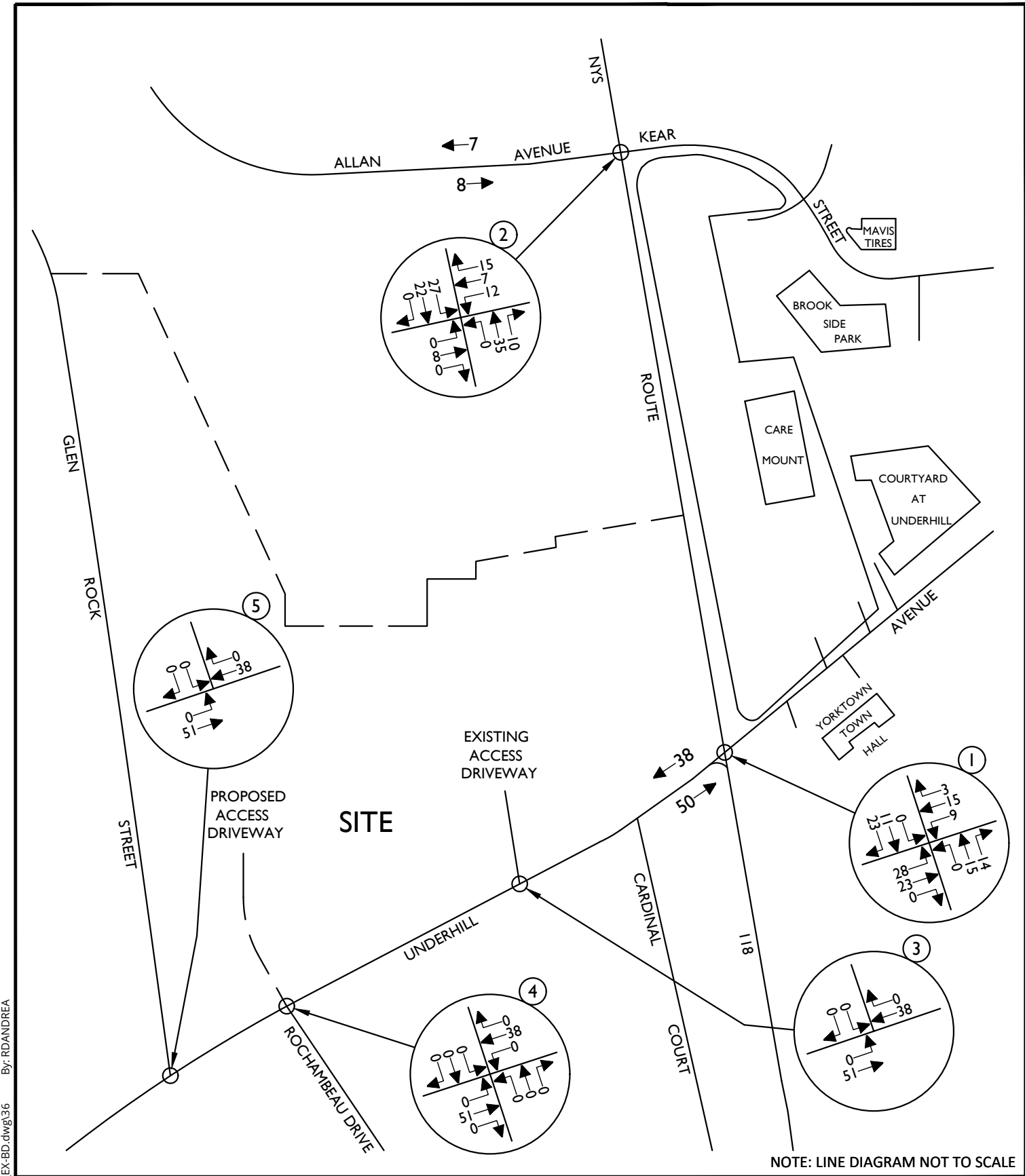
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WEEKDAY PEAK PM HOUR**

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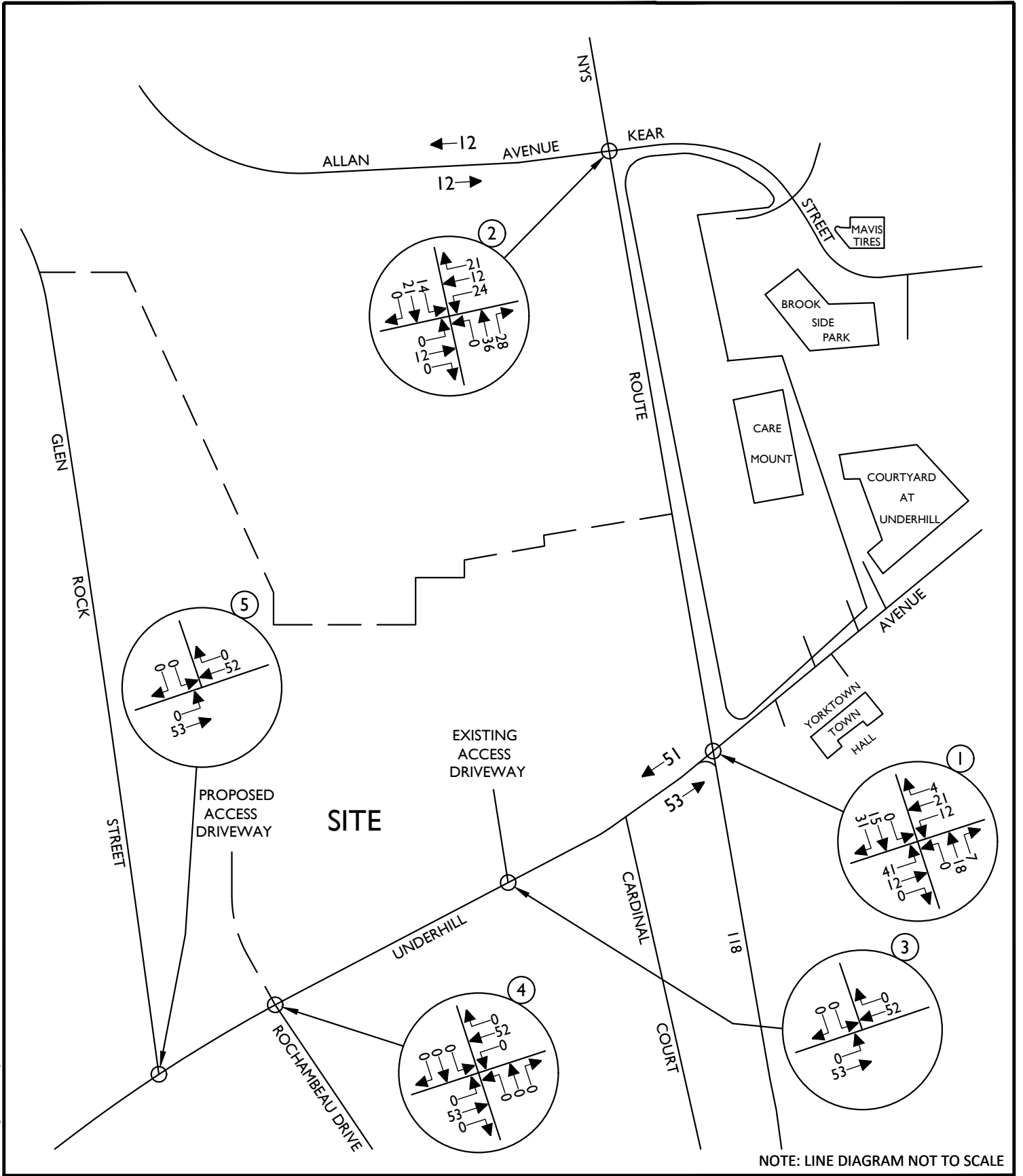
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SHEET TITLE: TOTAL APPROVE & POTENTIAL OTHER DEVELOPMENT TRAFFIC VOLUMES WEEKDAY PEAK AM HOUR

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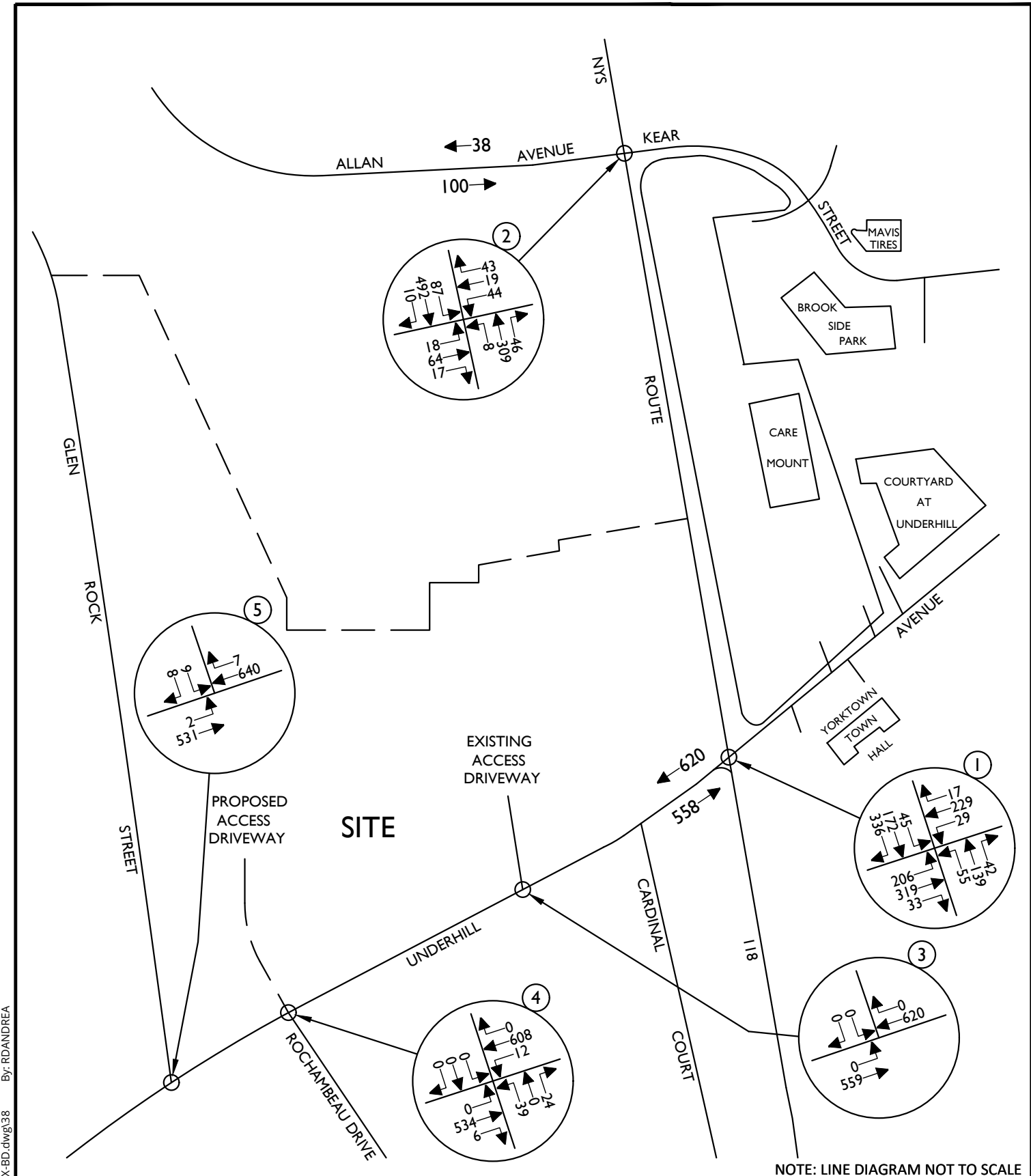
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OTHER DEVELOPMENT TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR

SHEET NUMBER:

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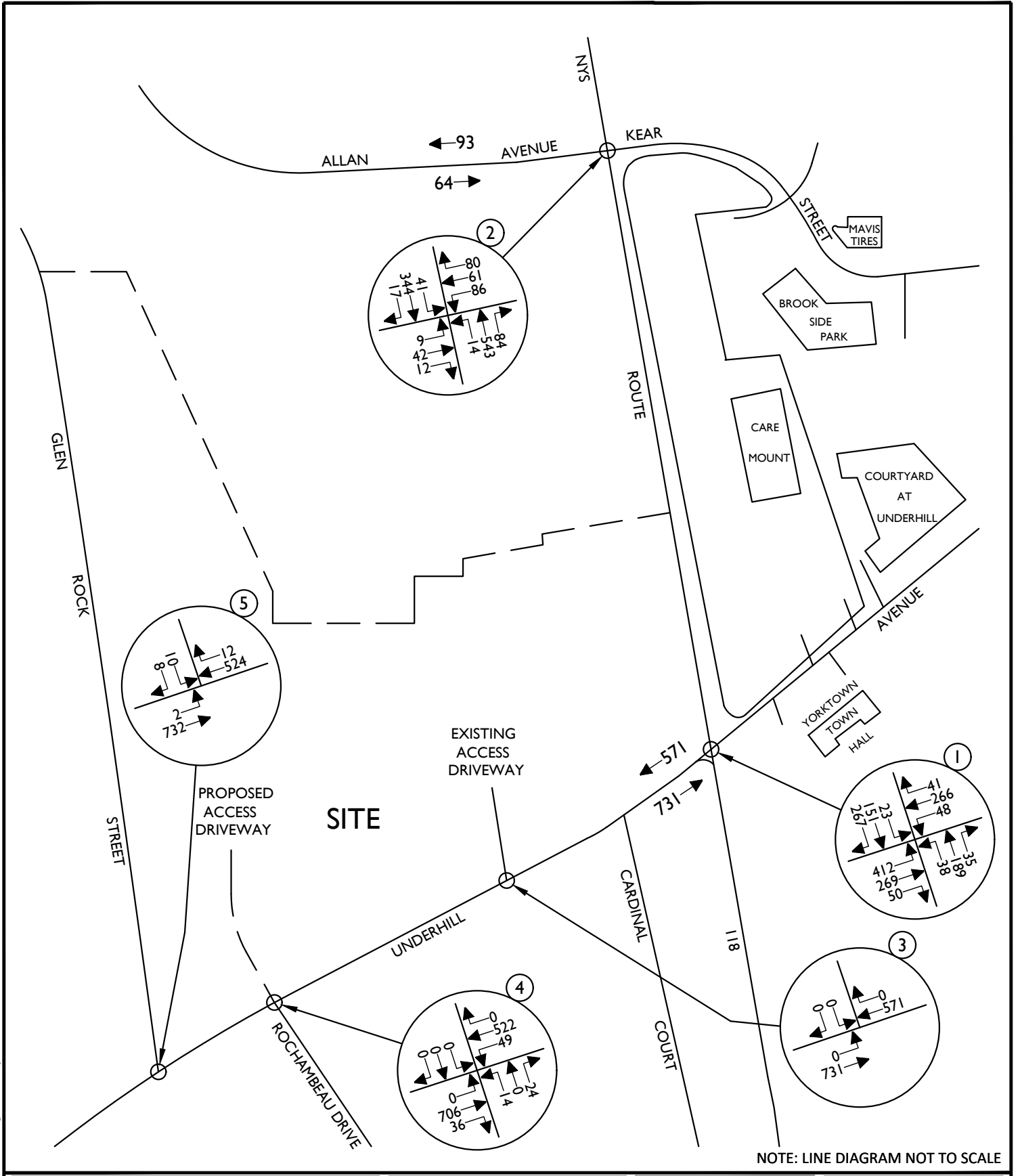
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SHEET TITLE:  
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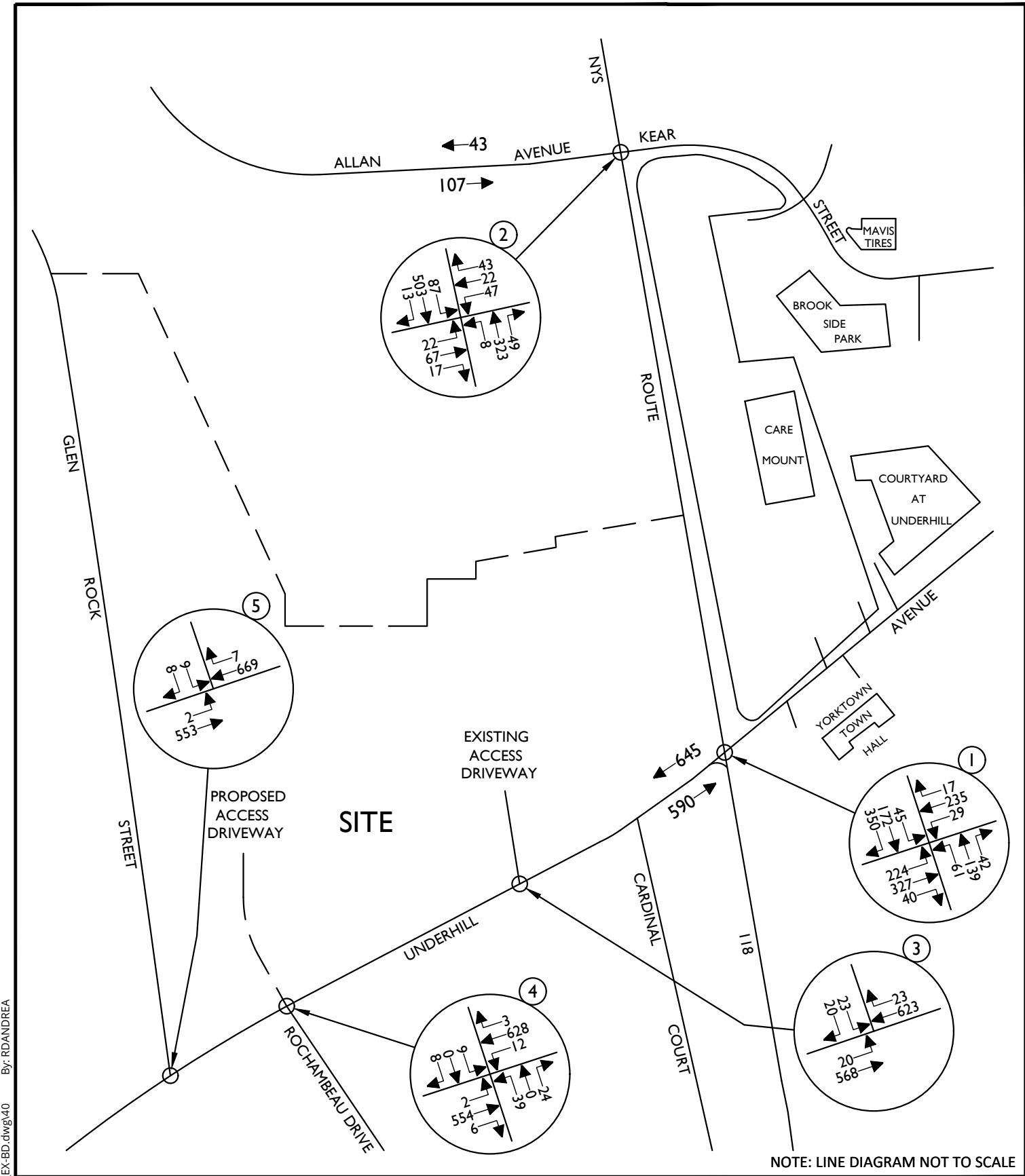
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WEEKDAY PEAK PM HOUR  
(W/ APPROVED & POTENTIAL O.D.)**

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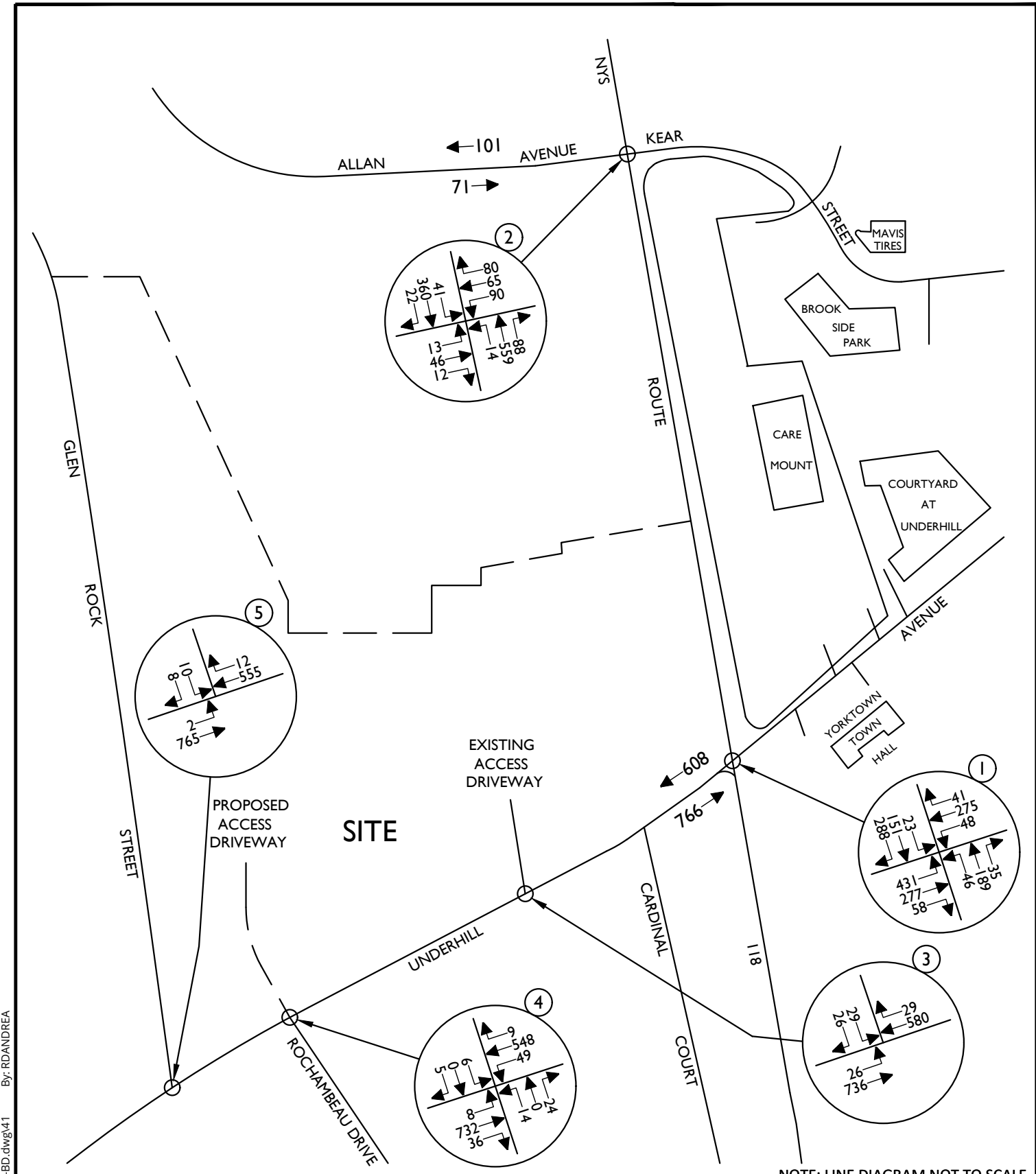
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PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
**2025 BUILD TRAFFIC VOLUMES  
WEEKDAY PEAK AM HOUR  
(W/ APPROVED & POTENTIAL O.D.)**

SHEET NUMBER:  
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PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_EX-BD		

SHEET TITLE:  
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WEEKDAY PEAK PM HOUR  
(W/ APPROVED & POTENTIAL O.D.)**

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# Tables

**Table No. 2A**  
**Level of Service Summary Table**  
**Weekday Peak AM Hour**

				2021 Existing			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.			
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	
1	NYS Route 118 & Underhill Avenue	Signalized											
		Underhill Avenue	EB	LT	0.66	C	22.8	0.82	C	32.9	0.88	D	40.1
				R	0.02	A	0.0	0.02	A	0.0	0.03	A	0.0
		Underhill Avenue	WB	LTR	0.32	B	15.5	0.40	B	18.1	0.44	B	19.2
		NYS Route 118	NB	LTR	0.54	C	24.0	0.57	C	24.1	0.60	C	25.2
		NYS Route 118	SB	LTR	0.88	D	35.7	0.90	D	38.0	0.90	D	38.1
		Overall			-	C	25.8	-	C	30.2	-	C	32.8
		<u>With Underhill Avenue Left Turn Lane &amp; NYS Route 118 SB Right Turn Lane</u>											
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.44	B	12.7	
			TR	-	-	-	-	-	-	0.46	B	17.6	
	Underhill Avenue	WB	L	-	-	-	-	-	-	0.10	B	11.8	
			TR	-	-	-	-	-	-	0.67	D	35.2	
	NYS Route 118	NB	LTR	-	-	-	-	-	-	0.68	C	31.9	
	NYS Route 118	SB	LT	-	-	-	-	-	-	0.55	C	27.4	
			R	-	-	-	-	-	-	0.35	A	2.5	
	Overall			-	-	-	-	-	-	-	B	19.6	
		<u>With Left Turn Lanes All Approaches &amp; NYS Route 118 SB Right Turn Lane</u>											
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.40	A	8.8	
			TR	-	-	-	-	-	-	0.43	B	12.7	
Underhill Avenue	WB	L	-	-	-	-	-	-	0.10	A	9.0		
		TR	-	-	-	-	-	-	0.66	C	29.5		
NYS Route 118	NB	L	-	-	-	-	-	-	0.27	C	23.7		
		TR	-	-	-	-	-	-	0.56	C	26.5		
NYS Route 118	SB	L	-	-	-	-	-	-	0.18	C	22.4		
		T	-	-	-	-	-	-	0.55	C	28.3		
		R	-	-	-	-	-	-	0.36	A	2.2		
Overall			-	-	-	-	-	-	-	B	16.2		
2	NYS Route 118 & Allan Avenue/Kear Street	Unsignalized											
		Allan Avenue	EB	LTR	0.38	C	30.6	0.42	C	31.4	0.44	C	32.4
		Kear Street	WB	LTR	0.28	C	23.1	0.43	C	27.4	0.45	C	28.5
		NYS Route 118	NB	LTR	0.25	A	4.6	0.33	A	5.5	0.34	A	5.7
		NYS Route 118	SB	LTR	0.46	A	6.4	0.58	A	8.8	0.60	A	9.2
		Overall			-	A	9.2	-	B	11.4	-	B	12.0

**Table No. 2A  
Level of Service Summary Table  
Weekday Peak AM Hour**

			2021 Existing			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.				
			v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay		
3	Underhill Avenue & East Site Access	Signalized											
		Underhill Avenue	EB	LT	-	-	-	-	-	-	0.03	A	9.2
		East Site Access	SB	LR	-	-	-	-	-	-	0.22	D	26.1
4	Underhill Avenue & Rochambeau Drive/West Site Access	Unsignalized											
		Underhill Avenue	EB	LTR	-	-	-	-	-	-	0.01	A	8.9
		Underhill Avenue	WB	LTR	0.01	A	8.4	0.01	A	8.6	0.01	A	9.0
		Rochambeau Drive	NB	LTR	0.15	C	15.0	0.17	C	16.3	0.23	C	20.9
		Site Access	SB	LTR	-	-	-	-	-	-	0.12	D	27.2
5	Underhill Avenue & Glen Rock Street	Unsignalized											
		Underhill Avenue	EB	LT	0.01	A	8.9	0.01	A	9.1	0.01	A	9.2
		Glen Rock Street	SB	LR	0.07	C	18.7	0.08	C	21.0	0.08	C	22.1

NOTES:

- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

**Table No. 2A**  
**Level of Service Summary Table**  
**Weekday Peak PM Hour**

				2021 Existing			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.			
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	
1	NYS Route 118 & Underhill Avenue	Signalized											
		Underhill Avenue	EB	LT	0.78	C	23.6	0.96	D	46.9	1.04	E	70.0
				R	0.03	A	0.0	0.03	A	0.0	0.04	A	0.0
		Underhill Avenue	WB	LTR	0.33	B	10.8	0.45	B	14.6	0.51	B	17.1
		NYS Route 118	NB	LTR	0.67	D	37.0	0.67	D	35.2	0.71	D	37.1
		NYS Route 118	SB	LTR	0.84	D	40.2	0.87	D	41.6	0.88	D	43.2
		Overall			-	C	26.4	-	D	36.2	-	D	46.1
		<u>With Underhill Avenue Left Turn Lane &amp; NYS Route 118 SB Right Turn Lane</u>											
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.65	B	14.8	
			TR	-	-	-	-	-	-	0.52	B	14.4	
	Underhill Avenue	WB	L	-	-	-	-	-	-	0.15	B	12.4	
			TR	-	-	-	-	-	-	0.79	D	44.9	
	NYS Route 118	NB	LTR	-	-	-	-	-	-	0.76	D	44.5	
	NYS Route 118	SB	LT	-	-	-	-	-	-	0.47	C	33.4	
			R	-	-	-	-	-	-	0.28	A	2.0	
	Overall			-	-	-	-	-	-	-	C	23.8	
		<u>With Left Turn Lanes All Approaches &amp; NYS Route 118 SB Right Turn Lane</u>											
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.67	B	14.1	
			TR	-	-	-	-	-	-	0.35	B	12.5	
	Underhill Avenue	WB	L	-	-	-	-	-	-	0.15	B	10.0	
			TR	-	-	-	-	-	-	0.74	C	34.8	
NYS Route 118	NB	L	-	-	-	-	-	-	0.20	C	25.7		
		TR	-	-	-	-	-	-	0.63	C	32.5		
NYS Route 118	SB	L	-	-	-	-	-	-	0.12	C	24.8		
		T	-	-	-	-	-	-	0.44	C	28.5		
		R	-	-	-	-	-	-	0.29	A	2.0		
Overall			-	-	-	-	-	-	-	B	19.1		
2	NYS Route 118 & Allan Avenue/Kear Street	Unsignalized											
		Allan Avenue	EB	LTR	0.19	C	23.3	0.19	C	23.9	0.22	C	24.7
		Kear Street	WB	LTR	0.59	C	33.6	0.69	D	36.9	0.68	D	36.5
		NYS Route 118	NB	LTR	0.51	A	8.4	0.60	B	11.5	0.63	B	12.3
		NYS Route 118	SB	LTR	0.34	A	6.6	0.41	A	8.7	0.44	A	9.3
		Overall			-	B	12.2	-	B	15.6	-	B	16.1



**Table No. 2A  
Level of Service Summary Table  
Weekday Peak PM Hour**

			2021 Existing			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.				
			v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay		
3	Underhill Avenue & East Site Access	Signalized											
		Underhill Avenue	EB	LT	-	-	-	-	-	-	0.03	A	9.1
		East Site Access	SB	LR	-	-	-	-	-	-	0.33	D	33.8
4	Underhill Avenue & Rochambeau Drive/West Site Access	Unsignalized											
		Underhill Avenue	EB	LTR	-	-	-	-	-	-	0.01	A	8.7
		Underhill Avenue	WB	LTR	0.06	A	9.6	0.07	A	9.9	0.06	A	9.7
		Rochambeau Drive	NB	LTR	0.10	C	15.4	0.12	C	16.8	0.14	C	20.1
		Site Access	SB	LTR	-	-	-	-	-	-	0.10	E	35.6
5	Underhill Avenue & Glen Rock Street	Unsignalized											
		Underhill Avenue	EB	LT	0.01	A	8.4	0.01	A	8.6	0.01	A	8.7
		Glen Rock Street	SB	LR	0.07	C	19.2	0.09	C	22.1	0.09	C	23.9

NOTES:

- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

# Capacity Analysis

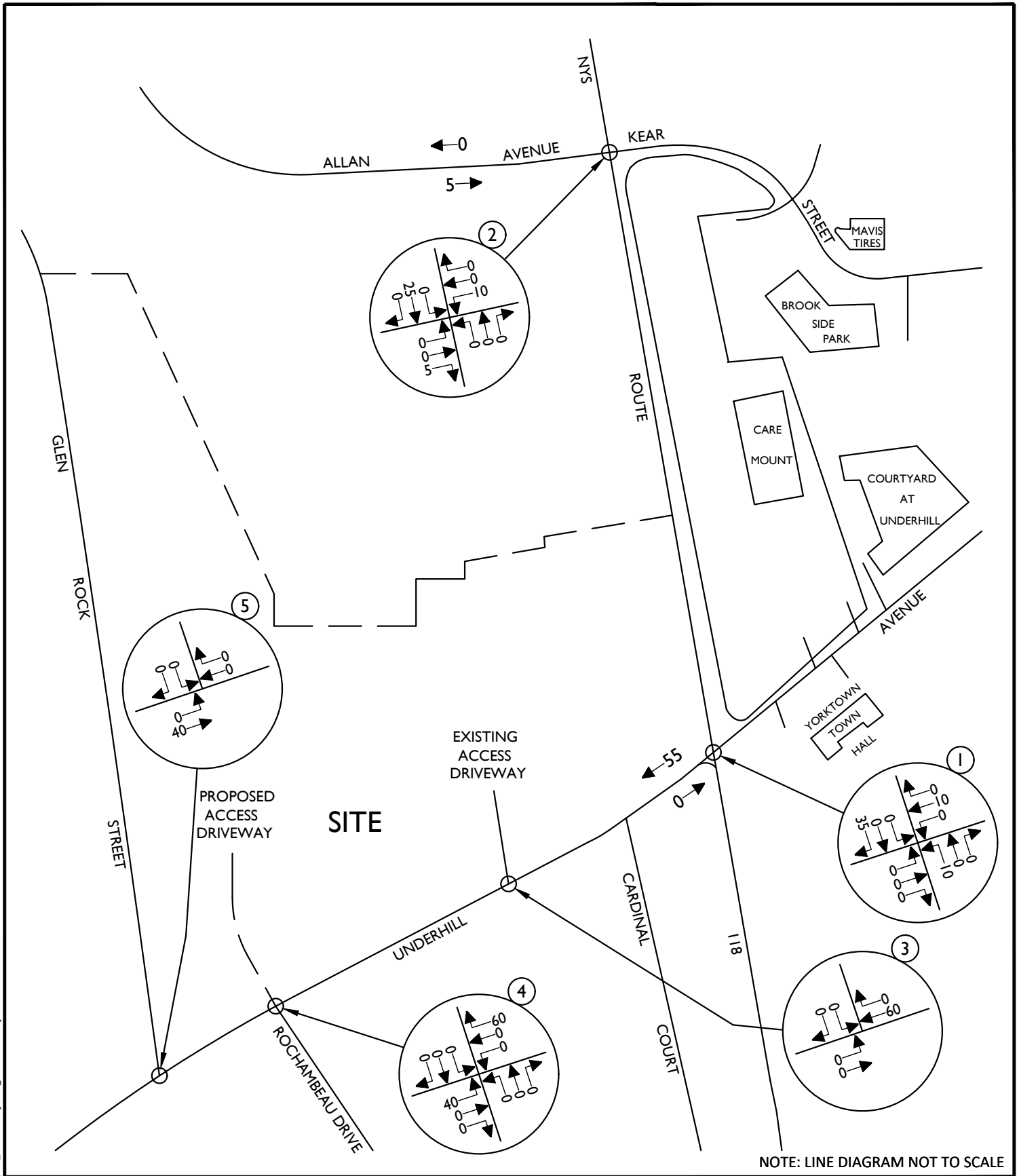
# Traffic Impact Study

## Appendix I | Sensitivity Analyses – No Traffic Through Beaver Ridge

# Sensitivity Analyses No Traffic Through Beaver Ridge

# Figures

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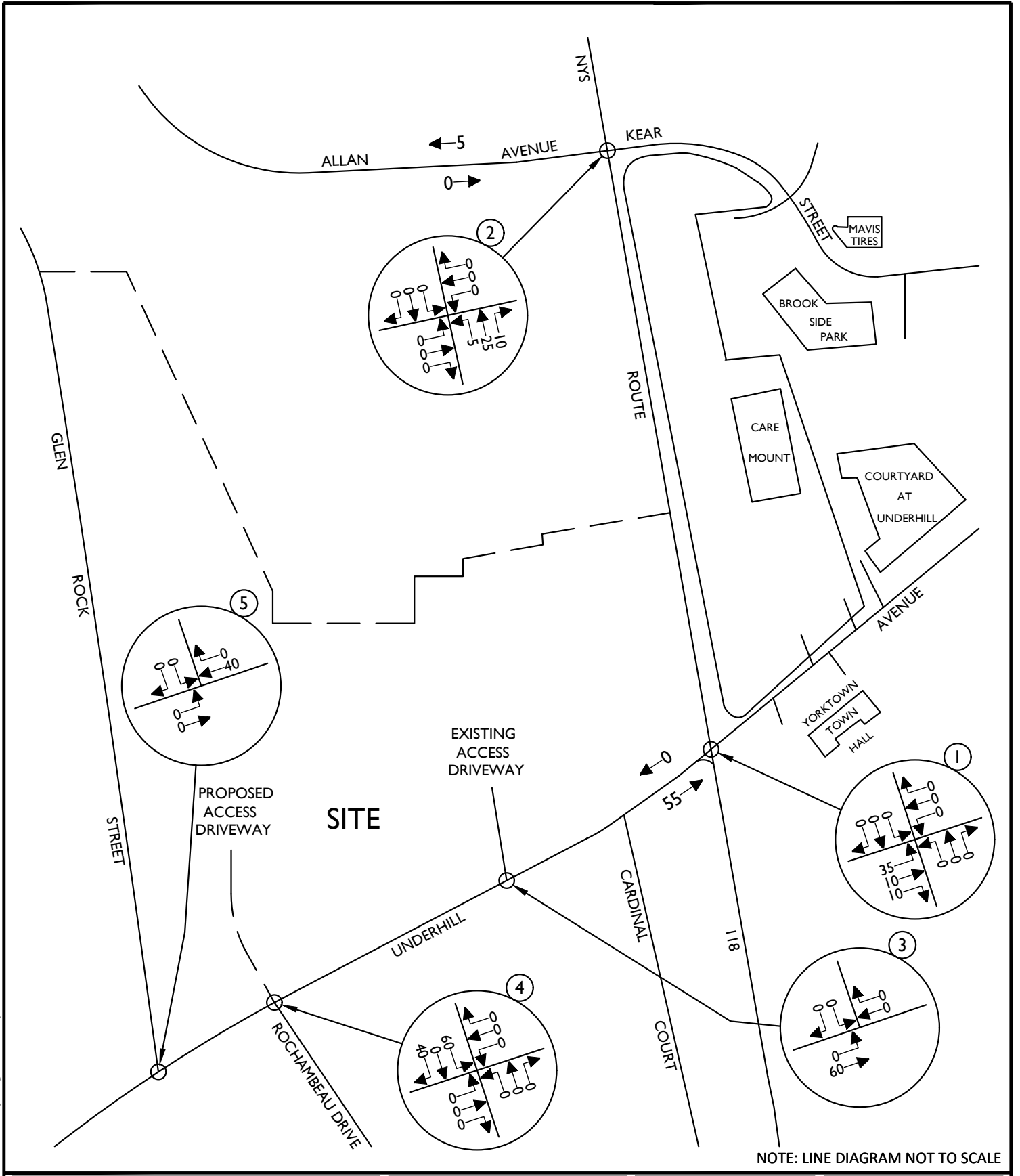
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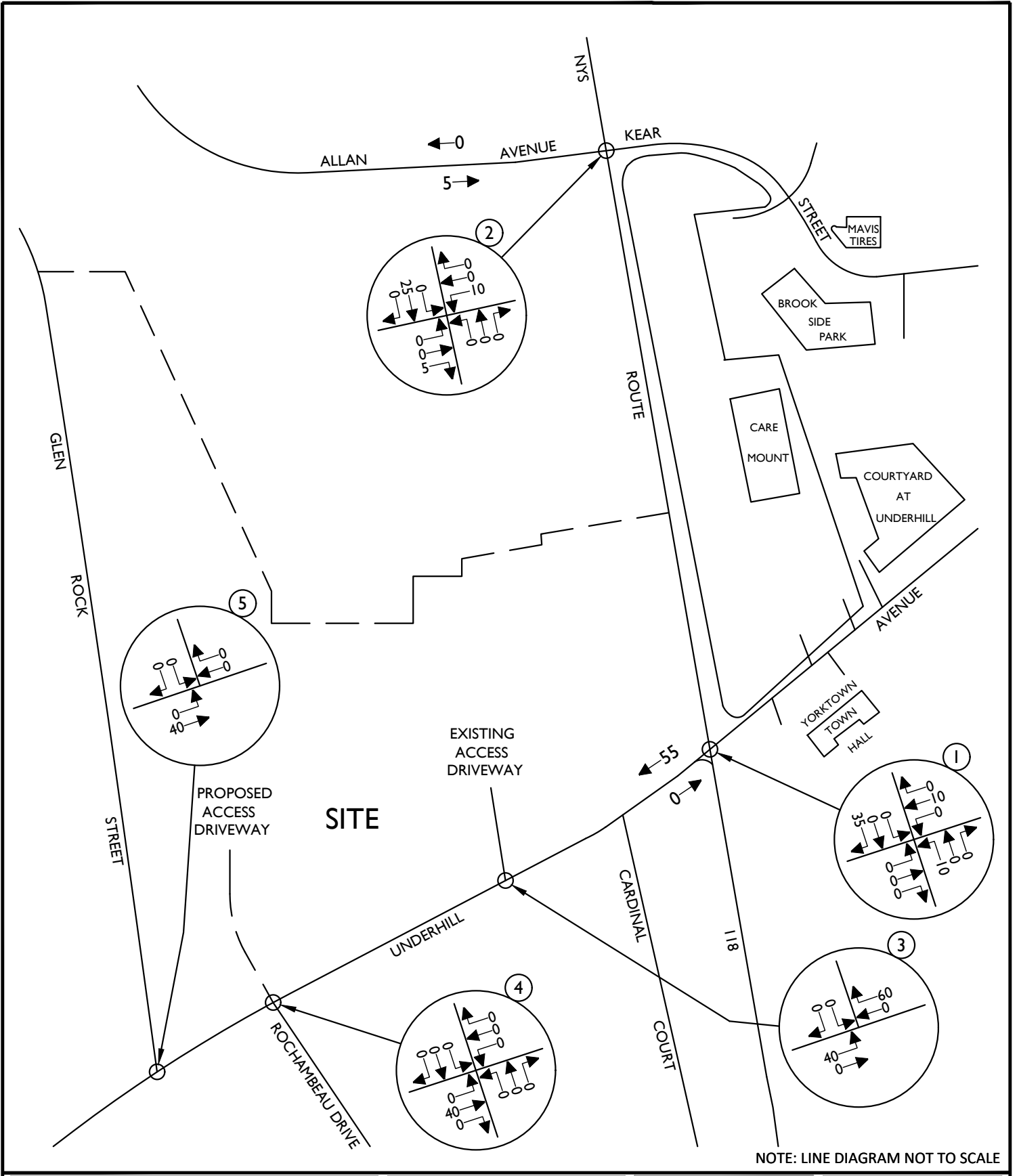
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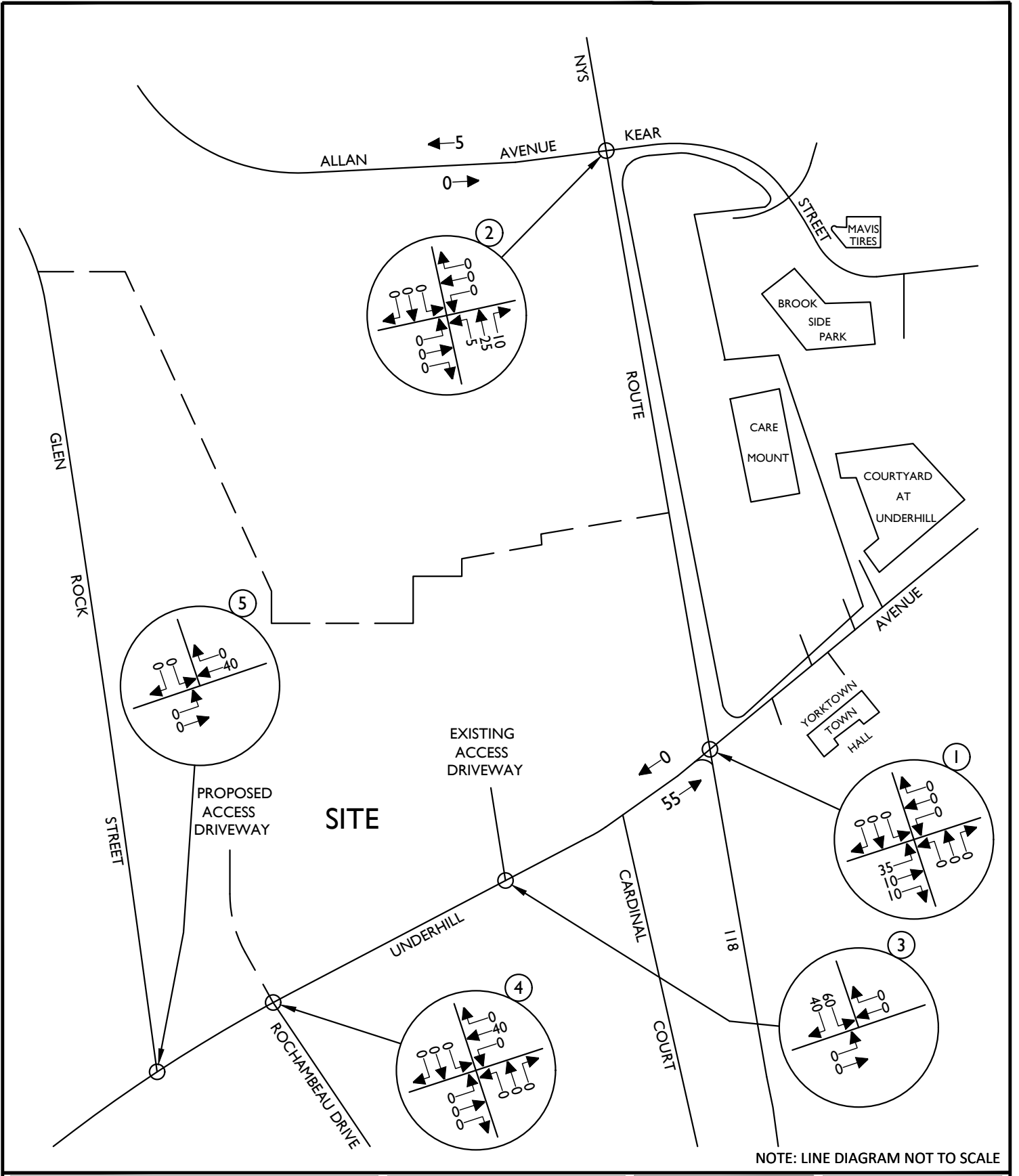
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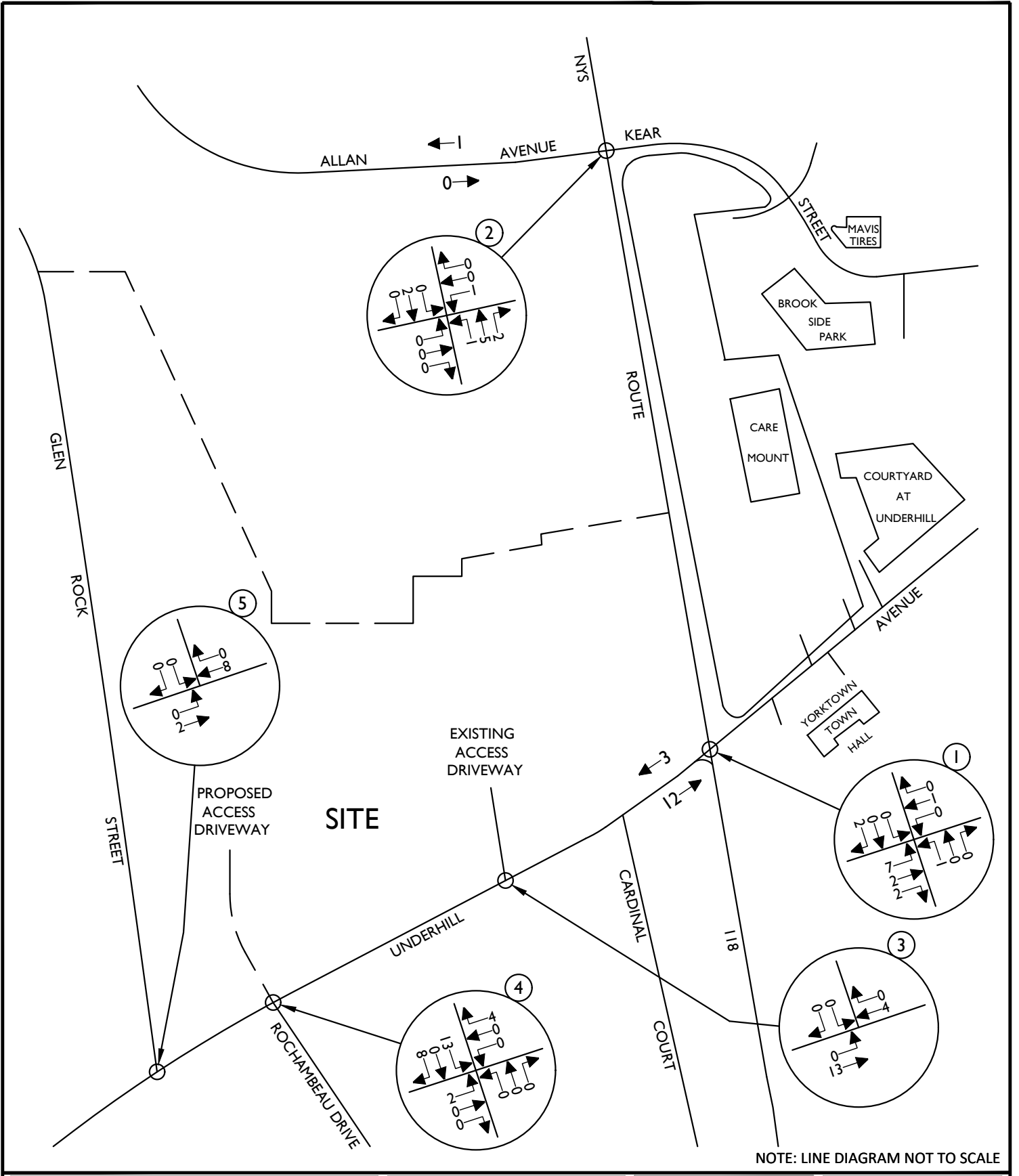
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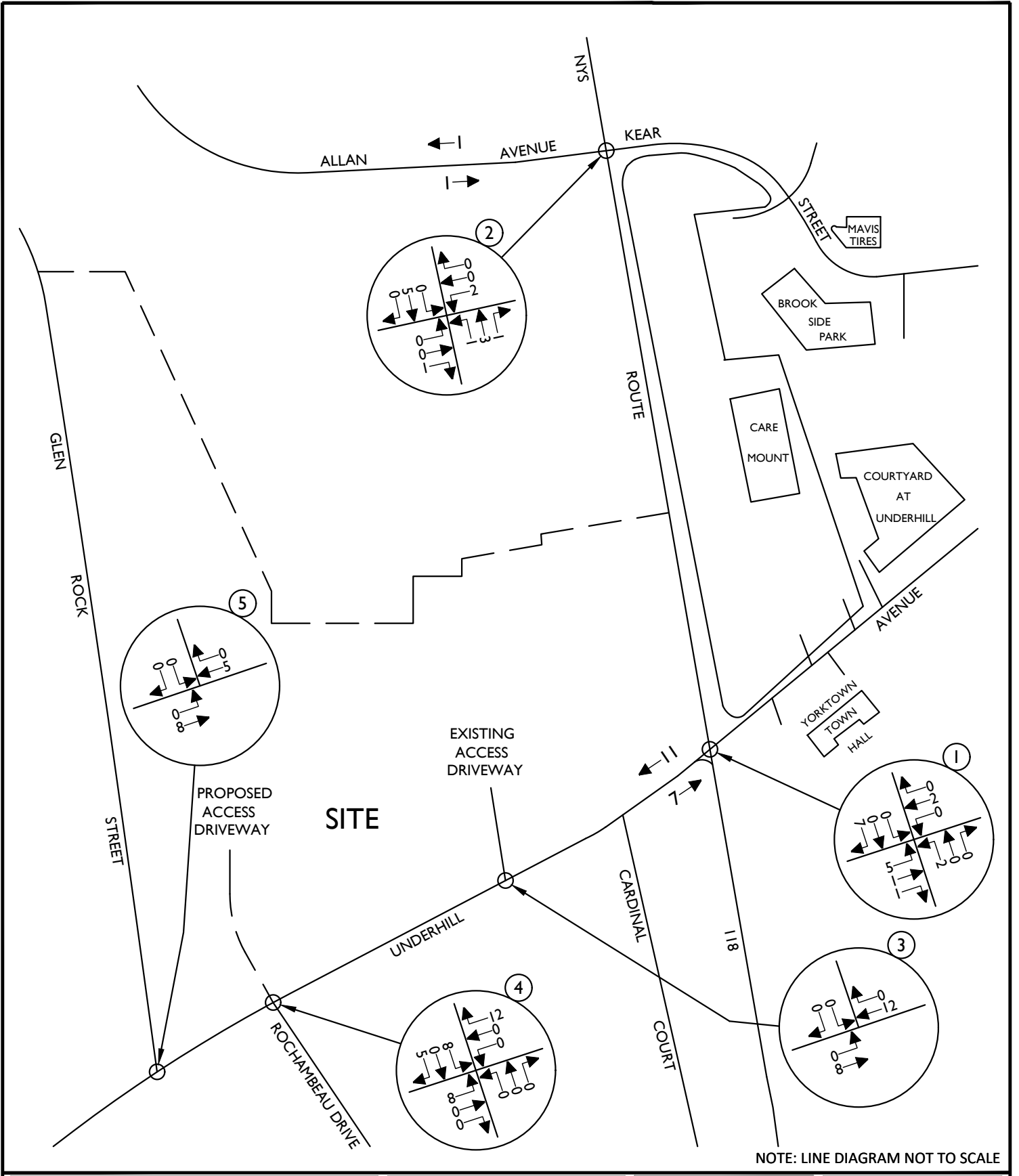
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TOWNHOUSE SITE GENERATED TRAFFIC VOLUMES (SENSITIVITY - NO BEAVER RIDGE ACCESS) WEEKDAY AM PEAK HOUR

SHEET NUMBER:
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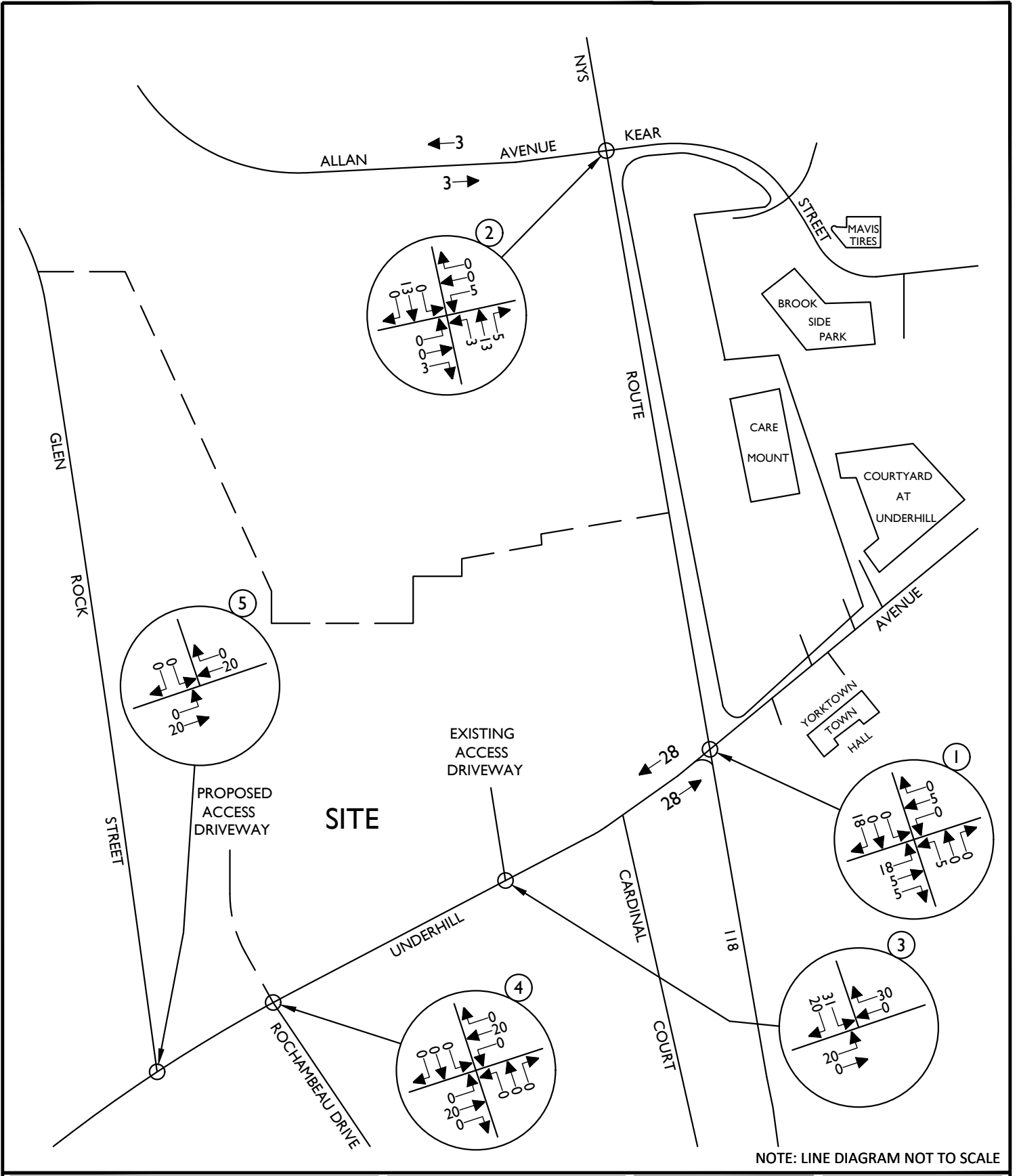
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TRAFFIC IMPACT STUDY

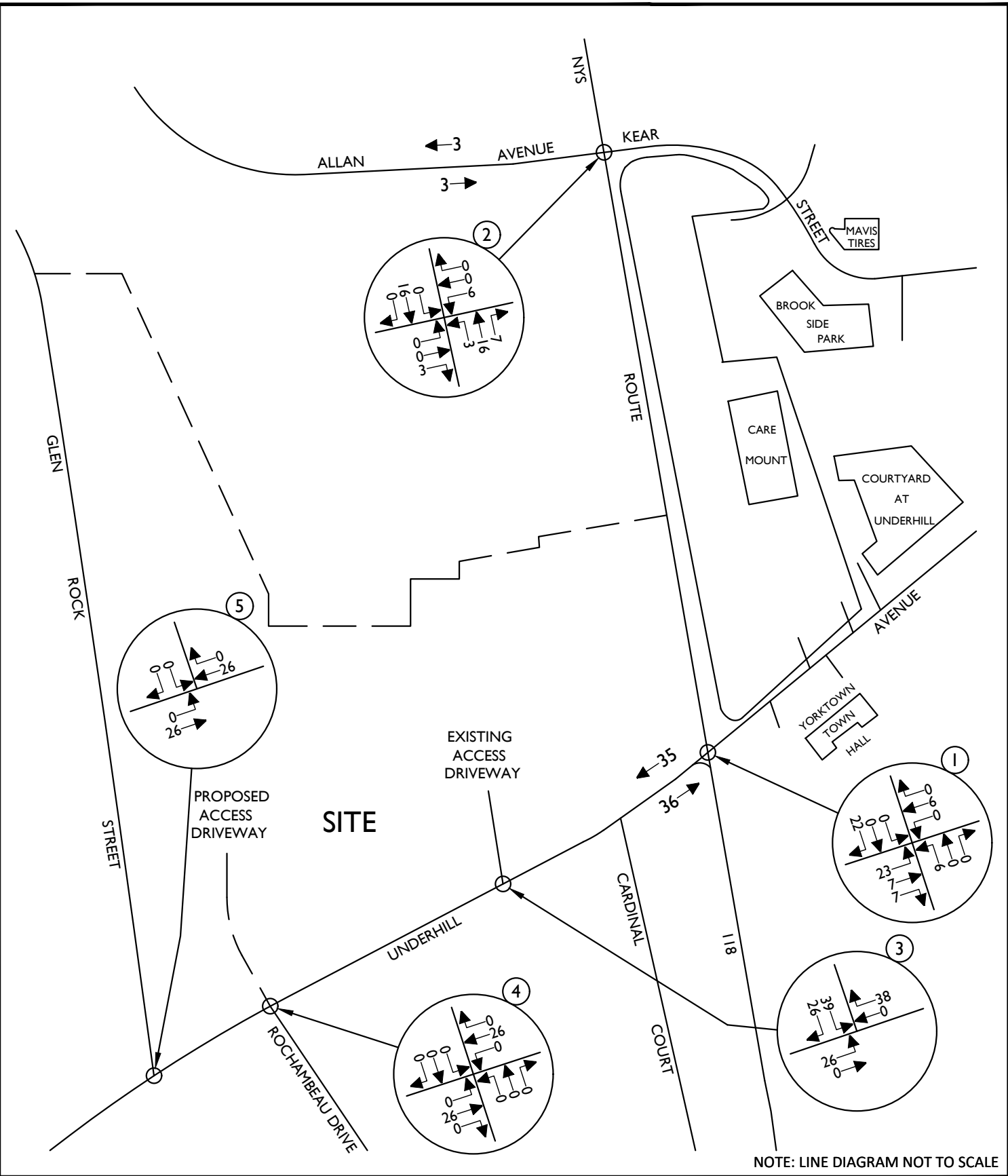
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AS SHOWN	3/26/23	R.H.	P.J.G.

PROJECT NUMBER:	DRAWING NAME:
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SHEET TITLE:  
APARTMENTS/CONDOS/COMMERCIAL  
SITE GENERATED TRAFFIC VOLUMES  
(SENSITIVITY - NO BEAVER RIDGE ACCESS)  
WEEKDAY PEAK AM HOUR

SHEET NUMBER:  
245

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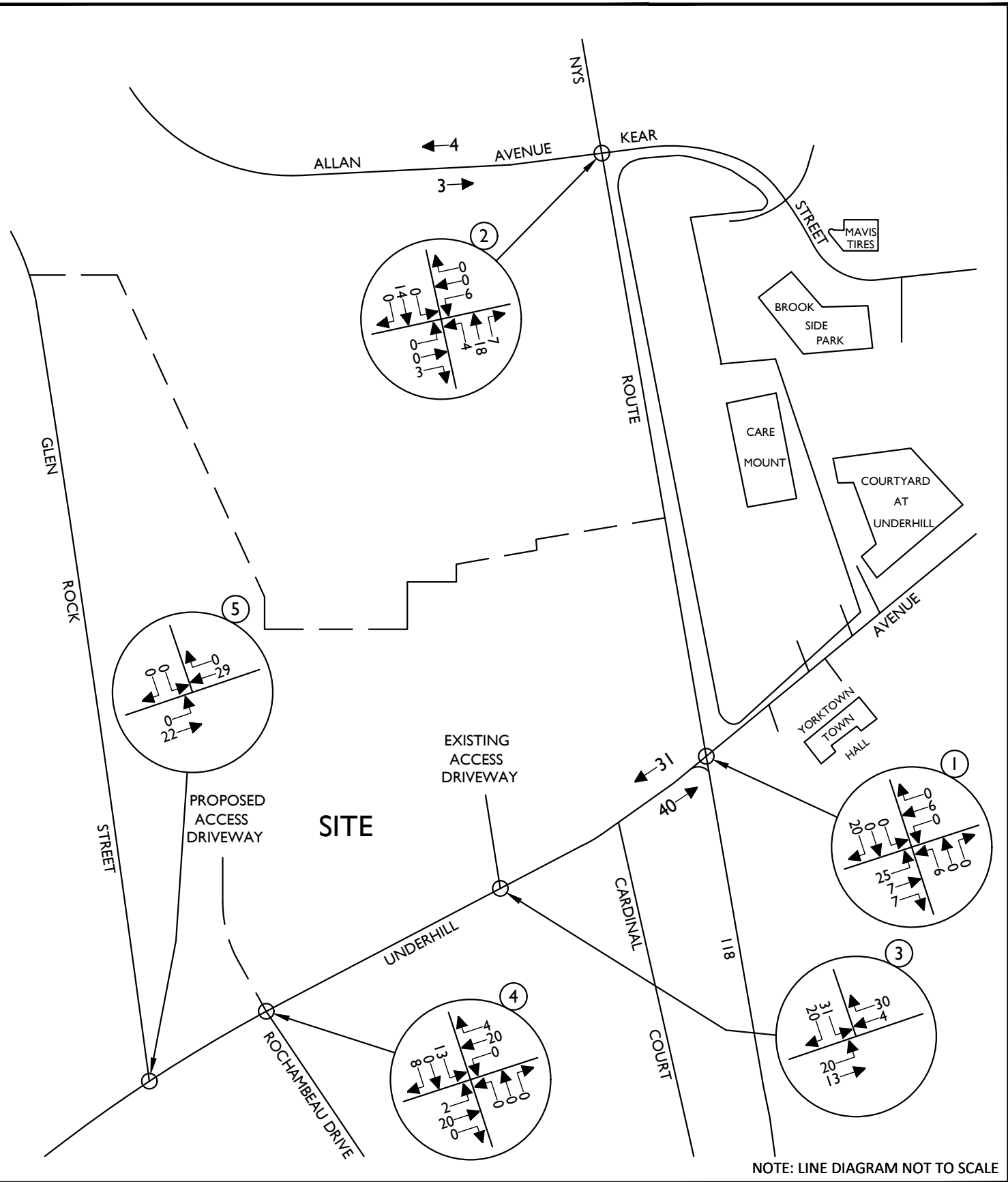
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AS SHOWN	3/26/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
20006297A	230326RGD_FIGURE_BD_SENSITIVITY		

SHEET TITLE:  
**APARTMENTS/CONDOS/COMMERCIAL  
 SITE GENERATED TRAFFIC VOLUMES  
 (SENSITIVITY - NO BEAVER RIDGE ACCESS)  
 WEEKDAY PEAK PM HOUR**

SHEET NUMBER:  
**25S**

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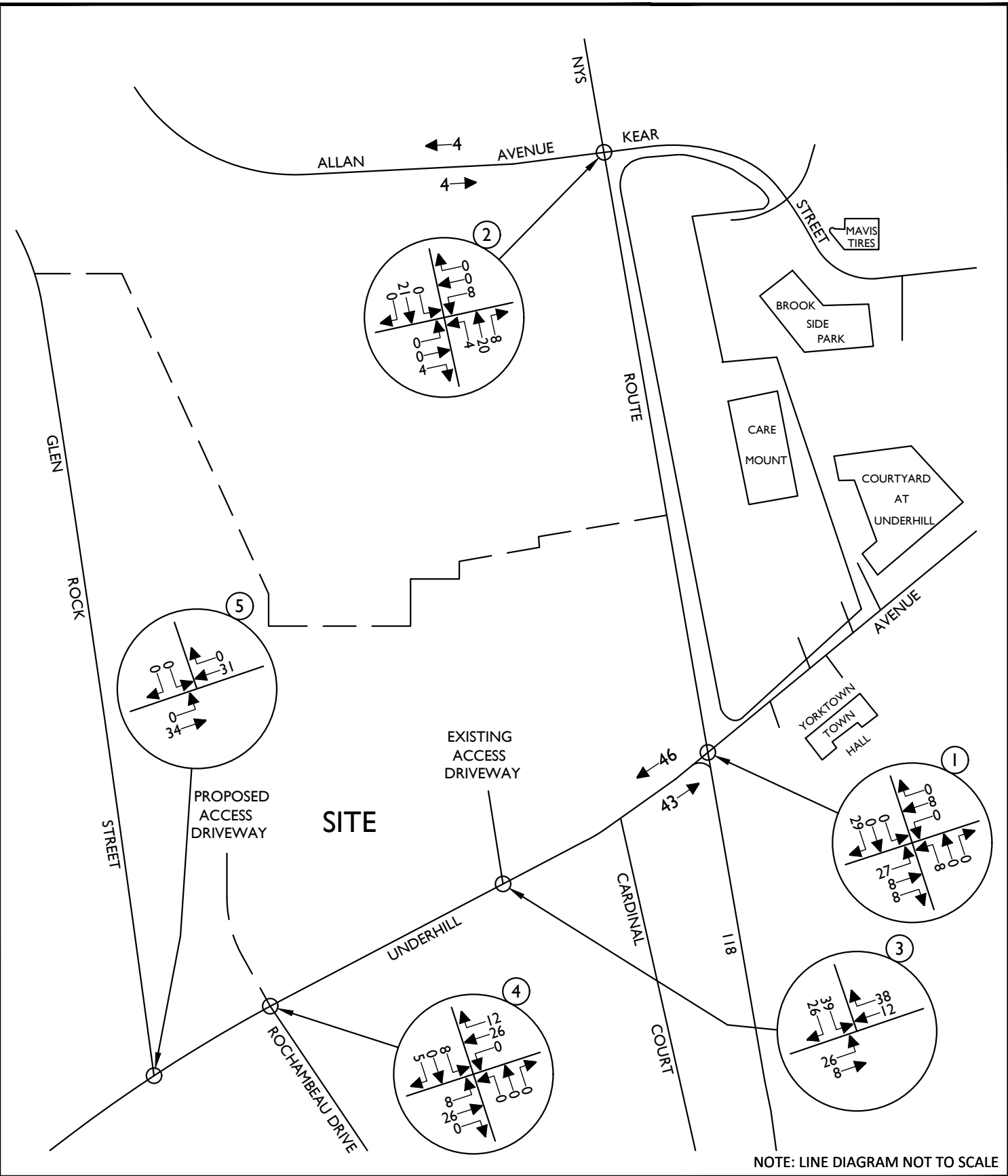
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AS SHOWN	3/26/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
20006297A	230326RGD_FIGURE_BD_SENSITIVITY		

SHEET TITLE:  
TOTAL SITE GENERATED  
TRAFFIC VOLUMES  
(SENSITIVITY - NO BEAVER RIDGE ACCESS)  
WEEKDAY PEAK AM HOUR

SHEET NUMBER:  
265

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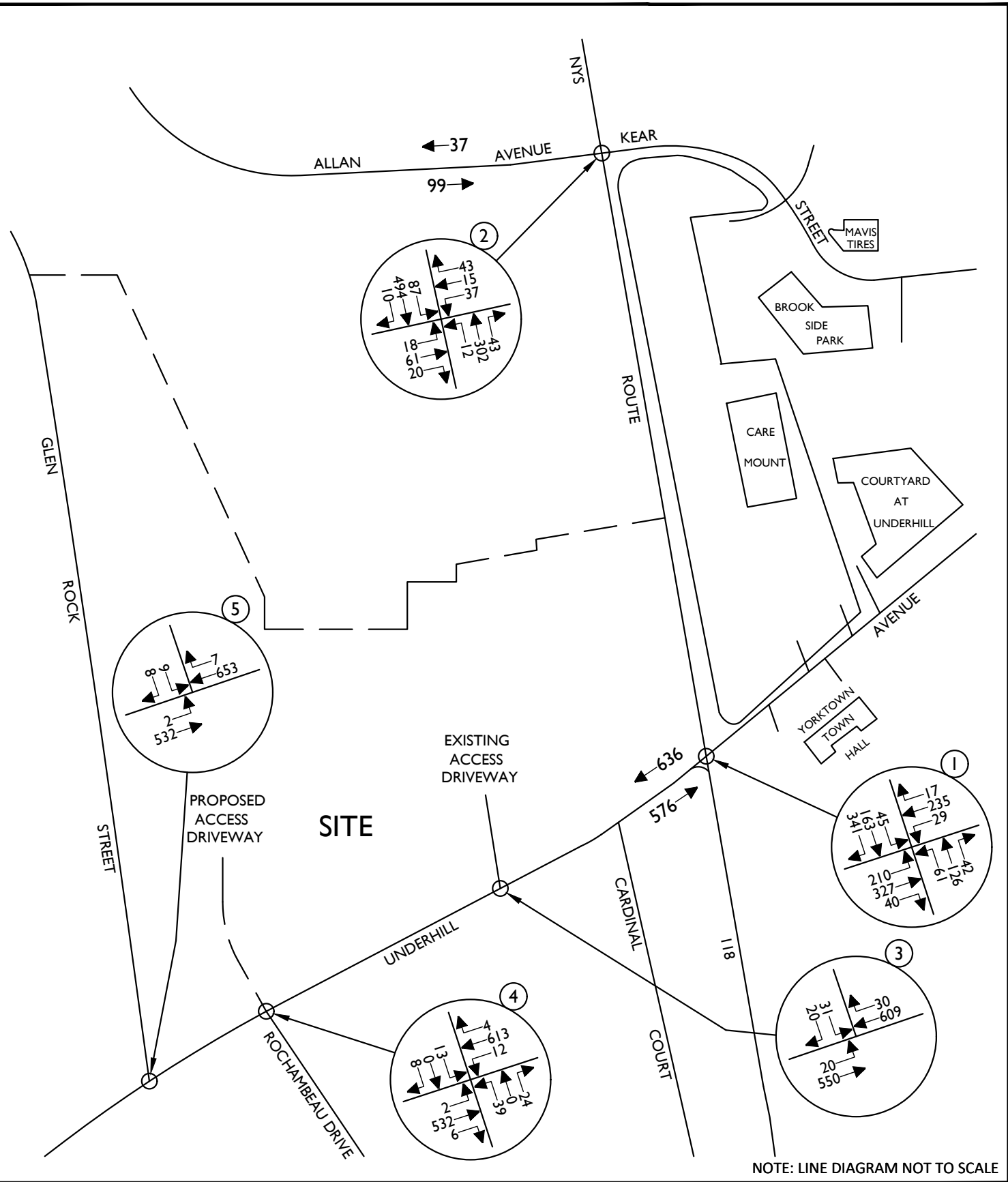
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TRAFFIC IMPACT STUDY			
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	3/26/23	R.H.	P.J.G.
PROJECT NUMBER:		DRAWING NAME:	
20006297A		230326RGD_FIGURE_BD_SENSITIVITY	
SHEET TITLE:			
TOTAL SITE GENERATED TRAFFIC VOLUMES (SENSITIVITY - NO BEAVER RIDGE ACCESS) WEEKDAY PEAK PM HOUR			
SHEET NUMBER:			275

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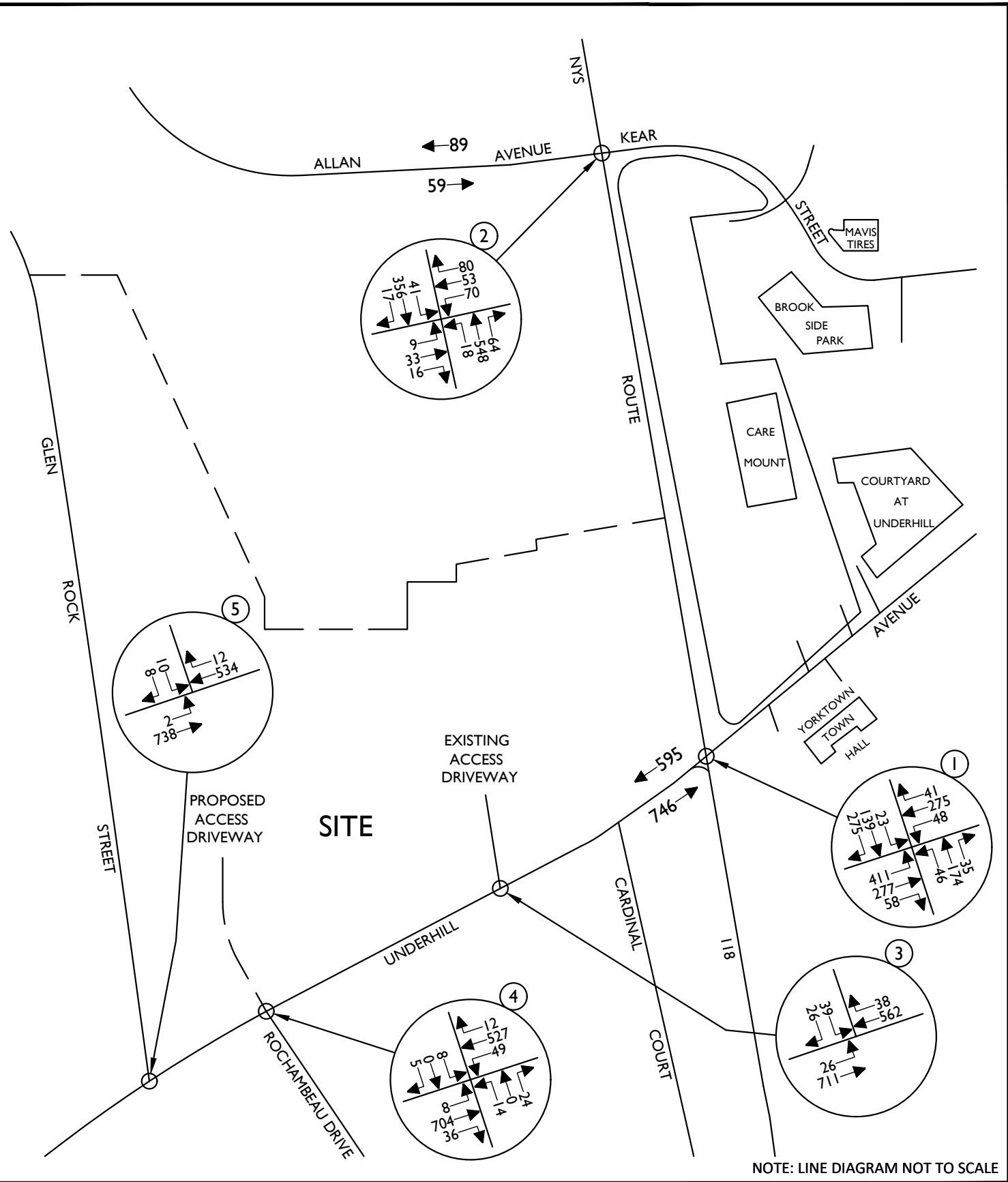
**TRAFFIC IMPACT STUDY**

SCALE: AS SHOWN	DATE: 3/26/23	DRAWN BY: R.H.	CHECKED BY: P.J.G.
PROJECT NUMBER: 20006297A		DRAWING NAME: 230326RGD_FIGURE_BD_SENSITIVITY	
SHEET TITLE: 2025 BUILD TRAFFIC VOLUMES (SENSITIVITY - NO BEAVER RIDGE ACCESS) WEEKDAY PEAK AM HOUR (W/ APPROVED O.D.)			
SHEET NUMBER:			285

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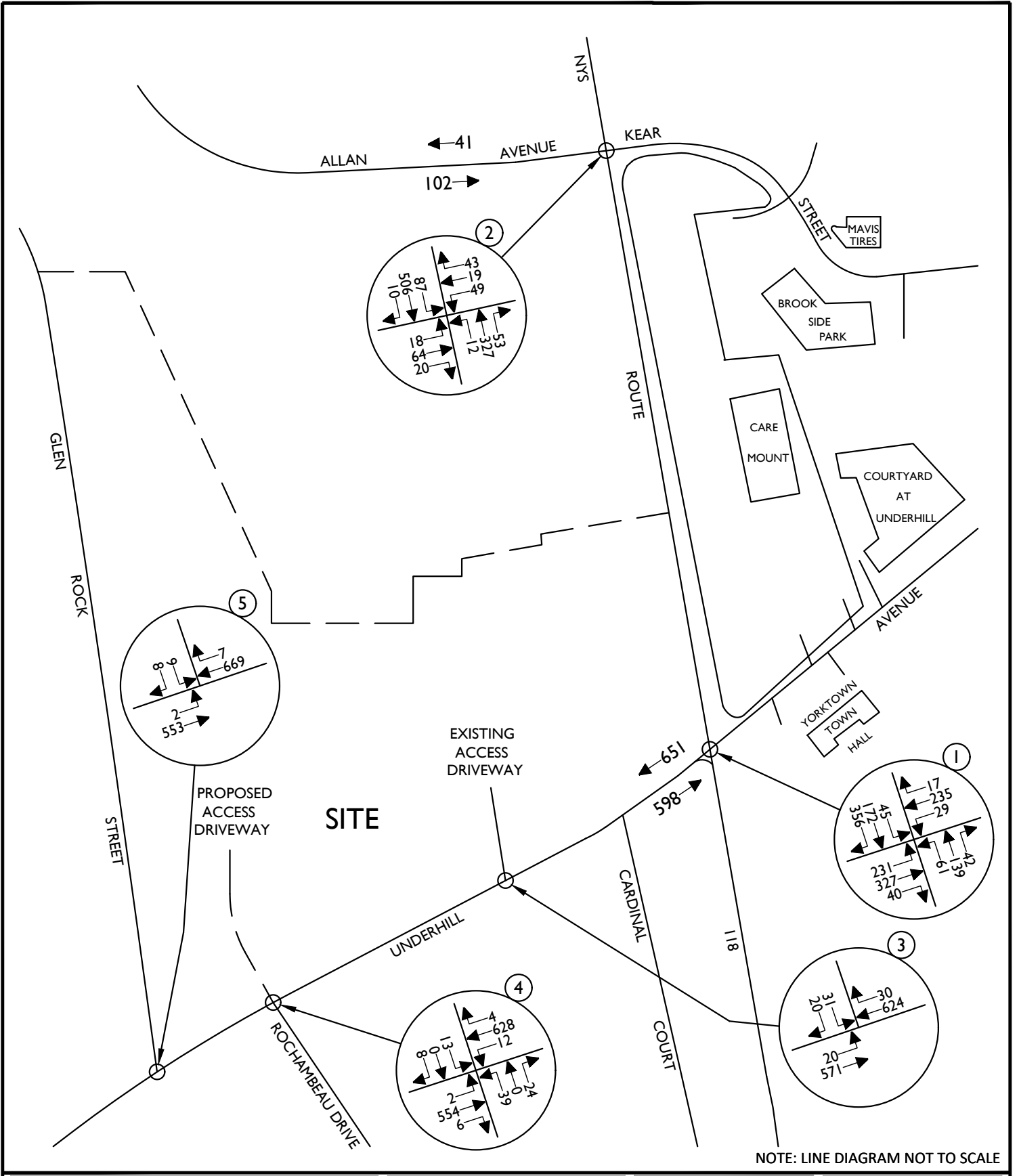
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PROJECT NUMBER: 20006297A	DRAWING NAME: 230326RGD_FIGURE_BD_SENSITIVITY		
SHEET TITLE: 2025 BUILD TRAFFIC VOLUMES (SENSITIVITY - NO BEAVER RIDGE ACCESS) WEEKDAY PEAK PM HOUR (W/ APPROVED O.D.)			
SHEET NUMBER:			295

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AS SHOWN	3/26/23	R.H.	P.J.G.

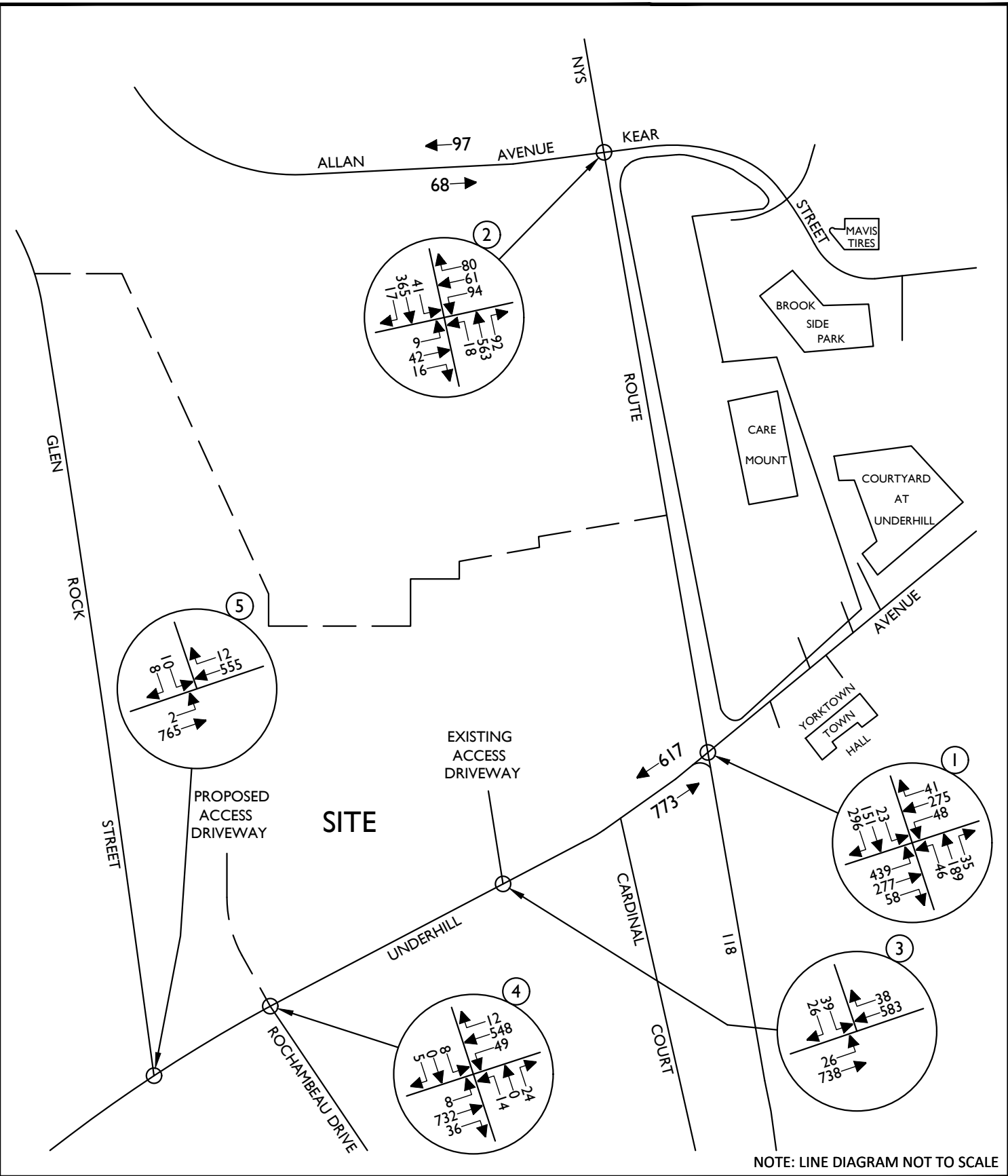
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20006297A	230326RGD_FIGURE_BD_SENSITIVITY

SHEET TITLE:  
2025 BUILD TRAFFIC VOLUMES  
(SENSITIVITY - NO BEAVER RIDGE ACCESS)  
WEEKDAY PEAK AM HOUR  
(W/ APPROVED & POTENTIAL O.D.)

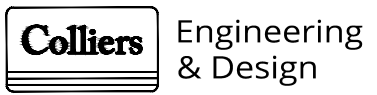
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AS SHOWN	3/26/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
20006297A	230326RGD_FIGURE_BD_SENSITIVITY		

SHEET TITLE:  
2025 BUILD TRAFFIC VOLUMES  
(SENSITIVITY - NO BEAVER RIDGE ACCESS)  
WEEKDAY PEAK PM HOUR  
(W/ APPROVED & POTENTIAL O.D.)

SHEET NUMBER:  
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# Tables

**Table No. 25**  
**Level of Service Summary Table**  
**Weekday Peak AM Hour - Sensivity Analysis with No Beaver Ridge Access**

	2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.					
	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay			
<b>1</b>	<b>NYS Route 118 &amp; Underhill Avenue</b>																	
	<b>Signalized</b>																	
	Underhill Avenue	EB	LT	0.66	C	22.8	0.75	C	27.5	0.83	C	33.7	0.82	C	32.9	0.91	D	43.5
			R	0.02	A	0.0	0.02	A	0.0	0.03	A	0.0	0.02	A	0.0	0.03	A	0.0
	Underhill Avenue	WB	LTR	0.32	B	15.5	0.38	B	16.9	0.41	B	18.1	0.40	B	18.1	0.45	B	19.8
	NYS Route 118	NB	LTR	0.54	C	24.0	0.57	C	24.4	0.59	C	25.2	0.57	C	24.1	0.59	C	24.9
	NYS Route 118	SB	LTR	0.88	D	35.7	0.89	D	37.0	0.90	D	37.6	0.90	D	38.0	0.90	D	38.0
	<b>Overall</b>			-	C	25.8	-	C	27.8	-	C	30.3	-	C	30.2	-	C	34.0
	<u>With Underhill Avenue Left Turn Lane &amp; NYS Route 118 SB Right Turn Lane</u>																	
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.42	B	12.0	-	-	-	0.45	B	12.7
			TR	-	-	-	-	-	-	0.45	B	16.2	-	-	-	0.45	B	17.5
	Underhill Avenue	WB	L	-	-	-	-	-	-	0.09	B	10.2	-	-	-	0.10	B	11.9
			TR	-	-	-	-	-	-	0.66	C	33.3	-	-	-	0.68	D	35.5
	NYS Route 118	NB	LTR	-	-	-	-	-	-	0.66	C	30.2	-	-	-	0.69	C	32.5
	NYS Route 118	SB	LT	-	-	-	-	-	-	0.55	C	26.8	-	-	-	0.56	C	27.7
			R	-	-	-	-	-	-	0.35	A	2.4	-	-	-	0.36	A	2.5
	<b>Overall</b>			-	-	-	-	-	-	-	B	18.6	-	-	-	-	B	19.7
	<u>With Left Turn Lanes All Approaches &amp; NYS Route 118 SB Right Turn Lane</u>																	
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.39	A	8.6	-	-	-	0.41	A	8.9
			TR	-	-	-	-	-	-	0.43	B	12.6	-	-	-	0.43	B	12.7
	Underhill Avenue	WB	L	-	-	-	-	-	-	0.08	A	7.2	-	-	-	0.10	A	9.1
			TR	-	-	-	-	-	-	0.65	C	28.1	-	-	-	0.66	C	29.6
	NYS Route 118	NB	L	-	-	-	-	-	-	0.26	C	22.9	-	-	-	0.27	C	23.9
			TR	-	-	-	-	-	-	0.52	C	24.6	-	-	-	0.56	C	26.6
	NYS Route 118	SB	L	-	-	-	-	-	-	0.18	C	21.7	-	-	-	0.18	C	22.5
			T	-	-	-	-	-	-	0.53	C	26.9	-	-	-	0.56	C	28.5
			R	-	-	-	-	-	-	0.36	A	2.1	-	-	-	0.37	A	2.3
	<b>Overall</b>			-	-	-	-	-	-	-	B	15.5	-	-	-	-	B	16.2

**Table No. 25**  
**Level of Service Summary Table**  
**Weekday Peak AM Hour - Sensitivity Analysis with No Beaver Ridge Access**

				2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.				
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay		
2	NYS Route 118 & Allan Avenue/Kear Street	Unsignalized																		
			Allan Avenue	EB	LTR	0.38	C	30.6	0.39	C	31.1	0.40	C	31.1	0.42	C	31.4	0.43	C	31.4
			Kear Street	WB	LTR	0.28	C	23.1	0.33	C	22.8	0.36	C	24.4	0.43	C	27.4	0.46	C	28.7
			NYS Route 118	NB	LTR	0.25	A	4.6	0.27	A	4.8	0.30	A	5.0	0.33	A	5.5	0.35	A	5.8
			NYS Route 118	SB	LTR	0.46	A	6.4	0.52	A	7.4	0.53	A	7.7	0.58	A	8.8	0.6	A	9.1
			<b>Overall</b>			-	<b>A</b>	<b>9.2</b>	-	<b>A</b>	<b>10.0</b>	-	<b>B</b>	<b>10.3</b>	-	<b>B</b>	<b>11.4</b>	-	<b>B</b>	<b>11.7</b>
3	Underhill Avenue & East Site Access	Signalized																		
			Underhill Avenue	EB	LT	-	-	-	-	-	-	0.03	A	9.2	-	-	-	0.03	A	9.2
			East Site Access	SB	LR	-	-	-	-	-	-	0.27	D	27.9	-	-	-	0.28	D	29.5
4	Underhill Avenue & Rochambeau Drive/West Site Access	Unsignalized																		
			Underhill Avenue	EB	LTR	-	-	-	-	-	-	0.01	A	8.8	-	-	-	0.01	A	8.9
			Underhill Avenue	WB	LTR	0.01	A	8.4	0.01	A	8.5	0.01	A	8.9	0.01	A	8.6	0.01	A	9.0
			Rochambeau Drive	NB	LTR	0.15	C	15.0	0.17	C	15.8	0.22	C	20.1	0.17	C	16.3	0.23	C	20.9
			Site Access	SB	LTR	-	-	-	-	-	-	0.11	D	25.8	-	-	-	0.12	D	27.2
5	Underhill Avenue & Glen Rock Street	Unsignalized																		
			Underhill Avenue	EB	LT	0.01	A	8.9	0.01	A	9.0	0.01	A	9.1	0.01	A	9.1	0.01	A	9.2
			Glen Rock Street	SB	LR	0.07	C	18.7	0.07	C	20.2	0.08	C	21.4	0.08	C	21.0	0.08	C	22.1

**NOTES:**

- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

**Table No. 25**  
**Level of Service Summary Table**  
**Weekday Peak AM Hour - Sensivity Analysis with No Beaver Ridge Access**

				2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.			
	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	
1	<b>NYS Route 118 &amp; Underhill Avenue</b>			<b>Signalized</b>															
	Underhill Avenue	EB	LT	0.78	C	23.6	0.88	C	32.7	0.98	D	51.9	0.96	D	46.9	1.07	E	78.8	
			R	0.03	A	0.0	0.03	A	0.0	0.04	A	0.0	0.03	A	0.0	0.04	A	0.0	
	Underhill Avenue	WB	LTR	0.33	B	10.8	0.41	B	12.5	0.47	B	15.3	0.45	B	14.6	0.53	B	17.8	
	NYS Route 118	NB	LTR	0.67	D	37.0	0.69	D	37.1	0.71	D	38.2	0.67	D	35.2	0.70	D	36.5	
	NYS Route 118	SB	LTR	0.84	D	40.2	0.85	D	40.6	0.87	D	41.7	0.87	D	41.6	0.89	D	43.3	
			<b>Overall</b>	-	<b>C</b>	<b>26.4</b>	-	<b>C</b>	<b>30.1</b>	-	<b>D</b>	<b>38.5</b>	-	<b>D</b>	<b>36.2</b>	-	<b>D</b>	<b>49.6</b>	
	<u>With Underhill Avenue Left Turn Lane &amp; NYS Route 118 SB Right Turn Lane</u>																		
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.63	B	13.5	-	-	-	0.66	B	15.2	
			TR	-	-	-	-	-	-	0.36	B	14.1	-	-	-	0.35	B	14.3	
Underhill Avenue	WB	L	-	-	-	-	-	-	0.14	B	11.8	-	-	-	0.15	B	12.5		
		TR	-	-	-	-	-	-	0.78	D	42.5	-	-	-	0.79	D	45.2		
NYS Route 118	NB	LTR	-	-	-	-	-	-	0.73	D	42.0	-	-	-	0.77	D	44.9		
NYS Route 118	SB	LT	-	-	-	-	-	-	0.45	C	32.2	-	-	-	0.48	C	33.6		
		R	-	-	-	-	-	-	0.27	A	1.8	-	-	-	0.29	A	2.1		
		<b>Overall</b>	-	-	-	-	-	-	-	<b>C</b>	<b>22.6</b>	-	-	-	-	<b>C</b>	<b>23.9</b>		
<u>With Left Turn Lanes All Approaches &amp; NYS Route 118 SB Right Turn Lane</u>																			
Underhill Avenue	EB	L	-	-	-	-	-	-	0.68	B	14.5	-	-	-	0.68	B	14.5		
		TR	-	-	-	-	-	-	0.35	B	12.5	-	-	-	0.35	B	12.5		
Underhill Avenue	WB	L	-	-	-	-	-	-	0.15	B	10.0	-	-	-	0.15	B	10.0		
		TR	-	-	-	-	-	-	0.74	C	34.8	-	-	-	0.74	C	34.8		
NYS Route 118	NB	L	-	-	-	-	-	-	0.20	C	25.7	-	-	-	0.20	C	25.7		
		TR	-	-	-	-	-	-	0.63	C	32.6	-	-	-	0.63	C	32.6		
NYS Route 118	SB	L	-	-	-	-	-	-	0.12	C	24.9	-	-	-	0.12	C	24.9		
		T	-	-	-	-	-	-	0.44	C	28.5	-	-	-	0.44	C	28.5		
		R	-	-	-	-	-	-	0.30	A	2.0	-	-	-	0.30	A	2.0		
		<b>Overall</b>	-	-	-	-	-	-	-	<b>B</b>	<b>19.2</b>	-	-	-	-	<b>B</b>	<b>19.2</b>		

**Table No. 25**  
**Level of Service Summary Table**  
**Weekday Peak AM Hour - Sensitivity Analysis with No Beaver Ridge Access**

				2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.				
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay		
2	NYS Route 118 & Allan Avenue/Kear Street	Unsignalized																		
			Allan Avenue	EB	LTR	0.19	C	23.3	0.19	C	23.4	0.19	C	22.1	0.19	C	23.9	0.20	C	23.0
			Kear Street	WB	LTR	0.59	C	33.6	0.63	C	34.0	0.65	D	35.2	0.69	D	36.9	0.69	D	36.9
			NYS Route 118	NB	LTR	0.51	A	8.4	0.55	A	9.4	0.58	B	10.4	0.60	B	11.5	0.64	B	12.6
			NYS Route 118	SB	LTR	0.34	A	6.6	0.39	A	7.6	0.42	A	8.1	0.41	A	8.7	0.44	A	9.3
			Overall			-	B	12.2	-	B	13.3	-	B	14.1	-	B	15.6	-	B	16.2
3	Underhill Avenue & East Site Access	Signalized																		
			Underhill Avenue	EB	LT	-	-	-	-	-	-	0.03	A	9.0	-	-	-	0.03	A	9.1
			East Site Access	SB	LR	-	-	-	-	-	-	0.40	E	37.5	-	-	-	0.43	E	41.3
4	Underhill Avenue & Rochambeau Drive/West Site Access	Unsignalized																		
			Underhill Avenue	EB	LTR	-	-	-	-	-	-	0.01	A	8.6	-	-	-	0.01	A	8.7
			Underhill Avenue	WB	LTR	0.06	A	9.6	0.06	A	9.8	0.06	A	9.5	0.07	A	9.9	0.06	A	9.7
			Rochambeau Drive	NB	LTR	0.10	C	15.4	0.11	C	16.2	0.14	C	19.1	0.12	C	16.8	0.14	C	20.1
			Site Access	SB	LTR	-	-	-	-	-	-	0.10	D	33.2	-	-	-	0.1	E	35.6
5	Underhill Avenue & Glen Rock Street	Unsignalized																		
			Underhill Avenue	EB	LT	0.01	A	8.4	0.01	A	8.6	0.01	A	8.7	0.01	A	8.6	0.01	A	8.7
			Glen Rock Street	SB	LR	0.07	C	19.2	0.08	C	21.0	0.09	C	22.6	0.09	C	22.1	0.09	C	23.9

**NOTES:**

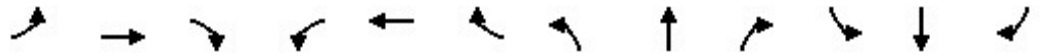
- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.



# Capacity Analysis

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
 04/03/2023

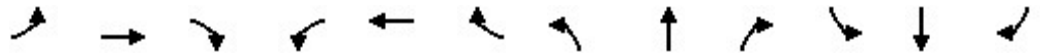


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔			↕			↕	
Traffic Volume (vph)	210	327	40	29	235	17	61	126	42	45	163	341
Future Volume (vph)	210	327	40	29	235	17	61	126	42	45	163	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.975			0.916	
Flt Protected		0.981			0.995			0.987			0.996	
Satd. Flow (prot)	0	2002	1577	0	1804	0	0	1569	0	0	1645	0
Flt Permitted		0.730			0.872			0.676			0.952	
Satd. Flow (perm)	0	1490	1577	0	1581	0	0	1075	0	0	1572	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		3			14			102	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	228	355	43	32	255	18	66	137	46	49	177	371
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	583	43	0	305	0	0	249	0	0	597	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	3.0	5.0		5.0	5.0		10.0	10.0		10.0		10.0
Minimum Split (s)	9.0	11.0		11.0	11.0		16.0	16.0		16.0		16.0
Total Split (s)	14.0	45.0		31.0	31.0		46.0	46.0		46.0		46.0
Total Split (%)	14.3%	45.9%		31.6%	31.6%		46.9%	46.9%		46.9%		46.9%
Maximum Green (s)	8.0	39.0		25.0	25.0		40.0	40.0		40.0		40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Lost Time Adjust (s)		0.0			0.0			0.0				0.0
Total Lost Time (s)		6.0			6.0			6.0				6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Recall Mode	None	None		None	None		Min	Min		None		None
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		39.4	83.4		39.4			31.9				31.9
Actuated g/C Ratio		0.47	1.00		0.47			0.38				0.38
v/c Ratio		0.83	0.03		0.41			0.59				0.90
Control Delay		33.7	0.0		18.1			25.2				37.6
Queue Delay		0.0	0.0		0.0			0.0				0.0
Total Delay		33.7	0.0		18.1			25.2				37.6
LOS		C	A		B			C				D
Approach Delay		31.4			18.1			25.2				37.6
Approach LOS		C			B			C				D
Queue Length 50th (ft)		265	0		103			95				243
Queue Length 95th (ft)		#521	0		192			170				#416
Internal Link Dist (ft)		310			219			381				978
Turn Bay Length (ft)			50									
Base Capacity (vph)		703	1577		747			527				813
Starvation Cap Reductn		0	0		0			0				0
Spillback Cap Reductn		0	0		0			0				0
Storage Cap Reductn		0	0		0			0				0
Reduced v/c Ratio		0.83	0.03		0.41			0.47				0.73

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	83.4
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	30.3
Intersection Capacity Utilization:	93.1%
Intersection LOS:	C
ICU Level of Service:	F

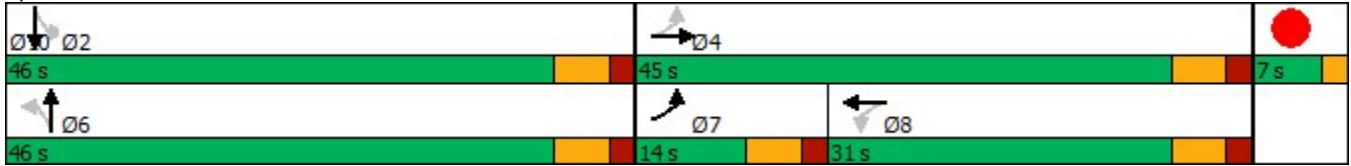
Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	7%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

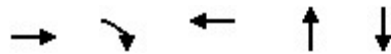
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	583	43	305	249	597
v/c Ratio	0.83	0.03	0.41	0.59	0.90
Control Delay	33.7	0.0	18.1	25.2	37.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	0.0	18.1	25.2	37.6
Queue Length 50th (ft)	265	0	103	95	243
Queue Length 95th (ft)	#521	0	192	170	#416
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	703	1577	747	527	813
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.83	0.03	0.41	0.47	0.73

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	18	61	20	37	15	43	12	302	43	87	494	10
Future Volume (vph)	18	61	20	37	15	43	12	302	43	87	494	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.973			0.939			0.984			0.998	
Flt Protected		0.991			0.981			0.998			0.993	
Satd. Flow (prot)	0	1745	0	0	1896	0	0	1751	0	0	1767	0
Flt Permitted		0.935			0.855			0.977			0.886	
Satd. Flow (perm)	0	1646	0	0	1653	0	0	1714	0	0	1576	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			32			7			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	65	21	39	16	46	13	321	46	93	526	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	105	0	0	101	0	0	380	0	0	630	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	



Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak AM Hour  
 04/03/2023

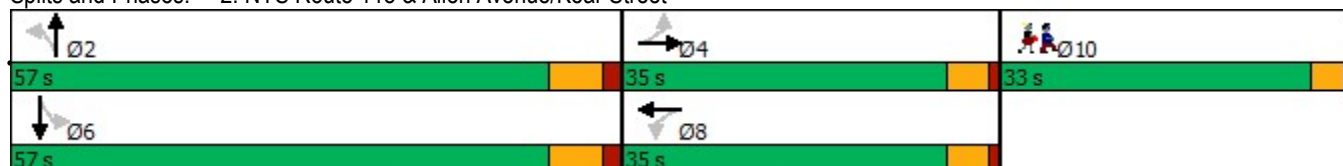


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		10.8			10.8			52.2			52.2	
Actuated g/C Ratio		0.15			0.15			0.75			0.75	
v/c Ratio		0.40			0.36			0.30			0.53	
Control Delay		31.1			24.4			5.0			7.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		31.1			24.4			5.0			7.7	
LOS		C			C			A			A	
Approach Delay		31.1			24.4			5.0			7.7	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		40			28			53			116	
Queue Length 95th (ft)		84			70			102			226	
Internal Link Dist (ft)		269			289			978			263	
<b>Turn Bay Length (ft)</b>												
Base Capacity (vph)		720			736			1285			1180	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.15			0.14			0.30			0.53	

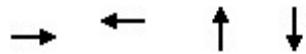
**Intersection Summary**

Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	69.7
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.53
Intersection Signal Delay:	10.3
Intersection Capacity Utilization	76.9%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	D

**Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street**



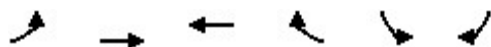
Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	105	101	380	630
v/c Ratio	0.40	0.36	0.30	0.53
Control Delay	31.1	24.4	5.0	7.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.1	24.4	5.0	7.7
Queue Length 50th (ft)	40	28	53	116
Queue Length 95th (ft)	84	70	102	226
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	720	736	1285	1180
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.15	0.14	0.30	0.53
<b>Intersection Summary</b>				

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 3: Underhill Avenue & Site Access

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	550	609	30	31	20
Future Volume (vph)	20	550	609	30	31	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.994		0.947	
Flt Protected		0.998			0.971	
Satd. Flow (prot)	0	1803	1772	0	1713	0
Flt Permitted		0.998			0.971	
Satd. Flow (perm)	0	1803	1772	0	1713	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	8%	4%	2%	2%	2%
Adj. Flow (vph)	22	611	677	33	34	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	633	710	0	56	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	55.1%
Analysis Period (min)	15
	ICU Level of Service B

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	20	550	609	30	31	20
Future Vol, veh/h	20	550	609	30	31	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	8	4	2	2	2
Mvmt Flow	22	611	677	33	34	22

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	710	0	-	0	1349 694
Stage 1	-	-	-	-	694 -
Stage 2	-	-	-	-	655 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	889	-	-	-	166 443
Stage 1	-	-	-	-	496 -
Stage 2	-	-	-	-	517 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	889	-	-	-	160 443
Mov Cap-2 Maneuver	-	-	-	-	160 -
Stage 1	-	-	-	-	478 -
Stage 2	-	-	-	-	517 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	27.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	889	-	-	-	213
HCM Lane V/C Ratio	0.025	-	-	-	0.266
HCM Control Delay (s)	9.2	0	-	-	27.9
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	532	6	12	613	4	39	0	24	13	0	8
Future Volume (vph)	2	532	6	12	613	4	39	0	24	13	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.999			0.949			0.951	
Flt Protected					0.999			0.970			0.969	
Satd. Flow (prot)	0	1808	0	0	1764	0	0	1828	0	0	1717	0
Flt Permitted					0.999			0.970			0.969	
Satd. Flow (perm)	0	1808	0	0	1764	0	0	1828	0	0	1717	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			425			323			173	
Travel Time (s)		5.0			9.7			7.3			3.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	8%	20%	17%	4%	2%	6%	2%	5%	2%	2%	2%
Adj. Flow (vph)	2	554	6	13	639	4	41	0	25	14	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	562	0	0	656	0	0	66	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.2%
ICU Level of Service	A
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak AM Hour  
 04/03/2023

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	532	6	12	613	4	39	0	24	13	0	8
Future Vol, veh/h	2	532	6	12	613	4	39	0	24	13	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	8	20	17	4	2	6	2	5	2	2	2
Mvmt Flow	2	554	6	13	639	4	41	0	25	14	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	643	0	0	560	0	0	1232	1230	557	1241	1231	641
Stage 1	-	-	-	-	-	-	561	561	-	667	667	-
Stage 2	-	-	-	-	-	-	671	669	-	574	564	-
Critical Hdwy	4.12	-	-	4.27	-	-	5.76	5.12	5.55	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	4.76	4.12	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.76	4.12	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.353	-	-	3.554	4.018	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	942	-	-	940	-	-	244	286	584	152	177	475
Stage 1	-	-	-	-	-	-	628	634	-	448	457	-
Stage 2	-	-	-	-	-	-	570	591	-	504	508	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	942	-	-	940	-	-	235	279	584	143	173	475
Mov Cap-2 Maneuver	-	-	-	-	-	-	235	279	-	143	173	-
Stage 1	-	-	-	-	-	-	626	632	-	447	447	-
Stage 2	-	-	-	-	-	-	548	578	-	481	506	-

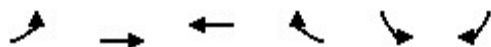
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.2			20.1			25.8		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	304	942	-	-	940	-	-	195
HCM Lane V/C Ratio	0.216	0.002	-	-	0.013	-	-	0.112
HCM Control Delay (s)	20.1	8.8	0	-	8.9	0	-	25.8
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.4



2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 5: Underhill Avenue & Glen Rock Street

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	532	653	7	9	8
Future Volume (vph)	2	532	653	7	9	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.936	
Flt Protected					0.974	
Satd. Flow (prot)	0	1804	1771	0	1501	0
Flt Permitted					0.974	
Satd. Flow (perm)	0	1804	1771	0	1501	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	8%	4%	2%	2%	14%
Adj. Flow (vph)	2	585	718	8	10	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	587	726	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	44.8%
ICU Level of Service	A
Analysis Period (min)	15

**Intersection**

Int Delay, s/veh 0.3

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	2	532	653	7	9	8
Future Vol, veh/h	2	532	653	7	9	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	8	4	2	2	14
Mvmt Flow	2	585	718	8	10	9

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	726	0	-	0	1311	722
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	589	-
Critical Hdwy	4.12	-	-	-	6.42	6.34
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.426
Pot Cap-1 Maneuver	877	-	-	-	175	407
Stage 1	-	-	-	-	481	-
Stage 2	-	-	-	-	554	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	877	-	-	-	174	407
Mov Cap-2 Maneuver	-	-	-	-	174	-
Stage 1	-	-	-	-	480	-
Stage 2	-	-	-	-	554	-

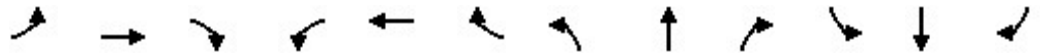
**Approach** EB WB SB

HCM Control Delay, s 0 0 21.4  
 HCM LOS C

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

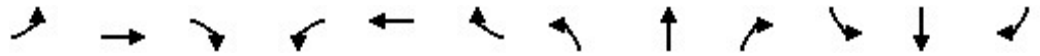
Capacity (veh/h)	877	-	-	-	238
HCM Lane V/C Ratio	0.003	-	-	-	0.078
HCM Control Delay (s)	9.1	0	-	-	21.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes & Roundabouts) (Sensit  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	327	40	29	235	17	61	126	42	45	163	341
Future Volume (vph)	210	327	40	29	235	17	61	126	42	45	163	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.990			0.975			0.850	
Flt Protected	0.950			0.950				0.987			0.989	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	0	1569	0	0	1657	1607
Flt Permitted	0.373			0.527				0.835			0.880	
Satd. Flow (perm)	658	1889	0	833	1826	0	0	1328	0	0	1474	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			3			10			325	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	228	355	43	32	255	18	66	137	46	49	177	371
Shared Lane Traffic (%)												
Lane Group Flow (vph)	228	398	0	32	273	0	0	249	0	0	226	371
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0

2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes & Right Turn Lane) (Sensit  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



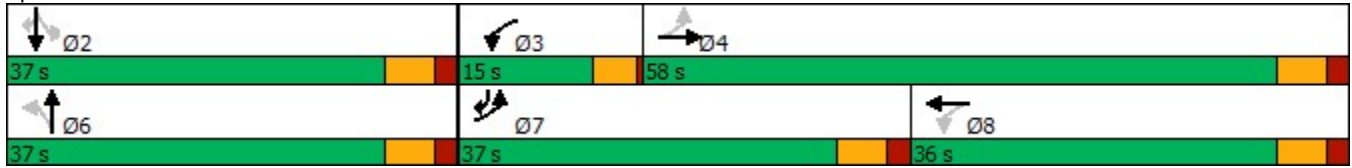
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		8.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		11.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		4.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	34.3	30.7		23.4	14.7			18.3			18.3	37.9
Actuated g/C Ratio	0.52	0.47		0.36	0.22			0.28			0.28	0.58
v/c Ratio	0.42	0.45		0.09	0.66			0.66			0.55	0.35
Control Delay	12.0	16.2		10.2	33.3			30.2			26.8	2.4
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	12.0	16.2		10.2	33.3			30.2			26.8	2.4
LOS	B	B		B	C			C			C	A
Approach Delay		14.7			30.9			30.2			11.6	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	43	80		5	94			80			73	7
Queue Length 95th (ft)	112	254		21	219			188			169	43
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	893	1534		483	895			676			745	1440
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.26	0.26		0.07	0.31			0.37			0.30	0.26

**Intersection Summary**

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	65.4
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	18.6
Intersection Capacity Utilization:	68.7%
Intersection LOS:	B
ICU Level of Service:	C

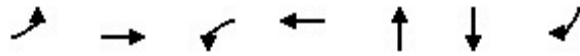
Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes Pearl Hill Ave) (Sensit  
 1: NYS Route 118 & Underhill Avenue

04/03/2023

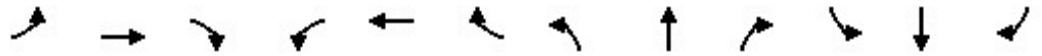


Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	228	398	32	273	249	226	371
v/c Ratio	0.42	0.45	0.09	0.66	0.66	0.55	0.35
Control Delay	12.0	16.2	10.2	33.3	30.2	26.8	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	16.2	10.2	33.3	30.2	26.8	2.4
Queue Length 50th (ft)	43	80	5	94	80	73	7
Queue Length 95th (ft)	112	254	21	219	188	169	43
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	893	1534	483	895	676	745	1440
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.26	0.07	0.31	0.37	0.30	0.26

Intersection Summary



2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes Back Approaches) (Seneca Valley) (Seneca Valley)  
 1: NYS Route 118 & Underhill Avenue 04/03/2023

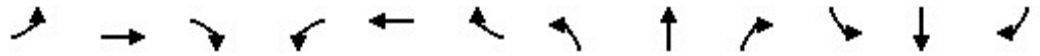


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	327	40	29	235	17	61	126	42	45	163	341
Future Volume (vph)	210	327	40	29	235	17	61	126	42	45	163	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%				-1%
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.984			0.990			0.962				0.850
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	1669	1513	0	1617	1554	1607
Flt Permitted	0.384			0.527			0.637			0.642	0.988	
Satd. Flow (perm)	678	1889	0	833	1826	0	1119	1513	0	1093	1537	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			3			17				363
Link Speed (mph)		30			30			40				40
Link Distance (ft)		390			299			461				1058
Travel Time (s)		8.9			6.8			7.9				18.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	228	355	43	32	255	18	66	137	46	49	177	371
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	228	398	0	32	273	0	66	183	0	44	182	371
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11				11
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0



2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes Per All Approaches) (Seneca All Approaches)  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		8.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		7.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	30.3	26.8		20.9	12.6		12.4	12.4		12.4	12.4	30.2
Actuated g/C Ratio	0.55	0.49		0.38	0.23		0.23	0.23		0.23	0.23	0.55
v/c Ratio	0.39	0.43		0.08	0.65		0.26	0.52		0.18	0.53	0.36
Control Delay	8.6	12.6		7.2	28.1		22.9	24.6		21.7	26.9	2.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.6	12.6		7.2	28.1		22.9	24.6		21.7	26.9	2.1
LOS	A	B		A	C		C	C		C	C	A
Approach Delay		11.2			25.9			24.2			11.1	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	31	58		3	76		17	46		11	53	1
Queue Length 95th (ft)	77	194		14	176		56	121		43	134	34
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	728	1630		418	1129		838	1137		819	1151	1224
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.31	0.24		0.08	0.24		0.08	0.16		0.05	0.16	0.30

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	55.1
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	15.5
Intersection Capacity Utilization:	62.8%
Intersection LOS:	B
ICU Level of Service:	B

Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes Peak Approaches) (Seneca  
 1: NYS Route 118 & Underhill Avenue

04/03/2023

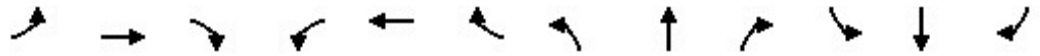


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	228	398	32	273	66	183	44	182	371
v/c Ratio	0.39	0.43	0.08	0.65	0.26	0.52	0.18	0.53	0.36
Control Delay	8.6	12.6	7.2	28.1	22.9	24.6	21.7	26.9	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	12.6	7.2	28.1	22.9	24.6	21.7	26.9	2.1
Queue Length 50th (ft)	31	58	3	76	17	46	11	53	1
Queue Length 95th (ft)	77	194	14	176	56	121	43	134	34
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	728	1630	418	1129	838	1137	819	1151	1224
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.24	0.08	0.24	0.08	0.16	0.05	0.16	0.30

Intersection Summary



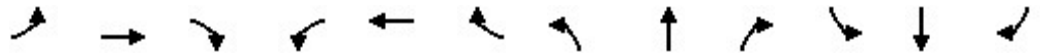
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	231	327	40	29	235	17	61	139	42	45	172	356
Future Volume (vph)	231	327	40	29	235	17	61	139	42	45	172	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.976			0.916	
Flt Protected		0.980			0.995			0.988			0.996	
Satd. Flow (prot)	0	1999	1577	0	1804	0	0	1569	0	0	1644	0
Flt Permitted		0.713			0.809			0.689			0.953	
Satd. Flow (perm)	0	1455	1577	0	1467	0	0	1094	0	0	1573	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		3			13			102	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	251	355	43	32	255	18	66	151	46	49	187	387
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	606	43	0	305	0	0	263	0	0	623	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	3.0	5.0		5.0	5.0		10.0	10.0		10.0		10.0
Minimum Split (s)	9.0	11.0		11.0	11.0		16.0	16.0		16.0		16.0
Total Split (s)	14.0	45.0		31.0	31.0		46.0	46.0		46.0		46.0
Total Split (%)	14.3%	45.9%		31.6%	31.6%		46.9%	46.9%		46.9%		46.9%
Maximum Green (s)	8.0	39.0		25.0	25.0		40.0	40.0		40.0		40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Lost Time Adjust (s)		0.0			0.0			0.0				0.0
Total Lost Time (s)		6.0			6.0			6.0				6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Recall Mode	None	None		None	None		Min	Min		None		None
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		39.2	85.5		39.2			34.2				34.2
Actuated g/C Ratio		0.46	1.00		0.46			0.40				0.40
v/c Ratio		0.91	0.03		0.45			0.59				0.90
Control Delay		43.5	0.0		19.8			24.9				38.0
Queue Delay		0.0	0.0		0.0			0.0				0.0
Total Delay		43.5	0.0		19.8			24.9				38.0
LOS		D	A		B			C				D
Approach Delay		40.6			19.8			24.9				38.0
Approach LOS		D			B			C				D
Queue Length 50th (ft)		317	0		116			102				263
Queue Length 95th (ft)		#560	0		198			181				#471
Internal Link Dist (ft)		310			219			381				978
Turn Bay Length (ft)			50									
Base Capacity (vph)		667	1577		674			521				794
Starvation Cap Reductn		0	0		0			0				0
Spillback Cap Reductn		0	0		0			0				0
Storage Cap Reductn		0	0		0			0				0
Reduced v/c Ratio		0.91	0.03		0.45			0.50				0.78

**Intersection Summary**

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	85.5
Natural Cycle:	110
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	34.0
Intersection Capacity Utilization:	95.9%
Intersection LOS:	C
ICU Level of Service:	F

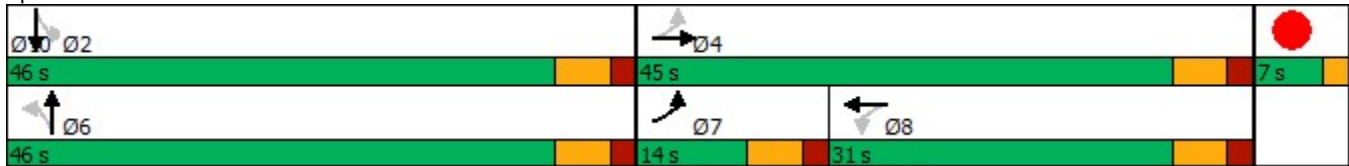
Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	7%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	



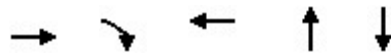
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 1: NYS Route 118 & Underhill Avenue 04/03/2023

Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 1: NYS Route 118 & Underhill Avenue 04/03/2023

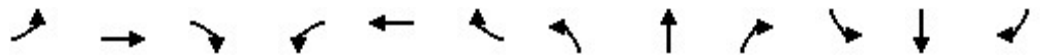


Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	606	43	305	263	623
v/c Ratio	0.91	0.03	0.45	0.59	0.90
Control Delay	43.5	0.0	19.8	24.9	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	0.0	19.8	24.9	38.0
Queue Length 50th (ft)	317	0	116	102	263
Queue Length 95th (ft)	#560	0	198	181	#471
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	667	1577	674	521	794
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.91	0.03	0.45	0.50	0.78

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

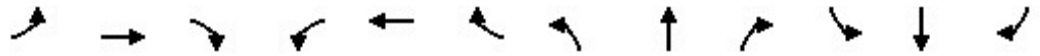
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 2: NYS Route 118 & Allen Avenue/Kear Street 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	18	64	20	49	19	43	12	327	53	87	506	10
Future Volume (vph)	18	64	20	49	19	43	12	327	53	87	506	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.974			0.947			0.982			0.998	
Fl <sub>t</sub> Protected		0.991			0.978			0.998			0.993	
Satd. Flow (prot)	0	1747	0	0	1906	0	0	1747	0	0	1767	0
Fl <sub>t</sub> Permitted		0.942			0.829			0.978			0.880	
Satd. Flow (perm)	0	1660	0	0	1616	0	0	1712	0	0	1566	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			24			7			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	68	21	52	20	46	13	348	56	93	538	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	0	0	118	0	0	417	0	0	642	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 2: NYS Route 118 & Allen Avenue/Kear Street 04/03/2023

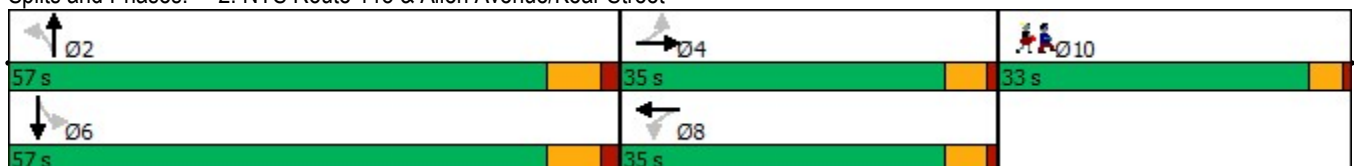


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		10.8			10.8			50.0			50.0	
Actuated g/C Ratio		0.15			0.15			0.69			0.69	
v/c Ratio		0.43			0.46			0.35			0.60	
Control Delay		31.4			28.7			5.8			9.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		31.4			28.7			5.8			9.1	
LOS		C			C			A			A	
Approach Delay		31.4			28.7			5.8			9.1	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		41			39			60			121	
Queue Length 95th (ft)		86			86			116			238	
Internal Link Dist (ft)		269			289			978			263	
<b>Turn Bay Length (ft)</b>												
Base Capacity (vph)		689			680			1178			1075	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.16			0.17			0.35			0.60	

**Intersection Summary**

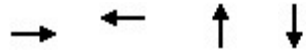
Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	72.8
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	11.7
Intersection LOS:	B
Intersection Capacity Utilization:	82.0%
ICU Level of Service:	D
Analysis Period (min):	15

**Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street**



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

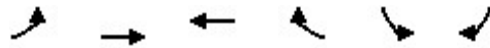
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 2: NYS Route 118 & Allen Avenue/Kear Street 04/03/2023



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	108	118	417	642
v/c Ratio	0.43	0.46	0.35	0.60
Control Delay	31.4	28.7	5.8	9.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.4	28.7	5.8	9.1
Queue Length 50th (ft)	41	39	60	121
Queue Length 95th (ft)	86	86	116	238
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	689	680	1178	1075
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.16	0.17	0.35	0.60
<b>Intersection Summary</b>				

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 3: Underhill Avenue & Site Access

04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	↙
Traffic Volume (vph)	20	571	624	30	31	20
Future Volume (vph)	20	571	624	30	31	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.994		0.947	
Flt Protected		0.998			0.971	
Satd. Flow (prot)	0	1803	1772	0	1713	0
Flt Permitted		0.998			0.971	
Satd. Flow (perm)	0	1803	1772	0	1713	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	8%	4%	2%	2%	2%
Adj. Flow (vph)	22	634	693	33	34	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	656	726	0	56	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	56.2%
Analysis Period (min)	15
	ICU Level of Service B



2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 3: Underhill Avenue & Site Access

04/03/2023

**Intersection**

Int Delay, s/veh 1.3

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	20	571	624	30	31	20
Future Vol, veh/h	20	571	624	30	31	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	8	4	2	2	2
Mvmt Flow	22	634	693	33	34	22

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	726	0	-	0	1388	710
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	678	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	877	-	-	-	157	434
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	504	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	877	-	-	-	151	434
Mov Cap-2 Maneuver	-	-	-	-	151	-
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	504	-

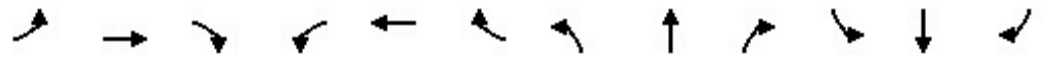
**Approach** EB WB SB

HCM Control Delay, s	0.3	0	29.5
HCM LOS			D

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	877	-	-	-	203
HCM Lane V/C Ratio	0.025	-	-	-	0.279
HCM Control Delay (s)	9.2	0	-	-	29.5
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 4: Rochambeau Drive/Site Access & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	554	6	12	628	4	39	0	24	13	0	8
Future Volume (vph)	2	554	6	12	628	4	39	0	24	13	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.999			0.949			0.951	
Flt Protected					0.999			0.970			0.969	
Satd. Flow (prot)	0	1809	0	0	1765	0	0	1828	0	0	1717	0
Flt Permitted					0.999			0.970			0.969	
Satd. Flow (perm)	0	1809	0	0	1765	0	0	1828	0	0	1717	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			425			323			173	
Travel Time (s)		5.0			9.7			7.3			3.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	8%	20%	17%	4%	2%	6%	2%	5%	2%	2%	2%
Adj. Flow (vph)	2	577	6	13	654	4	41	0	25	14	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	585	0	0	671	0	0	66	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.0%
ICU Level of Service	A
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 4: Rochambeau Drive/Site Access & Underhill Avenue 04/03/2023

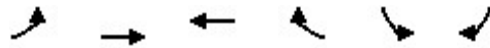
Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	554	6	12	628	4	39	0	24	13	0	8
Future Vol, veh/h	2	554	6	12	628	4	39	0	24	13	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	8	20	17	4	2	6	2	5	2	2	2
Mvmt Flow	2	577	6	13	654	4	41	0	25	14	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	658	0	0	583	0	0	1270	1268	580	1279	1269	656
Stage 1	-	-	-	-	-	-	584	584	-	682	682	-
Stage 2	-	-	-	-	-	-	686	684	-	597	587	-
Critical Hdwy	4.12	-	-	4.27	-	-	5.76	5.12	5.55	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	4.76	4.12	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.76	4.12	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.353	-	-	3.554	4.018	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	930	-	-	921	-	-	233	276	569	143	168	465
Stage 1	-	-	-	-	-	-	616	625	-	440	450	-
Stage 2	-	-	-	-	-	-	563	586	-	490	497	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	930	-	-	921	-	-	224	269	569	134	164	465
Mov Cap-2 Maneuver	-	-	-	-	-	-	224	269	-	134	164	-
Stage 1	-	-	-	-	-	-	614	623	-	439	440	-
Stage 2	-	-	-	-	-	-	541	573	-	467	496	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.2			20.9			27.2		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	291	930	-	-	921	-	-	184
HCM Lane V/C Ratio	0.226	0.002	-	-	0.014	-	-	0.119
HCM Control Delay (s)	20.9	8.9	0	-	9	0	-	27.2
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.4

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 5: Underhill Avenue & Glen Rock Street 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	553	669	7	9	8
Future Volume (vph)	2	553	669	7	9	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.936	
Flt Protected					0.974	
Satd. Flow (prot)	0	1804	1771	0	1501	0
Flt Permitted					0.974	
Satd. Flow (perm)	0	1804	1771	0	1501	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	8%	4%	2%	2%	14%
Adj. Flow (vph)	2	608	735	8	10	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	610	743	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.6%
ICU Level of Service	A
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 5: Underhill Avenue & Glen Rock Street 04/03/2023

**Intersection**

Int Delay, s/veh 0.3

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	2	553	669	7	9	8
Future Vol, veh/h	2	553	669	7	9	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	8	4	2	2	14
Mvmt Flow	2	608	735	8	10	9

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	743	0	-	0	1351	739
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	612	-
Critical Hdwy	4.12	-	-	-	6.42	6.34
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.426
Pot Cap-1 Maneuver	864	-	-	-	166	398
Stage 1	-	-	-	-	472	-
Stage 2	-	-	-	-	541	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	864	-	-	-	166	398
Mov Cap-2 Maneuver	-	-	-	-	166	-
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	541	-

**Approach** EB WB SB

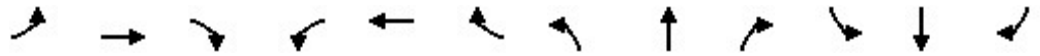
HCM Control Delay, s	0	0	22.1
HCM LOS			C

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	864	-	-	-	229
HCM Lane V/C Ratio	0.003	-	-	-	0.082
HCM Control Delay (s)	9.2	0	-	-	22.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Right Lane) - Underhill Avenue  
 1: NYS Route 118 & Underhill Avenue

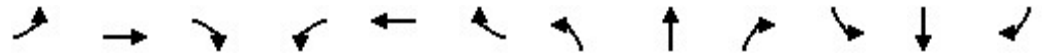
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	327	40	29	235	17	61	139	42	45	172	356
Future Volume (vph)	231	327	40	29	235	17	61	139	42	45	172	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.990			0.976			0.850	
Flt Protected	0.950			0.950				0.988			0.990	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	0	1569	0	0	1657	1607
Flt Permitted	0.374			0.527				0.819			0.877	
Satd. Flow (perm)	660	1889	0	833	1826	0	0	1300	0	0	1468	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			3			10			325	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	251	355	43	32	255	18	66	151	46	49	187	387
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	398	0	32	273	0	0	263	0	0	236	387
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0

2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Right Lanes) - Underhill Avenue  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



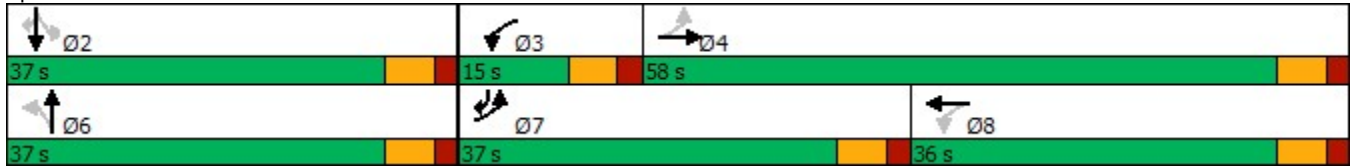
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		9.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	36.2	31.9		21.8	15.2			20.0			20.0	41.0
Actuated g/C Ratio	0.53	0.46		0.32	0.22			0.29			0.29	0.60
v/c Ratio	0.45	0.45		0.10	0.68			0.69			0.56	0.36
Control Delay	12.7	17.5		11.9	35.5			32.5			27.7	2.5
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	12.7	17.5		11.9	35.5			32.5			27.7	2.5
LOS	B	B		B	D			C			C	A
Approach Delay		15.6			33.0			32.5			12.1	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	53	89		6	106			94			84	10
Queue Length 95th (ft)	123	263		22	225			211			184	48
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	860	1466		392	848			627			703	1417
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.29	0.27		0.08	0.32			0.42			0.34	0.27

Intersection Summary

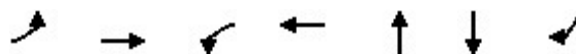
Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	68.9
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	19.7
Intersection Capacity Utilization	71.0%
Intersection LOS:	B
ICU Level of Service	C

Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue







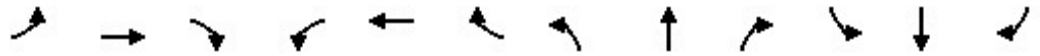
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	251	398	32	273	263	236	387
v/c Ratio	0.45	0.45	0.10	0.68	0.69	0.56	0.36
Control Delay	12.7	17.5	11.9	35.5	32.5	27.7	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.7	17.5	11.9	35.5	32.5	27.7	2.5
Queue Length 50th (ft)	53	89	6	106	94	84	10
Queue Length 95th (ft)	123	263	22	225	211	184	48
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	860	1466	392	848	627	703	1417
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.27	0.08	0.32	0.42	0.34	0.27

Intersection Summary



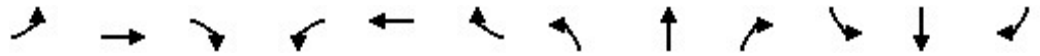
2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turning Lanes) All Approaches  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	327	40	29	235	17	61	139	42	45	172	356
Future Volume (vph)	231	327	40	29	235	17	61	139	42	45	172	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.984			0.990			0.965			0.850	
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	1669	1517	0	1617	1554	1607
Flt Permitted	0.391			0.527			0.628			0.634	0.989	
Satd. Flow (perm)	690	1889	0	833	1826	0	1103	1517	0	1079	1538	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			3			16			363	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	251	355	43	32	255	18	66	151	46	49	187	387
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	251	398	0	32	273	0	66	197	0	44	192	387
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turn Right Lane) All Approaches  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		5.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	32.0	28.3		18.1	12.9		12.9	12.9		12.9	12.9	32.0
Actuated g/C Ratio	0.56	0.49		0.32	0.23		0.23	0.23		0.23	0.23	0.56
v/c Ratio	0.41	0.43		0.10	0.66		0.27	0.56		0.18	0.56	0.37
Control Delay	8.9	12.7		9.1	29.6		23.9	26.6		22.5	28.5	2.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.9	12.7		9.1	29.6		23.9	26.6		22.5	28.5	2.3
LOS	A	B		A	C		C	C		C	C	A
Approach Delay		11.2			27.5			25.9			11.8	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	36	60		4	82		19	55		12	61	3
Queue Length 95th (ft)	88	198		16	185		58	137		44	147	38
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	724	1583		323	1094		800	1104		782	1115	1206
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.35	0.25		0.10	0.25		0.08	0.18		0.06	0.17	0.32

**Intersection Summary**

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	57.3
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	16.2
Intersection Capacity Utilization:	65.1%
Intersection LOS:	B
ICU Level of Service:	C

Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turn Right Lane) All Approaches  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



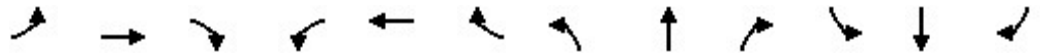
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	251	398	32	273	66	197	44	192	387
v/c Ratio	0.41	0.43	0.10	0.66	0.27	0.56	0.18	0.56	0.37
Control Delay	8.9	12.7	9.1	29.6	23.9	26.6	22.5	28.5	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	12.7	9.1	29.6	23.9	26.6	22.5	28.5	2.3
Queue Length 50th (ft)	36	60	4	82	19	55	12	61	3
Queue Length 95th (ft)	88	198	16	185	58	137	44	147	38
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	724	1583	323	1094	800	1104	782	1115	1206
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.25	0.10	0.25	0.08	0.18	0.06	0.17	0.32

Intersection Summary



2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/03/2023



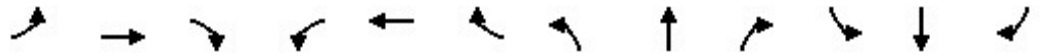
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	411	277	58	48	275	41	46	174	35	23	139	275
Future Volume (vph)	411	277	58	48	275	41	46	174	35	23	139	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	11	12	12	11	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.985			0.981			0.915	
Flt Protected		0.971			0.994			0.991			0.997	
Satd. Flow (prot)	0	1989	1655	0	1777	0	0	1670	0	0	1613	0
Flt Permitted		0.615			0.774			0.742			0.972	
Satd. Flow (perm)	0	1260	1655	0	1384	0	0	1250	0	0	1572	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		5			8			87	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	424	286	60	49	284	42	47	179	36	24	143	284
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	710	60	0	375	0	0	262	0	0	451	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.07	1.02	0.99	1.04	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		10.0		10.0
Minimum Split (s)	11.0	11.0		11.0	11.0		16.0	16.0		16.0		16.0
Total Split (s)	26.0	57.0		31.0	31.0		46.0	46.0		46.0		46.0
Total Split (%)	23.6%	51.8%		28.2%	28.2%		41.8%	41.8%		41.8%		41.8%
Maximum Green (s)	20.0	51.0		25.0	25.0		40.0	40.0		40.0		40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Lost Time Adjust (s)		0.0			0.0			0.0				0.0
Total Lost Time (s)		6.0			6.0			6.0				6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Recall Mode	None	None		None	None		Min	Min		None		None
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		51.5	89.6		51.5			26.0				26.0
Actuated g/C Ratio		0.57	1.00		0.57			0.29				0.29
v/c Ratio		0.98	0.04		0.47			0.71				0.87
Control Delay		51.9	0.0		15.3			38.2				41.7
Queue Delay		0.0	0.0		0.0			0.0				0.0
Total Delay		51.9	0.0		15.3			38.2				41.7
LOS		D	A		B			D				D
Approach Delay		47.9			15.3			38.2				41.7
Approach LOS		D			B			D				D
Queue Length 50th (ft)		359	0		112			127				197
Queue Length 95th (ft)		#768	0		252			210				315
Internal Link Dist (ft)		310			219			381				978
Turn Bay Length (ft)			50									
Base Capacity (vph)		723	1655		797			567				755
Starvation Cap Reductn		0	0		0			0				0
Spillback Cap Reductn		0	0		0			0				0
Storage Cap Reductn		0	0		0			0				0
Reduced v/c Ratio		0.98	0.04		0.47			0.46				0.60

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	89.6
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.98
Intersection Signal Delay:	38.5
Intersection Capacity Utilization:	100.5%
Intersection LOS:	D
ICU Level of Service:	G

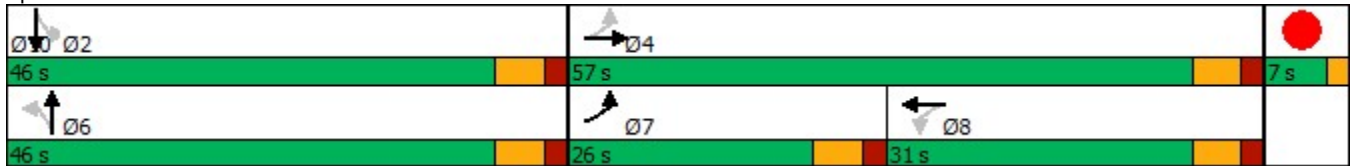
Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	6%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

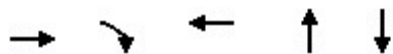
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	710	60	375	262	451
v/c Ratio	0.98	0.04	0.47	0.71	0.87
Control Delay	51.9	0.0	15.3	38.2	41.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	0.0	15.3	38.2	41.7
Queue Length 50th (ft)	359	0	112	127	197
Queue Length 95th (ft)	#768	0	252	210	315
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	723	1655	797	567	755
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.98	0.04	0.47	0.46	0.60

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	9	33	16	70	53	80	18	548	64	41	356	17
Future Volume (vph)	9	33	16	70	53	80	18	548	64	41	356	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.947			0.986			0.994	
Flt Protected		0.993			0.983			0.999			0.995	
Satd. Flow (prot)	0	1729	0	0	1916	0	0	1756	0	0	1763	0
Flt Permitted		0.954			0.861			0.983			0.900	
Satd. Flow (perm)	0	1661	0	0	1678	0	0	1728	0	0	1595	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			24			5			2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	35	17	74	56	84	19	577	67	43	375	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	0	0	214	0	0	663	0	0	436	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
 04/03/2023

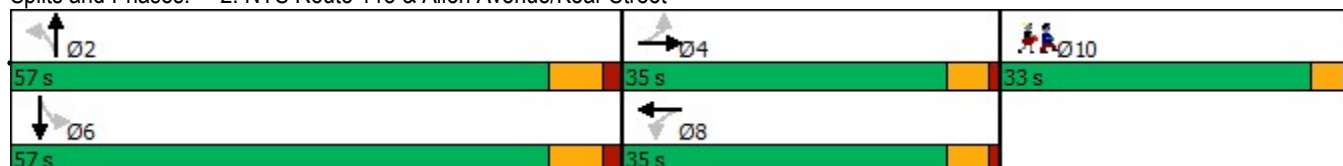


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		14.0			14.0			50.1			50.1	
Actuated g/C Ratio		0.18			0.18			0.66			0.66	
v/c Ratio		0.19			0.65			0.58			0.42	
Control Delay		22.1			35.2			10.4			8.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.1			35.2			10.4			8.1	
LOS		C			D			B			A	
Approach Delay		22.1			35.2			10.4			8.1	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)		18			84			147			82	
Queue Length 95th (ft)		49			151			291			167	
Internal Link Dist (ft)		269			289			978			263	
<b>Turn Bay Length (ft)</b>												
Base Capacity (vph)		664			676			1138			1049	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.09			0.32			0.58			0.42	

**Intersection Summary**

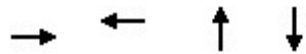
Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	76.1
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	14.1
Intersection Capacity Utilization	67.4%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	C

**Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street**





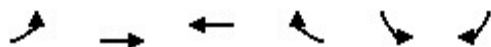
Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	61	214	663	436
v/c Ratio	0.19	0.65	0.58	0.42
Control Delay	22.1	35.2	10.4	8.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.1	35.2	10.4	8.1
Queue Length 50th (ft)	18	84	147	82
Queue Length 95th (ft)	49	151	291	167
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	664	676	1138	1049
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.32	0.58	0.42
<b>Intersection Summary</b>				

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 3: Underhill Avenue & Site Access

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	↙
Traffic Volume (vph)	26	711	562	38	39	26
Future Volume (vph)	26	711	562	38	39	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.991		0.946	
Flt Protected		0.998			0.971	
Satd. Flow (prot)	0	1905	1800	0	1711	0
Flt Permitted		0.998			0.971	
Satd. Flow (perm)	0	1905	1800	0	1711	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	790	624	42	43	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	819	666	0	72	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	68.9%
ICU Level of Service	C
Analysis Period (min)	15

**Intersection**

Int Delay, s/veh 1.9

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	26	711	562	38	39	26
Future Vol, veh/h	26	711	562	38	39	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	790	624	42	43	29

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	666	0	-	0	1493	645
Stage 1	-	-	-	-	645	-
Stage 2	-	-	-	-	848	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	923	-	-	-	136	472
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	420	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	923	-	-	-	128	472
Mov Cap-2 Maneuver	-	-	-	-	128	-
Stage 1	-	-	-	-	493	-
Stage 2	-	-	-	-	420	-

**Approach** EB WB SB

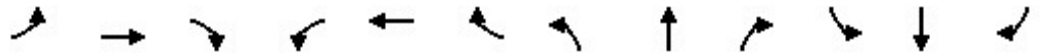
HCM Control Delay, s	0.3	0	37.5
HCM LOS			E

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	923	-	-	-	181
HCM Lane V/C Ratio	0.031	-	-	-	0.399
HCM Control Delay (s)	9	0	-	-	37.5
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	1.8

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	8	704	36	49	527	12	14	0	24	8	0	5
Future Volume (vph)	8	704	36	49	527	12	14	0	24	8	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.997			0.916			0.948	
Flt Protected		0.999			0.996			0.982			0.970	
Satd. Flow (prot)	0	1921	0	0	1794	0	0	1816	0	0	1713	0
Flt Permitted		0.999			0.996			0.982			0.970	
Satd. Flow (perm)	0	1921	0	0	1794	0	0	1816	0	0	1713	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			425			323			150	
Travel Time (s)		5.0			9.7			7.3			3.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	1%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
Adj. Flow (vph)	8	733	38	51	549	13	15	0	25	8	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	0	0	613	0	0	40	0	0	13	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	69.9%
ICU Level of Service	C
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	704	36	49	527	12	14	0	24	8	0	5
Future Vol, veh/h	8	704	36	49	527	12	14	0	24	8	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	1	2	2	2	2	2	2	5	2	2	2
Mvmt Flow	8	733	38	51	549	13	15	0	25	8	0	5

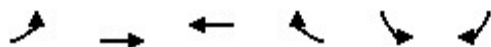
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	562	0	0	771	0	0	1428	1432	752	1439	1445	556
Stage 1	-	-	-	-	-	-	768	768	-	658	658	-
Stage 2	-	-	-	-	-	-	660	664	-	781	787	-
Critical Hdwy	4.12	-	-	4.12	-	-	5.72	5.12	5.55	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	1009	-	-	844	-	-	196	234	469	111	132	531
Stage 1	-	-	-	-	-	-	532	554	-	453	461	-
Stage 2	-	-	-	-	-	-	584	593	-	388	403	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1009	-	-	844	-	-	179	210	469	97	119	531
Mov Cap-2 Maneuver	-	-	-	-	-	-	179	210	-	97	119	-
Stage 1	-	-	-	-	-	-	525	546	-	447	420	-
Stage 2	-	-	-	-	-	-	527	541	-	362	397	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.8			19.1			33.2		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	294	1009	-	-	844	-	-	141
HCM Lane V/C Ratio	0.135	0.008	-	-	0.06	-	-	0.096
HCM Control Delay (s)	19.1	8.6	0	-	9.5	0	-	33.2
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.5	0	-	-	0.2	-	-	0.3

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 5: Underhill Avenue & Glen Rock Street

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	738	534	12	10	8
Future Volume (vph)	2	738	534	12	10	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997		0.939	
Flt Protected					0.973	
Satd. Flow (prot)	0	1909	1801	0	1588	0
Flt Permitted					0.973	
Satd. Flow (perm)	0	1909	1801	0	1588	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	802	580	13	11	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	804	593	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.4%
Analysis Period (min)	15
	ICU Level of Service A

**Intersection**

Int Delay, s/veh 0.3

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	2	738	534	12	10	8
Future Vol, veh/h	2	738	534	12	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	802	580	13	11	9

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	593	0	-	0	1393	587
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	806	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	983	-	-	-	156	510
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	439	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	983	-	-	-	155	510
Mov Cap-2 Maneuver	-	-	-	-	155	-
Stage 1	-	-	-	-	554	-
Stage 2	-	-	-	-	439	-

**Approach** EB WB SB

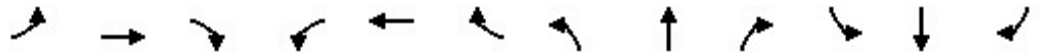
HCM Control Delay, s	0	0	22.6
HCM LOS			C

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	983	-	-	-	224
HCM Lane V/C Ratio	0.002	-	-	-	0.087
HCM Control Delay (s)	8.7	0	-	-	22.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

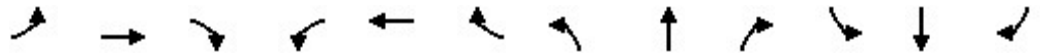


2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes & Right Turn Lane) (Sensit  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	411	277	58	48	275	41	46	174	35	23	139	275
Future Volume (vph)	411	277	58	48	275	41	46	174	35	23	139	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.981			0.981			0.850	
Flt Protected	0.950			0.950				0.991			0.993	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	0	1727	0	0	1833	1546
Flt Permitted	0.296			0.553				0.904			0.910	
Satd. Flow (perm)	533	1866	0	882	1797	0	0	1576	0	0	1680	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			7			7				281
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	424	286	60	49	284	42	47	179	36	24	143	284
Shared Lane Traffic (%)												
Lane Group Flow (vph)	424	346	0	49	326	0	0	262	0	0	167	284
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0

2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes on Pearl Hill Ave) (Sensit  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



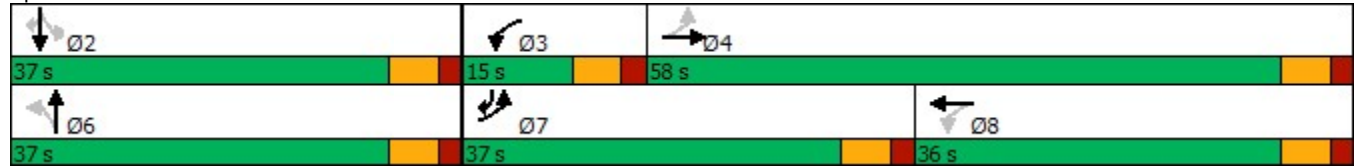
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		9.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	46.5	39.5		24.5	17.6			17.1			17.1	46.0
Actuated g/C Ratio	0.61	0.52		0.32	0.23			0.22			0.22	0.60
v/c Ratio	0.63	0.36		0.14	0.78			0.73			0.45	0.27
Control Delay	13.5	14.1		11.8	42.5			42.0			32.2	1.8
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	13.5	14.1		11.8	42.5			42.0			32.2	1.8
LOS	B	B		B	D			D			C	A
Approach Delay		13.8			38.5			42.0			13.1	
Approach LOS		B			D			D			B	
Queue Length 50th (ft)	86	97		8	134			107			65	1
Queue Length 95th (ft)	212	211		27	294			244			157	32
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	840	1356		394	760			688			730	1219
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.50	0.26		0.12	0.43			0.38			0.23	0.23

**Intersection Summary**

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	76.4
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	22.6
Intersection Capacity Utilization	82.1%
Intersection LOS:	C
ICU Level of Service	E

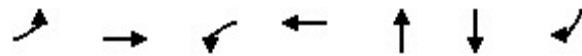
Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes ~~on Pearl Hill Ave~~) (Sensit  
 1: NYS Route 118 & Underhill Avenue

04/03/2023

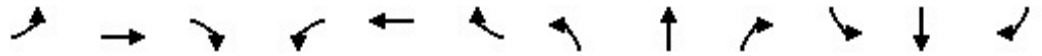


Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	424	346	49	326	262	167	284
v/c Ratio	0.63	0.36	0.14	0.78	0.73	0.45	0.27
Control Delay	13.5	14.1	11.8	42.5	42.0	32.2	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	14.1	11.8	42.5	42.0	32.2	1.8
Queue Length 50th (ft)	86	97	8	134	107	65	1
Queue Length 95th (ft)	212	211	27	294	244	157	32
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	840	1356	394	760	688	730	1219
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.26	0.12	0.43	0.38	0.23	0.23

Intersection Summary



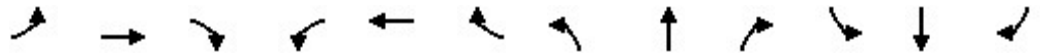
2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turning Lane) All Approaches  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Future Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.974			0.981			0.977				0.850
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	1669	1729	0	1666	1743	1546
Flt Permitted	0.311			0.553			0.652			0.516	0.995	
Satd. Flow (perm)	560	1866	0	882	1797	0	1145	1729	0	905	1736	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			7			9				305
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	453	286	60	49	284	42	47	195	36	24	156	305
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	453	346	0	49	326	0	47	231	0	22	158	305
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turn Right Lane) All Approvals  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		5.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	41.5	35.5		21.5	16.4		14.2	14.2		14.2	14.2	39.3
Actuated g/C Ratio	0.61	0.52		0.32	0.24		0.21	0.21		0.21	0.21	0.58
v/c Ratio	0.68	0.35		0.15	0.74		0.20	0.63		0.12	0.44	0.30
Control Delay	14.5	12.5		10.0	34.8		25.7	32.6		24.9	28.5	2.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	14.5	12.5		10.0	34.8		25.7	32.6		24.9	28.5	2.0
LOS	B	B		B	C		C	C		C	C	A
Approach Delay		13.6			31.6			31.5			11.7	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	84	87		7	120		16	84		7	60	0
Queue Length 95th (ft)	#229	174		23	228		47	171		29	128	33
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	670	1320		326	893		687	1042		543	1042	1030
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.68	0.26		0.15	0.37		0.07	0.22		0.04	0.15	0.30

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	68
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	19.2
Intersection Capacity Utilization	81.7%
Intersection LOS:	B
ICU Level of Service	D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turn Right on Red) All Approaches  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



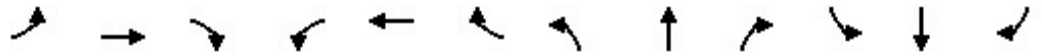
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	453	346	49	326	47	231	22	158	305
v/c Ratio	0.68	0.35	0.15	0.74	0.20	0.63	0.12	0.44	0.30
Control Delay	14.5	12.5	10.0	34.8	25.7	32.6	24.9	28.5	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	12.5	10.0	34.8	25.7	32.6	24.9	28.5	2.0
Queue Length 50th (ft)	84	87	7	120	16	84	7	60	0
Queue Length 95th (ft)	#229	174	23	228	47	171	29	128	33
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	670	1320	326	893	687	1042	543	1042	1030
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.26	0.15	0.37	0.07	0.22	0.04	0.15	0.30

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



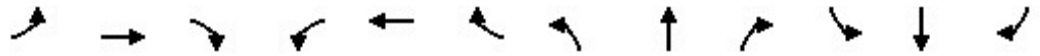
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Future Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	11	12	12	11	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.985			0.983			0.915	
Flt Protected		0.970			0.994			0.992			0.998	
Satd. Flow (prot)	0	1987	1655	0	1777	0	0	1675	0	0	1614	0
Flt Permitted		0.603			0.710			0.754			0.973	
Satd. Flow (perm)	0	1235	1655	0	1269	0	0	1273	0	0	1574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		5			8			87	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	453	286	60	49	284	42	47	195	36	24	156	305
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	739	60	0	375	0	0	278	0	0	485	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.07	1.02	0.99	1.04	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		16.0	16.0		16.0	16.0	
Total Split (s)	26.0	57.0		31.0	31.0		46.0	46.0		46.0	46.0	
Total Split (%)	23.6%	51.8%		28.2%	28.2%		41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	20.0	51.0		25.0	25.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		Min	Min		None	None	
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		51.4	91.9		51.4			28.4			28.4	
Actuated g/C Ratio		0.56	1.00		0.56			0.31			0.31	
v/c Ratio		1.07	0.04		0.53			0.70			0.89	
Control Delay		78.8	0.0		17.8			36.5			43.3	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		78.8	0.0		17.8			36.5			43.3	
LOS		E	A		B			D			D	
Approach Delay		72.9			17.8			36.5			43.3	
Approach LOS		E			B			D			D	
Queue Length 50th (ft)		~484	0		127			136			223	
Queue Length 95th (ft)		#822	0		267			222			352	
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)			50									
Base Capacity (vph)		690	1655		711			562			738	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		1.07	0.04		0.53			0.49			0.66	

**Intersection Summary**

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	91.9
Natural Cycle:	130
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.07
Intersection Signal Delay:	49.6
Intersection Capacity Utilization	103.4%
Intersection LOS:	D
ICU Level of Service	G

Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	6%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 1: NYS Route 118 & Underhill Avenue 04/03/2023

Analysis Period (min) 15

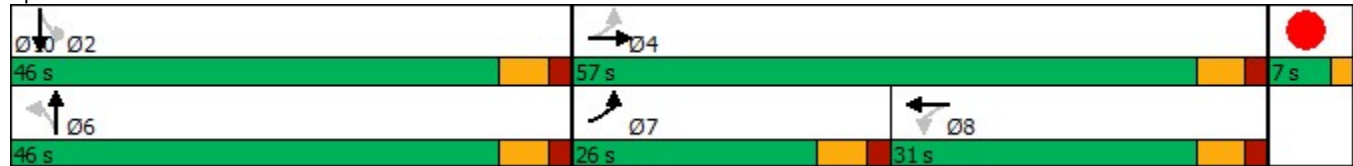
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

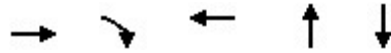
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	739	60	375	278	485
v/c Ratio	1.07	0.04	0.53	0.70	0.89
Control Delay	78.8	0.0	17.8	36.5	43.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	78.8	0.0	17.8	36.5	43.3
Queue Length 50th (ft)	~484	0	127	136	223
Queue Length 95th (ft)	#822	0	267	222	352
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	690	1655	711	562	738
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.07	0.04	0.53	0.49	0.66

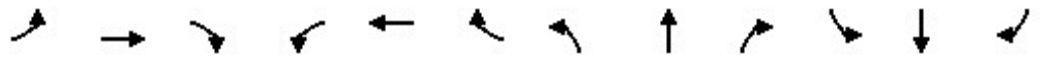
**Intersection Summary**

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



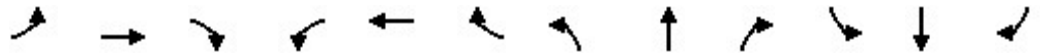
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 2: NYS Route 118 & Allen Avenue/Kear Street 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	9	42	16	94	61	80	18	563	92	41	365	17
Future Volume (vph)	9	42	16	94	61	80	18	563	92	41	365	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.967			0.954			0.982			0.995	
Fl <sub>t</sub> Protected		0.994			0.980			0.999			0.995	
Satd. Flow (prot)	0	1739	0	0	1924	0	0	1749	0	0	1765	0
Fl <sub>t</sub> Permitted		0.958			0.852			0.984			0.895	
Satd. Flow (perm)	0	1676	0	0	1673	0	0	1723	0	0	1587	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			20			8			2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	44	17	99	64	84	19	593	97	43	384	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	70	0	0	247	0	0	709	0	0	445	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 2: NYS Route 118 & Allen Avenue/Kear Street 04/03/2023

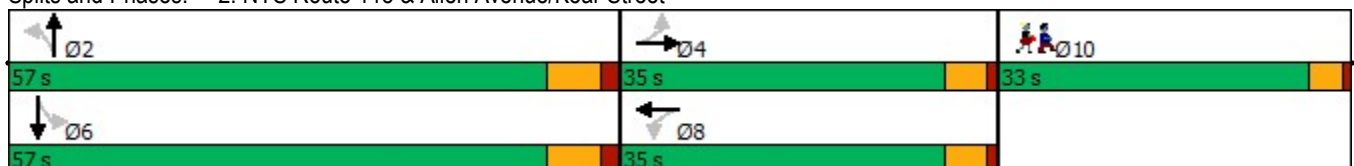


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		15.9			15.9			50.1			50.1	
Actuated g/C Ratio		0.20			0.20			0.64			0.64	
v/c Ratio		0.20			0.69			0.64			0.44	
Control Delay		23.0			36.9			12.6			9.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.0			36.9			12.6			9.3	
LOS		C			D			B			A	
Approach Delay		23.0			36.9			12.6			9.3	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)		23			103			181			94	
Queue Length 95th (ft)		56			176			361			190	
Internal Link Dist (ft)		269			289			978			263	
Turn Bay Length (ft)												
Base Capacity (vph)		652			656			1108			1019	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.11			0.38			0.64			0.44	

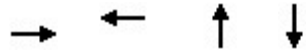
**Intersection Summary**

Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	78.1
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	16.2
Intersection LOS:	B
Intersection Capacity Utilization:	70.1%
ICU Level of Service:	C
Analysis Period (min):	15

**Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street**



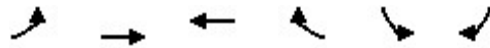
Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	70	247	709	445
v/c Ratio	0.20	0.69	0.64	0.44
Control Delay	23.0	36.9	12.6	9.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.0	36.9	12.6	9.3
Queue Length 50th (ft)	23	103	181	94
Queue Length 95th (ft)	56	176	361	190
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	652	656	1108	1019
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.11	0.38	0.64	0.44
<b>Intersection Summary</b>				

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 3: Underhill Avenue & Site Access

04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	↙
Traffic Volume (vph)	26	738	583	38	39	26
Future Volume (vph)	26	738	583	38	39	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.992		0.946	
Flt Protected		0.998			0.971	
Satd. Flow (prot)	0	1905	1802	0	1711	0
Flt Permitted		0.998			0.971	
Satd. Flow (perm)	0	1905	1802	0	1711	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	820	648	42	43	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	849	690	0	72	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	70.3%
ICU Level of Service	C
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 3: Underhill Avenue & Site Access

04/03/2023

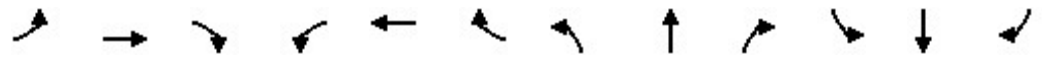
Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	26	738	583	38	39	26
Future Vol, veh/h	26	738	583	38	39	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	820	648	42	43	29

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	690	0	-	0	1547 669
Stage 1	-	-	-	-	669 -
Stage 2	-	-	-	-	878 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	905	-	-	-	126 458
Stage 1	-	-	-	-	509 -
Stage 2	-	-	-	-	406 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	905	-	-	-	119 458
Mov Cap-2 Maneuver	-	-	-	-	119 -
Stage 1	-	-	-	-	479 -
Stage 2	-	-	-	-	406 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	41.3
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	905	-	-	-	169
HCM Lane V/C Ratio	0.032	-	-	-	0.427
HCM Control Delay (s)	9.1	0	-	-	41.3
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	1.9

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 4: Rochambeau Drive/Site Access & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	8	732	36	49	548	12	14	0	24	8	0	5
Future Volume (vph)	8	732	36	49	548	12	14	0	24	8	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%				0%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.997			0.916			0.948	
Flt Protected					0.996			0.982			0.970	
Satd. Flow (prot)	0	1925	0	0	1794	0	0	1816	0	0	1713	0
Flt Permitted					0.996			0.982			0.970	
Satd. Flow (perm)	0	1925	0	0	1794	0	0	1816	0	0	1713	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			425			323			150	
Travel Time (s)		5.0			9.7			7.3			3.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	1%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
Adj. Flow (vph)	8	763	38	51	571	13	15	0	25	8	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	809	0	0	635	0	0	40	0	0	13	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	71.2%
ICU Level of Service	C
Analysis Period (min)	15



2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 4: Rochambeau Drive/Site Access & Underhill Avenue 04/03/2023

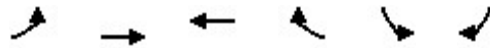
Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	732	36	49	548	12	14	0	24	8	0	5
Future Vol, veh/h	8	732	36	49	548	12	14	0	24	8	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	1	2	2	2	2	2	2	5	2	2	2
Mvmt Flow	8	763	38	51	571	13	15	0	25	8	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	584	0	0	801	0	0	1480	1484	782	1491	1497	578
Stage 1	-	-	-	-	-	-	798	798	-	680	680	-
Stage 2	-	-	-	-	-	-	682	686	-	811	817	-
Critical Hdwy	4.12	-	-	4.12	-	-	5.72	5.12	5.55	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	991	-	-	822	-	-	184	222	454	102	123	516
Stage 1	-	-	-	-	-	-	518	543	-	441	451	-
Stage 2	-	-	-	-	-	-	573	585	-	373	390	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	991	-	-	822	-	-	167	198	454	89	110	516
Mov Cap-2 Maneuver	-	-	-	-	-	-	167	198	-	89	110	-
Stage 1	-	-	-	-	-	-	510	535	-	434	410	-
Stage 2	-	-	-	-	-	-	515	531	-	347	384	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.8			20.1			35.6		
HCM LOS							C			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	278	991	-	-	822	-	-	131
HCM Lane V/C Ratio	0.142	0.008	-	-	0.062	-	-	0.103
HCM Control Delay (s)	20.1	8.7	0	-	9.7	0	-	35.6
HCM Lane LOS	C	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.5	0	-	-	0.2	-	-	0.3

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 5: Underhill Avenue & Glen Rock Street 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	2	765	555	12	10	8
Future Volume (vph)	2	765	555	12	10	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997		0.939	
Flt Protected					0.973	
Satd. Flow (prot)	0	1909	1801	0	1588	0
Flt Permitted					0.973	
Satd. Flow (perm)	0	1909	1801	0	1588	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	832	603	13	11	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	834	616	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.9%
Analysis Period (min)	15
	ICU Level of Service A

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak PM Hour  
 5: Underhill Avenue & Glen Rock Street 04/03/2023

**Intersection**

Int Delay, s/veh 0.3

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	2	765	555	12	10	8
Future Vol, veh/h	2	765	555	12	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	832	603	13	11	9

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	616	0	-	0	1446	610
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	836	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	964	-	-	-	145	494
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	425	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	964	-	-	-	144	494
Mov Cap-2 Maneuver	-	-	-	-	144	-
Stage 1	-	-	-	-	540	-
Stage 2	-	-	-	-	425	-

**Approach** EB WB SB

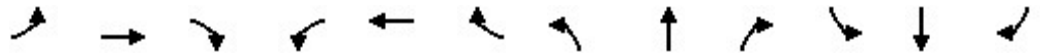
HCM Control Delay, s	0	0	23.9
HCM LOS			C

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	964	-	-	-	210
HCM Lane V/C Ratio	0.002	-	-	-	0.093
HCM Control Delay (s)	8.7	0	-	-	23.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turning Lane) - Reg Lanes - Hour Underhill A  
 1: NYS Route 118 & Underhill Avenue

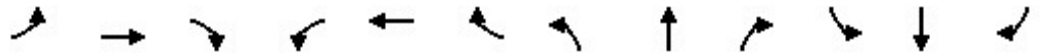
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Future Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%				-1%
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.981			0.983				0.850
Flt Protected	0.950			0.950				0.992			0.993	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	0	1733	0	0	1833	1546
Flt Permitted	0.286			0.553				0.907			0.906	
Satd. Flow (perm)	515	1866	0	882	1797	0	0	1584	0	0	1672	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			7			7				281
Link Speed (mph)		30			30			40				40
Link Distance (ft)		390			299			461				1058
Travel Time (s)		8.9			6.8			7.9				18.0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	453	286	60	49	284	42	47	195	36	24	156	305
Shared Lane Traffic (%)												
Lane Group Flow (vph)	453	346	0	49	326	0	0	278	0	0	180	305
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0

2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Bay Lane Underhill Avenue)  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



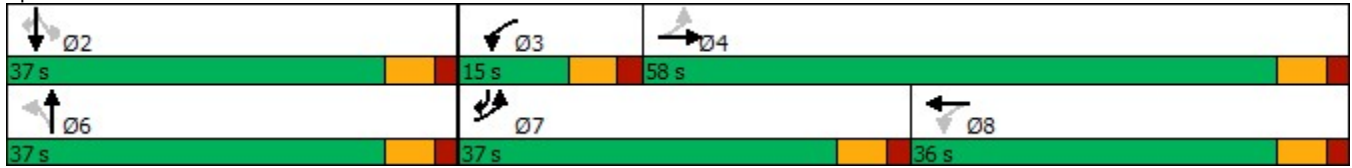
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		9.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	49.0	42.0		25.0	18.1			18.0			18.0	49.0
Actuated g/C Ratio	0.61	0.53		0.31	0.23			0.23			0.23	0.61
v/c Ratio	0.66	0.35		0.15	0.79			0.77			0.48	0.29
Control Delay	15.2	14.3		12.5	45.2			44.9			33.6	2.1
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	15.2	14.3		12.5	45.2			44.9			33.6	2.1
LOS	B	B		B	D			D			C	A
Approach Delay		14.8			40.9			44.9			13.8	
Approach LOS		B			D			D			B	
Queue Length 50th (ft)	99	100		8	144			122			75	4
Queue Length 95th (ft)	258	218		29	300			259			167	39
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	813	1304		381	725			661			693	1193
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.56	0.27		0.13	0.45			0.42			0.26	0.26

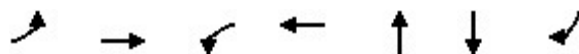
Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	79.9
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	23.9
Intersection Capacity Utilization:	85.1%
Intersection LOS:	C
ICU Level of Service:	E

Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	453	346	49	326	278	180	305
v/c Ratio	0.66	0.35	0.15	0.79	0.77	0.48	0.29
Control Delay	15.2	14.3	12.5	45.2	44.9	33.6	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	14.3	12.5	45.2	44.9	33.6	2.1
Queue Length 50th (ft)	99	100	8	144	122	75	4
Queue Length 95th (ft)	258	218	29	300	259	167	39
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	813	1304	381	725	661	693	1193
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.27	0.13	0.45	0.42	0.26	0.26

Intersection Summary





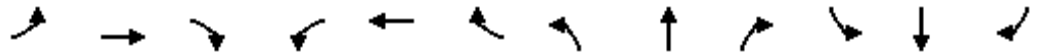
2025 Build Traffic Volumes W/Approved & Potential Other Development (Job# 20006297A - R.H. All Approva  
 1: NYS Route 118 & Underhill Avenue

04/04/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Future Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.974			0.981			0.977				0.850
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	1669	1729	0	1666	1743	1546
Flt Permitted	0.311			0.553			0.652			0.516	0.995	
Satd. Flow (perm)	560	1866	0	882	1797	0	1145	1729	0	905	1736	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			7			9				305
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	453	286	60	49	284	42	47	195	36	24	156	305
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	453	346	0	49	326	0	47	231	0	22	158	305
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

2025 Build Traffic Volumes W/Approved & Potential Other Development (Job# 20006297A - R.H. All Approvals) 04/04/2023  
 1: NYS Route 118 & Underhill Avenue

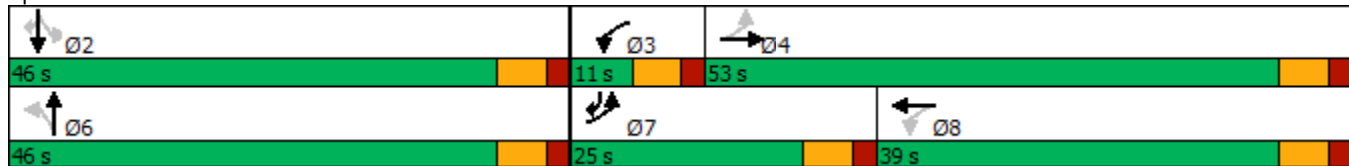


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		5.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	41.5	35.5		21.5	16.4		14.2	14.2		14.2	14.2	39.3
Actuated g/C Ratio	0.61	0.52		0.32	0.24		0.21	0.21		0.21	0.21	0.58
v/c Ratio	0.68	0.35		0.15	0.74		0.20	0.63		0.12	0.44	0.30
Control Delay	14.5	12.5		10.0	34.8		25.7	32.6		24.9	28.5	2.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	14.5	12.5		10.0	34.8		25.7	32.6		24.9	28.5	2.0
LOS	B	B		B	C		C	C		C	C	A
Approach Delay		13.6			31.6			31.5			11.7	
Approach LOS		B			C			C			B	

Intersection Summary

Area Type: Other  
 Cycle Length: 110  
 Actuated Cycle Length: 68  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 19.2  
 Intersection LOS: B  
 Intersection Capacity Utilization 81.7%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	453	346	49	326	47	231	22	158	305
v/c Ratio	0.68	0.35	0.15	0.74	0.20	0.63	0.12	0.44	0.30
Control Delay	14.5	12.5	10.0	34.8	25.7	32.6	24.9	28.5	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	12.5	10.0	34.8	25.7	32.6	24.9	28.5	2.0
Queue Length 50th (ft)	84	87	7	120	16	84	7	60	0
Queue Length 95th (ft)	#229	174	23	228	47	171	29	128	33
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	670	1320	326	893	687	1042	543	1042	1030
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.26	0.15	0.37	0.07	0.22	0.04	0.15	0.30

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
 04/03/2023

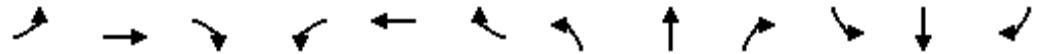


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	206	319	33	29	229	17	55	139	42	45	172	336
Future Volume (vph)	206	319	33	29	229	17	55	139	42	45	172	336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.976			0.918	
Flt Protected		0.981			0.995			0.988			0.996	
Satd. Flow (prot)	0	2002	1577	0	1804	0	0	1565	0	0	1645	0
Flt Permitted		0.732			0.877			0.719			0.951	
Satd. Flow (perm)	0	1494	1577	0	1590	0	0	1139	0	0	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		3			14			96	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	224	347	36	32	249	18	60	151	46	49	187	365
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	571	36	0	299	0	0	257	0	0	601	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	3.0	5.0		5.0	5.0		10.0	10.0		10.0		10.0
Minimum Split (s)	9.0	11.0		11.0	11.0		16.0	16.0		16.0		16.0
Total Split (s)	14.0	45.0		31.0	31.0		46.0	46.0		46.0		46.0
Total Split (%)	14.3%	45.9%		31.6%	31.6%		46.9%	46.9%		46.9%		46.9%
Maximum Green (s)	8.0	39.0		25.0	25.0		40.0	40.0		40.0		40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Lost Time Adjust (s)		0.0			0.0			0.0				0.0
Total Lost Time (s)		6.0			6.0			6.0				6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Recall Mode	None	None		None	None		Min	Min		None		None
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		39.3	84.0		39.3			32.6				32.6
Actuated g/C Ratio		0.47	1.00		0.47			0.39				0.39
v/c Ratio		0.82	0.02		0.40			0.57				0.90
Control Delay		32.9	0.0		18.1			24.1				38.0
Queue Delay		0.0	0.0		0.0			0.0				0.0
Total Delay		32.9	0.0		18.1			24.1				38.0
LOS		C	A		B			C				D
Approach Delay		31.0			18.1			24.1				38.0
Approach LOS		C			B			C				D
Queue Length 50th (ft)		263	0		103			97				249
Queue Length 95th (ft)		#503	0		187			171				#448
Internal Link Dist (ft)		310			219			381				978
Turn Bay Length (ft)			50									
Base Capacity (vph)		699	1577		746			554				804
Starvation Cap Reductn		0	0		0			0				0
Spillback Cap Reductn		0	0		0			0				0
Storage Cap Reductn		0	0		0			0				0
Reduced v/c Ratio		0.82	0.02		0.40			0.46				0.75

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	84
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	30.2
Intersection Capacity Utilization:	92.9%
Intersection LOS:	C
ICU Level of Service:	F

Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	7%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

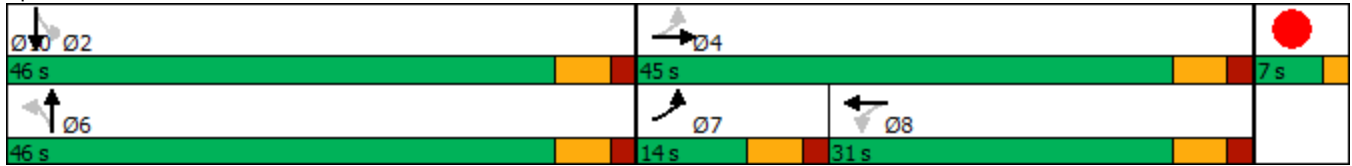


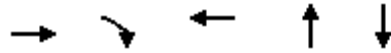
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	571	36	299	257	601
v/c Ratio	0.82	0.02	0.40	0.57	0.90
Control Delay	32.9	0.0	18.1	24.1	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	0.0	18.1	24.1	38.0
Queue Length 50th (ft)	263	0	103	97	249
Queue Length 95th (ft)	#503	0	187	171	#448
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	699	1577	746	554	804
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.82	0.02	0.40	0.46	0.75

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak AM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	18	64	17	44	19	43	8	309	46	87	492	10
Future Volume (vph)	18	64	17	44	19	43	8	309	46	87	492	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.977			0.945			0.983			0.998	
Fl <sub>t</sub> Protected		0.991			0.980			0.999			0.993	
Satd. Flow (prot)	0	1752	0	0	1906	0	0	1751	0	0	1767	0
Fl <sub>t</sub> Permitted		0.941			0.843			0.986			0.883	
Satd. Flow (perm)	0	1664	0	0	1640	0	0	1728	0	0	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			26			7			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	68	18	47	20	46	9	329	49	93	523	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	105	0	0	113	0	0	387	0	0	627	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Fr <sub>t</sub>	
Fl <sub>t</sub> Protected	
Satd. Flow (prot)	
Fl <sub>t</sub> Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak AM Hour  
 04/03/2023

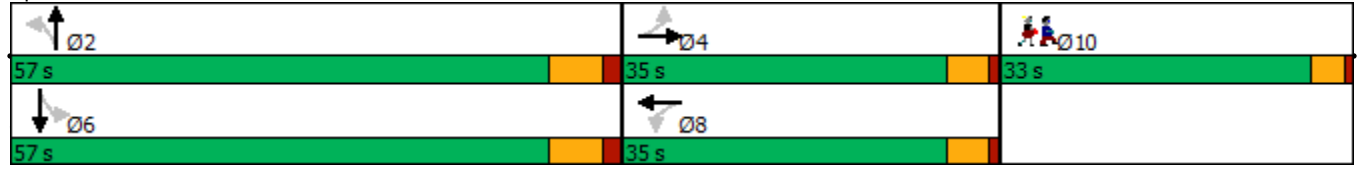


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		10.7			10.7			50.0			50.0	
Actuated g/C Ratio		0.15			0.15			0.69			0.69	
v/c Ratio		0.42			0.43			0.33			0.58	
Control Delay		31.4			27.4			5.5			8.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		31.4			27.4			5.5			8.8	
LOS		C			C			A			A	
Approach Delay		31.4			27.4			5.5			8.8	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		40			36			54			116	
Queue Length 95th (ft)		85			81			104			225	
Internal Link Dist (ft)		269			289			978			263	
<b>Turn Bay Length (ft)</b>												
Base Capacity (vph)		691			691			1190			1080	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.15			0.16			0.33			0.58	

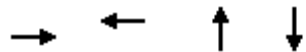
**Intersection Summary**

Area Type: Other  
 Cycle Length: 125  
 Actuated Cycle Length: 72.7  
 Natural Cycle: 105  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 11.4  
 Intersection Capacity Utilization 78.8%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service D

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	105	113	387	627
v/c Ratio	0.42	0.43	0.33	0.58
Control Delay	31.4	27.4	5.5	8.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.4	27.4	5.5	8.8
Queue Length 50th (ft)	40	36	54	116
Queue Length 95th (ft)	85	81	104	225
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	691	691	1190	1080
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.15	0.16	0.33	0.58
<b>Intersection Summary</b>				

2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
 4: Rochambeau Drive & Underhill Avenue

Peak AM Hour  
 04/03/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	534	6	12	608	39	24
Future Volume (vph)	534	6	12	608	39	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12
Grade (%)	-6%			6%	-7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999				0.949	
Flt Protected				0.999	0.970	
Satd. Flow (prot)	1936	0	0	1806	1895	0
Flt Permitted				0.999	0.970	
Satd. Flow (perm)	1936	0	0	1806	1895	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	220			425	323	
Travel Time (s)	5.0			9.7	7.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	0%	2%	0%	5%
Adj. Flow (vph)	556	6	13	633	41	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	562	0	0	646	66	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	14	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.96	0.96	1.04	1.04	0.88	0.96
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.9%
ICU Level of Service	A
Analysis Period (min)	15



**Intersection**

Int Delay, s/veh 0.9

**Movement** EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	534	6	12	608	39	24
Future Vol, veh/h	534	6	12	608	39	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-6	-	-	6	-7	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	0	0	2	0	5
Mvmt Flow	556	6	13	633	41	25

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All	0	0	562	0	1218	559
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	659	-
Critical Hdwy	-	-	4.1	-	5	5.55
Critical Hdwy Stg 1	-	-	-	-	4	-
Critical Hdwy Stg 2	-	-	-	-	4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.345
Pot Cap-1 Maneuver	-	-	1019	-	323	583
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	670	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1019	-	317	583
Mov Cap-2 Maneuver	-	-	-	-	317	-
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	657	-

**Approach** EB WB NB

HCM Control Delay, s	0	0.2	16.3
HCM LOS			C

**Minor Lane/Major Mvmt** NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	384	-	-	1019	-
HCM Lane V/C Ratio	0.171	-	-	0.012	-
HCM Control Delay (s)	16.3	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
 5: Underhill Avenue & Glen Rock Street

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	531	640	7	9	8
Future Volume (vph)	2	531	640	7	9	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998		0.936	
Flt Protected					0.974	
Satd. Flow (prot)	0	1804	1769	0	1501	0
Flt Permitted					0.974	
Satd. Flow (perm)	0	1804	1769	0	1501	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	8%	4%	2%	2%	14%
Adj. Flow (vph)	2	584	703	8	10	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	586	711	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	44.1%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	2	531	640	7	9	8
Future Vol, veh/h	2	531	640	7	9	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	8	4	2	2	14
Mvmt Flow	2	584	703	8	10	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	711	0	-	0	1295 707
Stage 1	-	-	-	-	707 -
Stage 2	-	-	-	-	588 -
Critical Hdwy	4.12	-	-	-	6.42 6.34
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.426
Pot Cap-1 Maneuver	888	-	-	-	179 416
Stage 1	-	-	-	-	489 -
Stage 2	-	-	-	-	555 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	888	-	-	-	178 416
Mov Cap-2 Maneuver	-	-	-	-	178 -
Stage 1	-	-	-	-	488 -
Stage 2	-	-	-	-	555 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	888	-	-	-	244
HCM Lane V/C Ratio	0.002	-	-	-	0.077
HCM Control Delay (s)	9.1	0	-	-	21
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	224	327	40	29	235	17	61	139	42	45	172	350
Future Volume (vph)	224	327	40	29	235	17	61	139	42	45	172	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.976			0.917	
Flt Protected		0.980			0.995			0.988			0.996	
Satd. Flow (prot)	0	2000	1577	0	1804	0	0	1569	0	0	1645	0
Flt Permitted		0.718			0.830			0.688			0.952	
Satd. Flow (perm)	0	1465	1577	0	1505	0	0	1092	0	0	1572	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		3			13			100	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	243	355	43	32	255	18	66	151	46	49	187	380
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	598	43	0	305	0	0	263	0	0	616	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	3.0	5.0		5.0	5.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	11.0		11.0	11.0		16.0	16.0		16.0	16.0	
Total Split (s)	14.0	45.0		31.0	31.0		46.0	46.0		46.0	46.0	
Total Split (%)	14.3%	45.9%		31.6%	31.6%		46.9%	46.9%		46.9%	46.9%	
Maximum Green (s)	8.0	39.0		25.0	25.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		Min	Min		None	None	
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		39.3	85.0		39.3			33.6			33.6	
Actuated g/C Ratio		0.46	1.00		0.46			0.40			0.40	
v/c Ratio		0.88	0.03		0.44			0.60			0.90	
Control Delay		40.1	0.0		19.2			25.2			38.1	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		40.1	0.0		19.2			25.2			38.1	
LOS		D	A		B			C			D	
Approach Delay		37.4			19.2			25.2			38.1	
Approach LOS		D			B			C			D	
Queue Length 50th (ft)		302	0		113			102			259	
Queue Length 95th (ft)		#547	0		195			181			#464	
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)			50									
Base Capacity (vph)		676	1577		696			524			797	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.88	0.03		0.44			0.50			0.77	

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	85
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	32.8
Intersection Capacity Utilization:	95.1%
Intersection LOS:	C
ICU Level of Service:	F

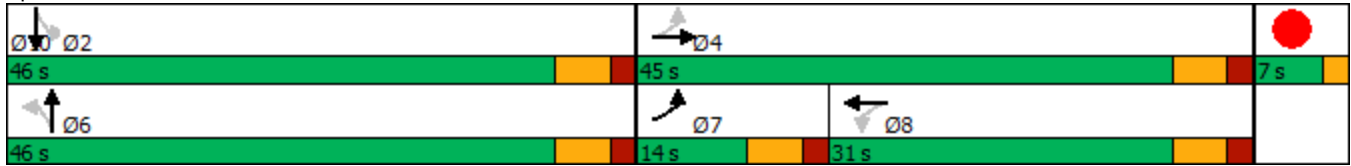
Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	7%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

Analysis Period (min) 15

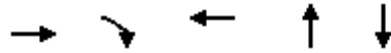
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue







Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	598	43	305	263	616
v/c Ratio	0.88	0.03	0.44	0.60	0.90
Control Delay	40.1	0.0	19.2	25.2	38.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	0.0	19.2	25.2	38.1
Queue Length 50th (ft)	302	0	113	102	259
Queue Length 95th (ft)	#547	0	195	181	#464
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	676	1577	696	524	797
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.88	0.03	0.44	0.50	0.77

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 Build Traffic Volumes W/Approved & Potential Other Development  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak AM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	22	67	17	47	22	43	8	323	49	87	503	13
Future Volume (vph)	22	67	17	47	22	43	8	323	49	87	503	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.978			0.948			0.983			0.997	
Fl <sub>t</sub> Protected		0.990			0.979			0.999			0.993	
Satd. Flow (prot)	0	1752	0	0	1910	0	0	1751	0	0	1765	0
Fl <sub>t</sub> Permitted		0.930			0.829			0.986			0.882	
Satd. Flow (perm)	0	1646	0	0	1618	0	0	1728	0	0	1568	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			24			7			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	23	71	18	50	23	46	9	344	52	93	535	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	0	0	119	0	0	405	0	0	642	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Frnt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 2: NYS Route 118 & Allen Avenue/Kear Street

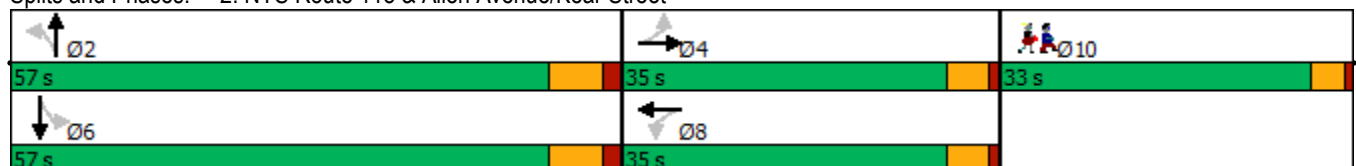
Peak AM Hour  
 04/03/2023



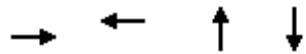
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		10.9			10.9			50.0			50.0	
Actuated g/C Ratio		0.15			0.15			0.68			0.68	
v/c Ratio		0.44			0.45			0.34			0.60	
Control Delay		32.4			28.5			5.7			9.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		32.4			28.5			5.7			9.2	
LOS		C			C			A			A	
Approach Delay		32.4			28.5			5.7			9.2	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		44			39			58			121	
Queue Length 95th (ft)		90			87			113			242	
Internal Link Dist (ft)		269			289			978			263	
<b>Turn Bay Length (ft)</b>												
Base Capacity (vph)		680			679			1187			1075	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.16			0.18			0.34			0.60	

<b>Intersection Summary</b>	
Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	73
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	12.0
Intersection Capacity Utilization:	80.3%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	D

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	112	119	405	642
v/c Ratio	0.44	0.45	0.34	0.60
Control Delay	32.4	28.5	5.7	9.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.4	28.5	5.7	9.2
Queue Length 50th (ft)	44	39	58	121
Queue Length 95th (ft)	90	87	113	242
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	680	679	1187	1075
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.16	0.18	0.34	0.60
<b>Intersection Summary</b>				

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 3: Underhill Avenue & Site Access

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	571	624	23	23	20
Future Volume (vph)	20	571	624	23	23	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.995		0.938	
Flt Protected		0.998			0.974	
Satd. Flow (prot)	0	1803	1774	0	1702	0
Flt Permitted		0.998			0.974	
Satd. Flow (perm)	0	1803	1774	0	1702	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	8%	4%	2%	2%	2%
Adj. Flow (vph)	22	634	693	26	26	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	656	719	0	48	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	56.2%
Analysis Period (min)	15
	ICU Level of Service B

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	20	571	624	23	23	20
Future Vol, veh/h	20	571	624	23	23	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	8	4	2	2	2
Mvmt Flow	22	634	693	26	26	22

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	719	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	882	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	882	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

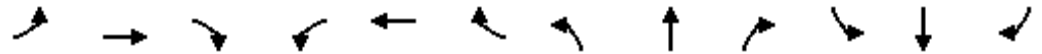
Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	26.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	882	-	-	-	218
HCM Lane V/C Ratio	0.025	-	-	-	0.219
HCM Control Delay (s)	9.2	0	-	-	26.1
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8



2025 Build Traffic Volumes W/Approved & Potential Other Development  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	554	6	12	628	4	39	0	24	13	0	8
Future Volume (vph)	2	554	6	12	628	4	39	0	24	13	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.999			0.949			0.951	
Fl <sub>t</sub> Protected					0.999			0.970			0.969	
Satd. Flow (prot)	0	1809	0	0	1765	0	0	1828	0	0	1717	0
Fl <sub>t</sub> Permitted					0.999			0.970			0.969	
Satd. Flow (perm)	0	1809	0	0	1765	0	0	1828	0	0	1717	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			425			323			173	
Travel Time (s)		5.0			9.7			7.3			3.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	8%	20%	17%	4%	2%	6%	2%	5%	2%	2%	2%
Adj. Flow (vph)	2	577	6	13	654	4	41	0	25	14	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	585	0	0	671	0	0	66	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.0%
ICU Level of Service	A
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak AM Hour  
 04/03/2023

**Intersection**

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	554	6	12	628	4	39	0	24	13	0	8
Future Vol, veh/h	2	554	6	12	628	4	39	0	24	13	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	8	20	17	4	2	6	2	5	2	2	2
Mvmt Flow	2	577	6	13	654	4	41	0	25	14	0	8

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	658	0	0	583
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.27
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.353
Pot Cap-1 Maneuver	930	-	-	921
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	930	-	-	921
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	20.9	27.2
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	291	930	-	-	921	-	-	184
HCM Lane V/C Ratio	0.226	0.002	-	-	0.014	-	-	0.119
HCM Control Delay (s)	20.9	8.9	0	-	9	0	-	27.2
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.4

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 5: Underhill Avenue & Glen Rock Street

Peak AM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	553	669	7	9	8
Future Volume (vph)	2	553	669	7	9	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.936	
Flt Protected					0.974	
Satd. Flow (prot)	0	1804	1771	0	1501	0
Flt Permitted					0.974	
Satd. Flow (perm)	0	1804	1771	0	1501	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	8%	4%	2%	2%	14%
Adj. Flow (vph)	2	608	735	8	10	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	610	743	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.6%
ICU Level of Service	A
Analysis Period (min)	15

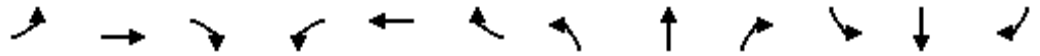
Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	553	669	7	9	8
Future Vol, veh/h	2	553	669	7	9	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	8	4	2	2	14
Mvmt Flow	2	608	735	8	10	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	743	0	-	0	1351 739
Stage 1	-	-	-	-	739 -
Stage 2	-	-	-	-	612 -
Critical Hdwy	4.12	-	-	-	6.42 6.34
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.426
Pot Cap-1 Maneuver	864	-	-	-	166 398
Stage 1	-	-	-	-	472 -
Stage 2	-	-	-	-	541 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	864	-	-	-	166 398
Mov Cap-2 Maneuver	-	-	-	-	166 -
Stage 1	-	-	-	-	471 -
Stage 2	-	-	-	-	541 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	22.1
HCM LOS			C

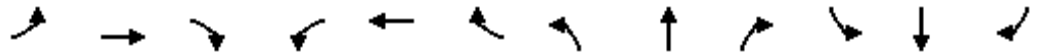
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	864	-	-	-	229
HCM Lane V/C Ratio	0.003	-	-	-	0.082
HCM Control Delay (s)	9.2	0	-	-	22.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Right All-But Underhill A  
 1: NYS Route 118 & Underhill Avenue Peak All-But Underhill A  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	327	40	29	235	17	61	139	42	45	172	350
Future Volume (vph)	224	327	40	29	235	17	61	139	42	45	172	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.990			0.976			0.850	
Flt Protected	0.950			0.950				0.988			0.990	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	0	1569	0	0	1657	1607
Flt Permitted	0.376			0.527				0.821			0.878	
Satd. Flow (perm)	664	1889	0	833	1826	0	0	1304	0	0	1469	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			3			10			325	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	243	355	43	32	255	18	66	151	46	49	187	380
Shared Lane Traffic (%)												
Lane Group Flow (vph)	243	398	0	32	273	0	0	263	0	0	236	380
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0

2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Right on Red) Underhill Avenue  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



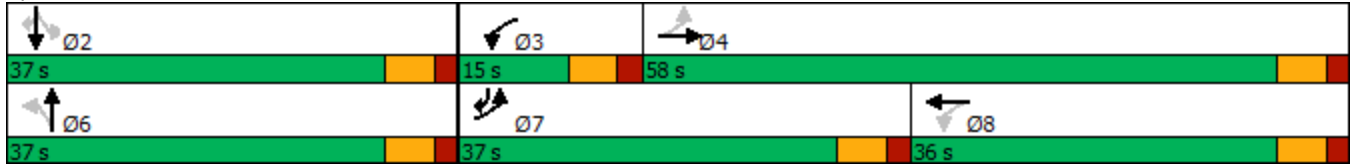
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		9.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	35.7	31.5		21.8	15.1			19.9			19.9	40.5
Actuated g/C Ratio	0.52	0.46		0.32	0.22			0.29			0.29	0.59
v/c Ratio	0.44	0.46		0.10	0.67			0.68			0.55	0.35
Control Delay	12.7	17.6		11.8	35.2			31.9			27.4	2.5
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	12.7	17.6		11.8	35.2			31.9			27.4	2.5
LOS	B	B		B	D			C			C	A
Approach Delay		15.7			32.7			31.9			12.0	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	51	88		6	104			93			83	8
Queue Length 95th (ft)	119	263		22	224			209			183	46
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	863	1474		394	854			634			708	1422
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.28	0.27		0.08	0.32			0.41			0.33	0.27

**Intersection Summary**

Area Type: Other  
 Cycle Length: 110  
 Actuated Cycle Length: 68.4  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 19.6  
 Intersection Capacity Utilization 70.6%  
 Intersection LOS: B  
 ICU Level of Service C

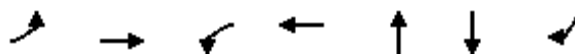
Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Right Movement) Underhill Avenue  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



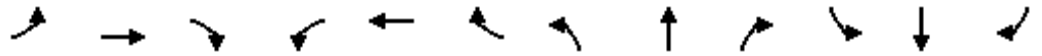
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	243	398	32	273	263	236	380
v/c Ratio	0.44	0.46	0.10	0.67	0.68	0.55	0.35
Control Delay	12.7	17.6	11.8	35.2	31.9	27.4	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.7	17.6	11.8	35.2	31.9	27.4	2.5
Queue Length 50th (ft)	51	88	6	104	93	83	8
Queue Length 95th (ft)	119	263	22	224	209	183	46
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	863	1474	394	854	634	708	1422
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.27	0.08	0.32	0.41	0.33	0.27

Intersection Summary





2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turning Lanes) All Approaches  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	327	40	29	235	17	61	139	42	45	172	350
Future Volume (vph)	224	327	40	29	235	17	61	139	42	45	172	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.984			0.990			0.965				0.850
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	1669	1517	0	1617	1554	1607
Flt Permitted	0.393			0.527			0.629			0.634	0.989	
Satd. Flow (perm)	694	1889	0	833	1826	0	1105	1517	0	1079	1538	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			3			16				363
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	243	355	43	32	255	18	66	151	46	49	187	380
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	243	398	0	32	273	0	66	197	0	44	192	380
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turn Reg Lanes) All Approaches  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



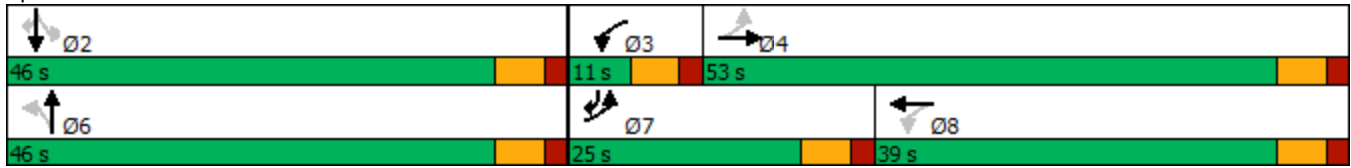
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		5.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	31.6	27.9		18.0	12.8		12.8	12.8		12.8	12.8	31.6
Actuated g/C Ratio	0.56	0.49		0.32	0.22		0.22	0.22		0.22	0.22	0.56
v/c Ratio	0.40	0.43		0.10	0.66		0.27	0.56		0.18	0.55	0.36
Control Delay	8.8	12.7		9.0	29.5		23.7	26.5		22.4	28.3	2.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.8	12.7		9.0	29.5		23.7	26.5		22.4	28.3	2.2
LOS	A	B		A	C		C	C		C	C	A
Approach Delay		11.2			27.3			25.8			11.8	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	35	60		4	81		18	54		12	61	2
Queue Length 95th (ft)	85	198		16	185		58	136		44	147	36
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	725	1590		324	1100		806	1111		787	1122	1210
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.34	0.25		0.10	0.25		0.08	0.18		0.06	0.17	0.31

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	56.9
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	16.2
Intersection Capacity Utilization:	64.7%
Intersection LOS:	B
ICU Level of Service:	C

Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turn Reg Lane Hour All Approa  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	243	398	32	273	66	197	44	192	380
v/c Ratio	0.40	0.43	0.10	0.66	0.27	0.56	0.18	0.55	0.36
Control Delay	8.8	12.7	9.0	29.5	23.7	26.5	22.4	28.3	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	12.7	9.0	29.5	23.7	26.5	22.4	28.3	2.2
Queue Length 50th (ft)	35	60	4	81	18	54	12	61	2
Queue Length 95th (ft)	85	198	16	185	58	136	44	147	36
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	725	1590	324	1100	806	1111	787	1122	1210
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.25	0.10	0.25	0.08	0.18	0.06	0.17	0.31

Intersection Summary



2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	412	269	50	48	266	41	38	189	35	23	151	267
Future Volume (vph)	412	269	50	48	266	41	38	189	35	23	151	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.984			0.982			0.918	
Flt Protected		0.971			0.993			0.993			0.997	
Satd. Flow (prot)	0	1989	1655	0	1772	0	0	1732	0	0	1674	0
Flt Permitted		0.619			0.785			0.795			0.973	
Satd. Flow (perm)	0	1268	1655	0	1401	0	0	1386	0	0	1634	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		6			8			79	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	425	277	52	49	274	42	39	195	36	24	156	275
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	702	52	0	365	0	0	270	0	0	455	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	



2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		10.0		10.0
Minimum Split (s)	11.0	11.0		11.0	11.0		16.0	16.0		16.0		16.0
Total Split (s)	26.0	57.0		31.0	31.0		46.0	46.0		46.0		46.0
Total Split (%)	23.6%	51.8%		28.2%	28.2%		41.8%	41.8%		41.8%		41.8%
Maximum Green (s)	20.0	51.0		25.0	25.0		40.0	40.0		40.0		40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Lost Time Adjust (s)		0.0			0.0			0.0				0.0
Total Lost Time (s)		6.0			6.0			6.0				6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Recall Mode	None	None		None	None		Min	Min		None		None
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		51.4	89.1		51.4			25.6				25.6
Actuated g/C Ratio		0.58	1.00		0.58			0.29				0.29
v/c Ratio		0.96	0.03		0.45			0.67				0.87
Control Delay		46.9	0.0		14.6			35.2				41.6
Queue Delay		0.0	0.0		0.0			0.0				0.0
Total Delay		46.9	0.0		14.6			35.2				41.6
LOS		D	A		B			D				D
Approach Delay		43.7			14.6			35.2				41.6
Approach LOS		D			B			D				D
Queue Length 50th (ft)		343	0		106			128				202
Queue Length 95th (ft)		#742	0		236			208				319
Internal Link Dist (ft)		310			219			381				978
Turn Bay Length (ft)			50									
Base Capacity (vph)		731	1655		810			631				782
Starvation Cap Reductn		0	0		0			0				0
Spillback Cap Reductn		0	0		0			0				0
Storage Cap Reductn		0	0		0			0				0
Reduced v/c Ratio		0.96	0.03		0.45			0.43				0.58

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	89.1
Natural Cycle:	110
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	36.2
Intersection Capacity Utilization:	99.4%
Intersection LOS:	D
ICU Level of Service:	F

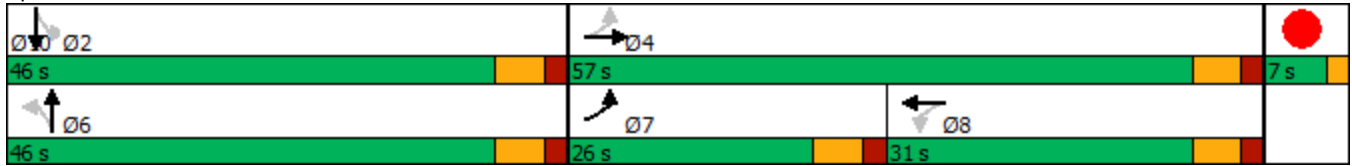
Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	6%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

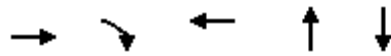
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	702	52	365	270	455
v/c Ratio	0.96	0.03	0.45	0.67	0.87
Control Delay	46.9	0.0	14.6	35.2	41.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	0.0	14.6	35.2	41.6
Queue Length 50th (ft)	343	0	106	128	202
Queue Length 95th (ft)	#742	0	236	208	319
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	731	1655	810	631	782
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.96	0.03	0.45	0.43	0.58

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	9	42	12	86	61	80	14	543	84	41	344	17
Future Volume (vph)	9	42	12	86	61	80	14	543	84	41	344	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.973			0.953			0.982			0.994	
Fl <sub>t</sub> Protected		0.993			0.981			0.999			0.995	
Satd. Flow (prot)	0	1748	0	0	1924	0	0	1749	0	0	1763	0
Fl <sub>t</sub> Permitted		0.956			0.852			0.988			0.896	
Satd. Flow (perm)	0	1683	0	0	1671	0	0	1730	0	0	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			21			7			2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	44	13	91	64	84	15	572	88	43	362	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	0	0	239	0	0	675	0	0	423	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
 04/03/2023

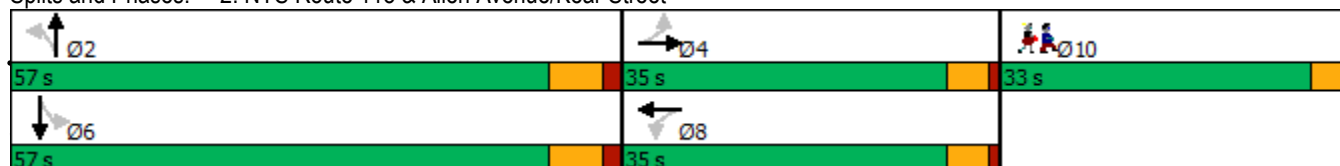


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		15.3			15.3			50.1			50.1	
Actuated g/C Ratio		0.20			0.20			0.65			0.65	
v/c Ratio		0.19			0.69			0.60			0.41	
Control Delay		23.9			36.9			11.5			8.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.9			36.9			11.5			8.7	
LOS		C			D			B			A	
Approach Delay		23.9			36.9			11.5			8.7	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)		23			98			162			85	
Queue Length 95th (ft)		55			170			320			172	
Internal Link Dist (ft)		269			289			978			263	
<b>Turn Bay Length (ft)</b>												
Base Capacity (vph)		658			661			1121			1027	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.10			0.36			0.60			0.41	

**Intersection Summary**

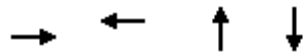
Area Type: Other  
 Cycle Length: 125  
 Actuated Cycle Length: 77.5  
 Natural Cycle: 105  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.69  
 Intersection Signal Delay: 15.6  
 Intersection Capacity Utilization 70.3%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

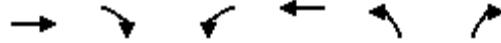




Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	66	239	675	423
v/c Ratio	0.19	0.69	0.60	0.41
Control Delay	23.9	36.9	11.5	8.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.9	36.9	11.5	8.7
Queue Length 50th (ft)	23	98	162	85
Queue Length 95th (ft)	55	170	320	172
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	658	661	1121	1027
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.36	0.60	0.41
<b>Intersection Summary</b>				

2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
 4: Rochambeau Drive & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Volume (vph)	706	36	49	522	14	24
Future Volume (vph)	706	36	49	522	14	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	12
Grade (%)	-6%			6%	-7%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.993				0.916	
Fl <sub>t</sub> Protected				0.996	0.982	
Satd. Flow (prot)	1790	0	0	1746	1791	0
Fl <sub>t</sub> Permitted				0.996	0.982	
Satd. Flow (perm)	1790	0	0	1746	1791	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	220			425	323	
Travel Time (s)	5.0			9.7	7.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	8%	20%	17%	4%	6%	5%
Adj. Flow (vph)	735	38	51	544	15	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	773	0	0	595	40	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	14	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.96	0.96	1.04	1.04	0.88	0.96
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	78.1%
ICU Level of Service	D
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	706	36	49	522	14	24
Future Vol, veh/h	706	36	49	522	14	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-6	-	-	6	-7	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	8	20	17	4	6	5
Mvmt Flow	735	38	51	544	15	25

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	773	0	1400 754
Stage 1	-	-	-	-	754 -
Stage 2	-	-	-	-	646 -
Critical Hdwy	-	-	4.27	-	5.06 5.55
Critical Hdwy Stg 1	-	-	-	-	4.06 -
Critical Hdwy Stg 2	-	-	-	-	4.06 -
Follow-up Hdwy	-	-	2.353	-	3.554 3.345
Pot Cap-1 Maneuver	-	-	779	-	261 468
Stage 1	-	-	-	-	614 -
Stage 2	-	-	-	-	661 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	779	-	236 468
Mov Cap-2 Maneuver	-	-	-	-	236 -
Stage 1	-	-	-	-	614 -
Stage 2	-	-	-	-	599 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	344	-	-	779	-
HCM Lane V/C Ratio	0.115	-	-	0.066	-
HCM Control Delay (s)	16.8	-	-	9.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

2025 No-Build Traffic Volumes W/Approved & Potential Other Development  
 5: Underhill Avenue & Glen Rock Street

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	732	524	12	10	8
Future Volume (vph)	2	732	524	12	10	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.997		0.939	
Fl <sub>t</sub> Protected					0.973	
Satd. Flow (prot)	0	1909	1801	0	1588	0
Fl <sub>t</sub> Permitted					0.973	
Satd. Flow (perm)	0	1909	1801	0	1588	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	796	570	13	11	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	798	583	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.1%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	732	524	12	10	8
Future Vol, veh/h	2	732	524	12	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	796	570	13	11	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	583	0	-	0	1377 577
Stage 1	-	-	-	-	577 -
Stage 2	-	-	-	-	800 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	991	-	-	-	160 516
Stage 1	-	-	-	-	562 -
Stage 2	-	-	-	-	442 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	991	-	-	-	159 516
Mov Cap-2 Maneuver	-	-	-	-	159 -
Stage 1	-	-	-	-	560 -
Stage 2	-	-	-	-	442 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	22.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	991	-	-	-	230
HCM Lane V/C Ratio	0.002	-	-	-	0.085
HCM Control Delay (s)	8.6	0	-	-	22.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	431	277	58	48	275	41	46	189	35	23	151	288
Future Volume (vph)	431	277	58	48	275	41	46	189	35	23	151	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	11	12	12	11	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.985			0.983			0.916	
Flt Protected		0.970			0.994			0.992			0.997	
Satd. Flow (prot)	0	1987	1655	0	1777	0	0	1675	0	0	1614	0
Flt Permitted		0.607			0.728			0.753			0.972	
Satd. Flow (perm)	0	1244	1655	0	1301	0	0	1272	0	0	1574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		5			8			85	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	444	286	60	49	284	42	47	195	36	24	156	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	730	60	0	375	0	0	278	0	0	477	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.07	1.02	0.99	1.04	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		16.0	16.0		16.0	16.0	
Total Split (s)	26.0	57.0		31.0	31.0		46.0	46.0		46.0	46.0	
Total Split (%)	23.6%	51.8%		28.2%	28.2%		41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	20.0	51.0		25.0	25.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		Min	Min		None	None	
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		51.4	91.4		51.4			27.9			27.9	
Actuated g/C Ratio		0.56	1.00		0.56			0.31			0.31	
v/c Ratio		1.04	0.04		0.51			0.71			0.88	
Control Delay		70.0	0.0		17.1			37.1			43.2	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		70.0	0.0		17.1			37.1			43.2	
LOS		E	A		B			D			D	
Approach Delay		64.7			17.1			37.1			43.2	
Approach LOS		E			B			D			D	
Queue Length 50th (ft)		~463	0		123			136			218	
Queue Length 95th (ft)		#806	0		262			223			344	
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)			50									
Base Capacity (vph)		699	1655		733			565			741	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		1.04	0.04		0.51			0.49			0.64	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	91.4
Natural Cycle:	120
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.04
Intersection Signal Delay:	46.1
Intersection Capacity Utilization	102.8%
Intersection LOS:	D
ICU Level of Service	G



Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	6%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

Analysis Period (min) 15

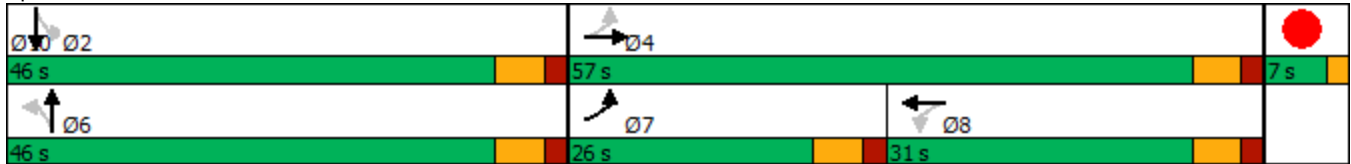
~ Volume exceeds capacity, queue is theoretically infinite.

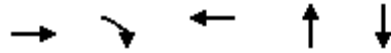
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	730	60	375	278	477
v/c Ratio	1.04	0.04	0.51	0.71	0.88
Control Delay	70.0	0.0	17.1	37.1	43.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	70.0	0.0	17.1	37.1	43.2
Queue Length 50th (ft)	~463	0	123	136	218
Queue Length 95th (ft)	#806	0	262	223	344
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	699	1655	733	565	741
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.04	0.04	0.51	0.49	0.64

**Intersection Summary**

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	13	46	12	90	65	80	14	559	88	41	360	22
Future Volume (vph)	13	46	12	90	65	80	14	559	88	41	360	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.977			0.954			0.982			0.993	
Fl <sub>t</sub> Protected		0.991			0.981			0.999			0.995	
Satd. Flow (prot)	0	1752	0	0	1926	0	0	1749	0	0	1761	0
Fl <sub>t</sub> Permitted		0.928			0.861			0.988			0.897	
Satd. Flow (perm)	0	1641	0	0	1691	0	0	1730	0	0	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			20			7			3	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	48	13	95	68	84	15	588	93	43	379	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	75	0	0	247	0	0	696	0	0	445	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Fr't	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
 04/03/2023

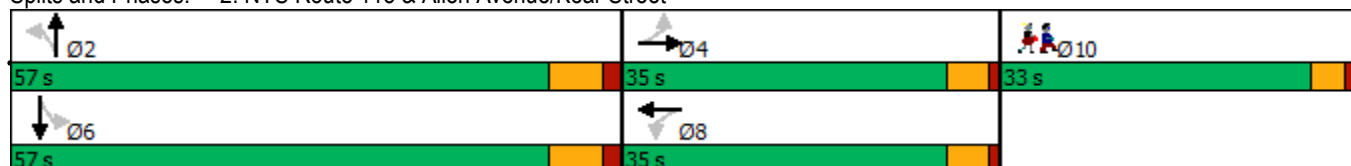


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		15.9			15.9			50.1			50.1	
Actuated g/C Ratio		0.20			0.20			0.64			0.64	
v/c Ratio		0.22			0.68			0.63			0.44	
Control Delay		24.7			36.5			12.3			9.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.7			36.5			12.3			9.3	
LOS		C			D			B			A	
Approach Delay		24.7			36.5			12.3			9.3	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)		27			102			175			93	
Queue Length 95th (ft)		61			176			348			190	
Internal Link Dist (ft)		269			289			978			263	
Turn Bay Length (ft)												
Base Capacity (vph)		636			663			1112			1020	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.12			0.37			0.63			0.44	

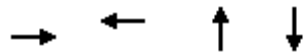
Intersection Summary

Area Type: Other  
 Cycle Length: 125  
 Actuated Cycle Length: 78.1  
 Natural Cycle: 105  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 16.1  
 Intersection Capacity Utilization 72.1%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	75	247	696	445
v/c Ratio	0.22	0.68	0.63	0.44
Control Delay	24.7	36.5	12.3	9.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.7	36.5	12.3	9.3
Queue Length 50th (ft)	27	102	175	93
Queue Length 95th (ft)	61	176	348	190
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	636	663	1112	1020
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.37	0.63	0.44
<b>Intersection Summary</b>				



2025 Build Traffic Volumes W/Approved & Potential Other Development  
 3: Underhill Avenue & Site Access

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	↙
Traffic Volume (vph)	26	738	583	29	29	26
Future Volume (vph)	26	738	583	29	29	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.994		0.936	
Flt Protected		0.998			0.974	
Satd. Flow (prot)	0	1905	1805	0	1698	0
Flt Permitted		0.998			0.974	
Satd. Flow (perm)	0	1905	1805	0	1698	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	820	648	32	32	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	849	680	0	61	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	69.9%
ICU Level of Service	C
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	26	738	583	29	29	26
Future Vol, veh/h	26	738	583	29	29	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	820	648	32	32	29

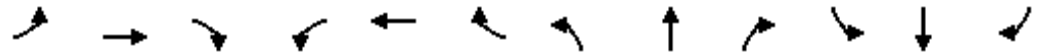
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	680	0	-	0	1542 664
Stage 1	-	-	-	-	664 -
Stage 2	-	-	-	-	878 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	912	-	-	-	127 461
Stage 1	-	-	-	-	512 -
Stage 2	-	-	-	-	406 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	912	-	-	-	120 461
Mov Cap-2 Maneuver	-	-	-	-	120 -
Stage 1	-	-	-	-	482 -
Stage 2	-	-	-	-	406 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	33.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	912	-	-	-	185
HCM Lane V/C Ratio	0.032	-	-	-	0.33
HCM Control Delay (s)	9.1	0	-	-	33.8
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1.4

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	8	732	36	49	548	12	14	0	24	8	0	5
Future Volume (vph)	8	732	36	49	548	12	14	0	24	8	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%				0%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.997			0.916				0.948
Flt Protected					0.996			0.982				0.970
Satd. Flow (prot)	0	1925	0	0	1794	0	0	1816	0	0	1713	0
Flt Permitted					0.996			0.982				0.970
Satd. Flow (perm)	0	1925	0	0	1794	0	0	1816	0	0	1713	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		220			425			323				150
Travel Time (s)		5.0			9.7			7.3				3.4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	1%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
Adj. Flow (vph)	8	763	38	51	571	13	15	0	25	8	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	809	0	0	635	0	0	40	0	0	13	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop				Stop

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	71.2%
ICU Level of Service	C
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	732	36	49	548	12	14	0	24	8	0	5
Future Vol, veh/h	8	732	36	49	548	12	14	0	24	8	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	1	2	2	2	2	2	2	5	2	2	2
Mvmt Flow	8	763	38	51	571	13	15	0	25	8	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	584	0	0	801	0	0	1480	1484	782	1491	1497	578
Stage 1	-	-	-	-	-	-	798	798	-	680	680	-
Stage 2	-	-	-	-	-	-	682	686	-	811	817	-
Critical Hdwy	4.12	-	-	4.12	-	-	5.72	5.12	5.55	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	991	-	-	822	-	-	184	222	454	102	123	516
Stage 1	-	-	-	-	-	-	518	543	-	441	451	-
Stage 2	-	-	-	-	-	-	573	585	-	373	390	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	991	-	-	822	-	-	167	198	454	89	110	516
Mov Cap-2 Maneuver	-	-	-	-	-	-	167	198	-	89	110	-
Stage 1	-	-	-	-	-	-	510	535	-	434	410	-
Stage 2	-	-	-	-	-	-	515	531	-	347	384	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.8			20.1			35.6		
HCM LOS							C			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	278	991	-	-	822	-	-	131
HCM Lane V/C Ratio	0.142	0.008	-	-	0.062	-	-	0.103
HCM Control Delay (s)	20.1	8.7	0	-	9.7	0	-	35.6
HCM Lane LOS	C	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.5	0	-	-	0.2	-	-	0.3

2025 Build Traffic Volumes W/Approved & Potential Other Development  
 5: Underhill Avenue & Glen Rock Street

Peak PM Hour  
 04/03/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	765	555	12	10	8
Future Volume (vph)	2	765	555	12	10	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.997		0.939	
Fl <sub>t</sub> Protected					0.973	
Satd. Flow (prot)	0	1909	1801	0	1588	0
Fl <sub>t</sub> Permitted					0.973	
Satd. Flow (perm)	0	1909	1801	0	1588	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	832	603	13	11	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	834	616	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.9%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	765	555	12	10	8
Future Vol, veh/h	2	765	555	12	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	832	603	13	11	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	616	0	-	0	1446 610
Stage 1	-	-	-	-	610 -
Stage 2	-	-	-	-	836 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	964	-	-	-	145 494
Stage 1	-	-	-	-	542 -
Stage 2	-	-	-	-	425 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	964	-	-	-	144 494
Mov Cap-2 Maneuver	-	-	-	-	144 -
Stage 1	-	-	-	-	540 -
Stage 2	-	-	-	-	425 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	23.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	964	-	-	-	210
HCM Lane V/C Ratio	0.002	-	-	-	0.093
HCM Control Delay (s)	8.7	0	-	-	23.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

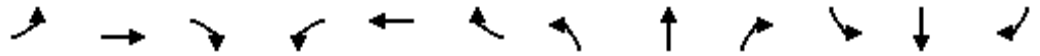
2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Right and Left) Underhill Avenue  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	431	277	58	48	275	41	46	189	35	23	151	288
Future Volume (vph)	431	277	58	48	275	41	46	189	35	23	151	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.981			0.983			0.850	
Flt Protected	0.950			0.950				0.992			0.993	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	0	1733	0	0	1833	1546
Flt Permitted	0.288			0.553				0.907			0.907	
Satd. Flow (perm)	518	1866	0	882	1797	0	0	1584	0	0	1674	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			7			7				281
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	444	286	60	49	284	42	47	195	36	24	156	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	444	346	0	49	326	0	0	278	0	0	180	297
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0

2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Right Over Underhill Avenue) Peak PM Hour Underhill Avenue  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		9.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	48.6	41.7		25.0	18.0			18.0			18.0	48.7
Actuated g/C Ratio	0.61	0.52		0.31	0.23			0.23			0.23	0.61
v/c Ratio	0.65	0.35		0.15	0.79			0.76			0.47	0.28
Control Delay	14.8	14.4		12.4	44.9			44.5			33.4	2.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	14.8	14.4		12.4	44.9			44.5			33.4	2.0
LOS	B	B		B	D			D			C	A
Approach Delay		14.6			40.7			44.5			13.8	
Approach LOS		B			D			D			B	
Queue Length 50th (ft)	95	100		8	142			120			74	3
Queue Length 95th (ft)	247	218		29	300			259			167	36
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	817	1310		383	730			665			699	1198
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.54	0.26		0.13	0.45			0.42			0.26	0.25

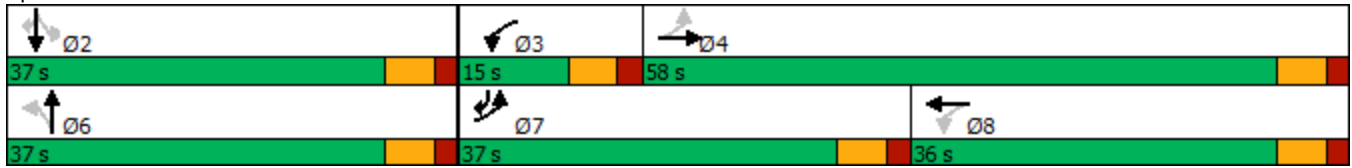
**Intersection Summary**

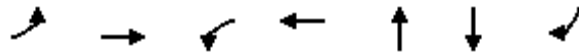
Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	79.5
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	23.8
Intersection Capacity Utilization:	84.7%
Intersection LOS:	C
ICU Level of Service:	E



Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



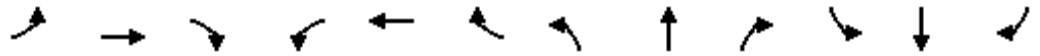


Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	444	346	49	326	278	180	297
v/c Ratio	0.65	0.35	0.15	0.79	0.76	0.47	0.28
Control Delay	14.8	14.4	12.4	44.9	44.5	33.4	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	14.4	12.4	44.9	44.5	33.4	2.0
Queue Length 50th (ft)	95	100	8	142	120	74	3
Queue Length 95th (ft)	247	218	29	300	259	167	36
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	817	1310	383	730	665	699	1198
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.26	0.13	0.45	0.42	0.26	0.25

Intersection Summary



2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turning Lane) All Approvals  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	431	277	58	48	275	41	46	189	35	23	151	288
Future Volume (vph)	431	277	58	48	275	41	46	189	35	23	151	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.974			0.981			0.977				0.850
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	1669	1729	0	1666	1743	1546
Flt Permitted	0.310			0.553			0.652			0.518	0.995	
Satd. Flow (perm)	558	1866	0	882	1797	0	1145	1729	0	908	1736	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			7			9				297
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	444	286	60	49	284	42	47	195	36	24	156	297
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	444	346	0	49	326	0	47	231	0	22	158	297
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turn Reg Lanes) All Approaches  
 1: NYS Route 118 & Underhill Avenue 04/03/2023



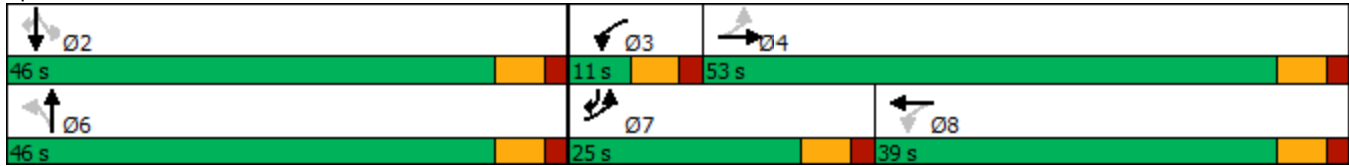
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		5.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	41.3	35.3		21.5	16.4		14.2	14.2		14.2	14.2	39.1
Actuated g/C Ratio	0.61	0.52		0.32	0.24		0.21	0.21		0.21	0.21	0.58
v/c Ratio	0.67	0.35		0.15	0.74		0.20	0.63		0.12	0.44	0.29
Control Delay	14.1	12.5		10.0	34.8		25.7	32.5		24.8	28.5	2.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	14.1	12.5		10.0	34.8		25.7	32.5		24.8	28.5	2.0
LOS	B	B		B	C		C	C		C	C	A
Approach Delay		13.4			31.5			31.4			11.8	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	82	87		7	120		16	84		7	60	0
Queue Length 95th (ft)	#201	174		23	228		47	171		29	128	33
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	670	1327		327	898		691	1047		548	1048	1030
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.26		0.15	0.36		0.07	0.22		0.04	0.15	0.29

**Intersection Summary**

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	67.8
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	19.1
Intersection Capacity Utilization	81.2%
Intersection LOS:	B
ICU Level of Service	D

Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turn Right Lane) Hourly All Approaches  
 1: NYS Route 118 & Underhill Avenue

04/03/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	444	346	49	326	47	231	22	158	297
v/c Ratio	0.67	0.35	0.15	0.74	0.20	0.63	0.12	0.44	0.29
Control Delay	14.1	12.5	10.0	34.8	25.7	32.5	24.8	28.5	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.1	12.5	10.0	34.8	25.7	32.5	24.8	28.5	2.0
Queue Length 50th (ft)	82	87	7	120	16	84	7	60	0
Queue Length 95th (ft)	#201	174	23	228	47	171	29	128	33
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	670	1327	327	898	691	1047	548	1048	1030
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.26	0.15	0.36	0.07	0.22	0.04	0.15	0.29

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

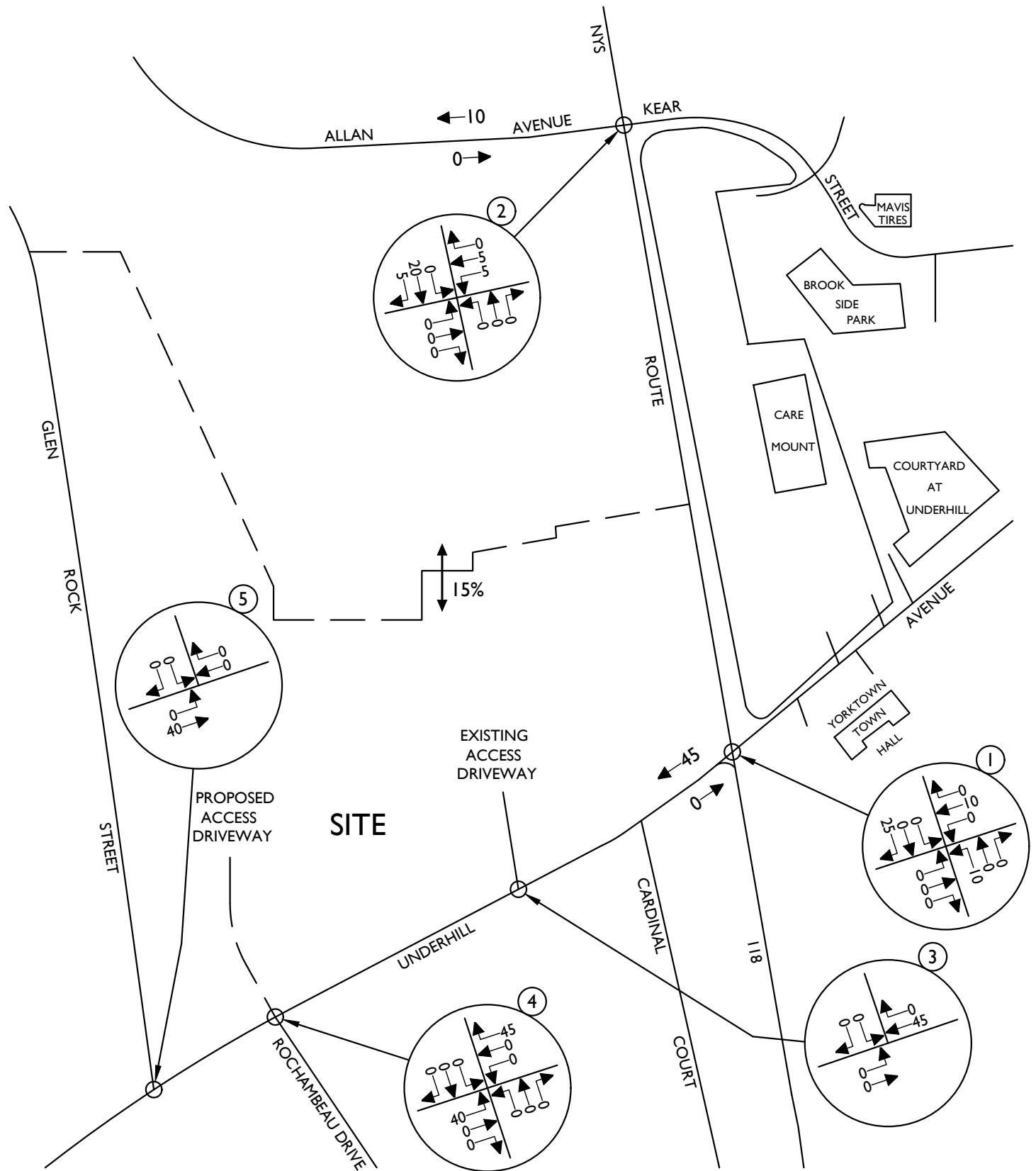




# Sensitivity Analyses With 4,000 Sq. Ft. Restaurant

# Figures

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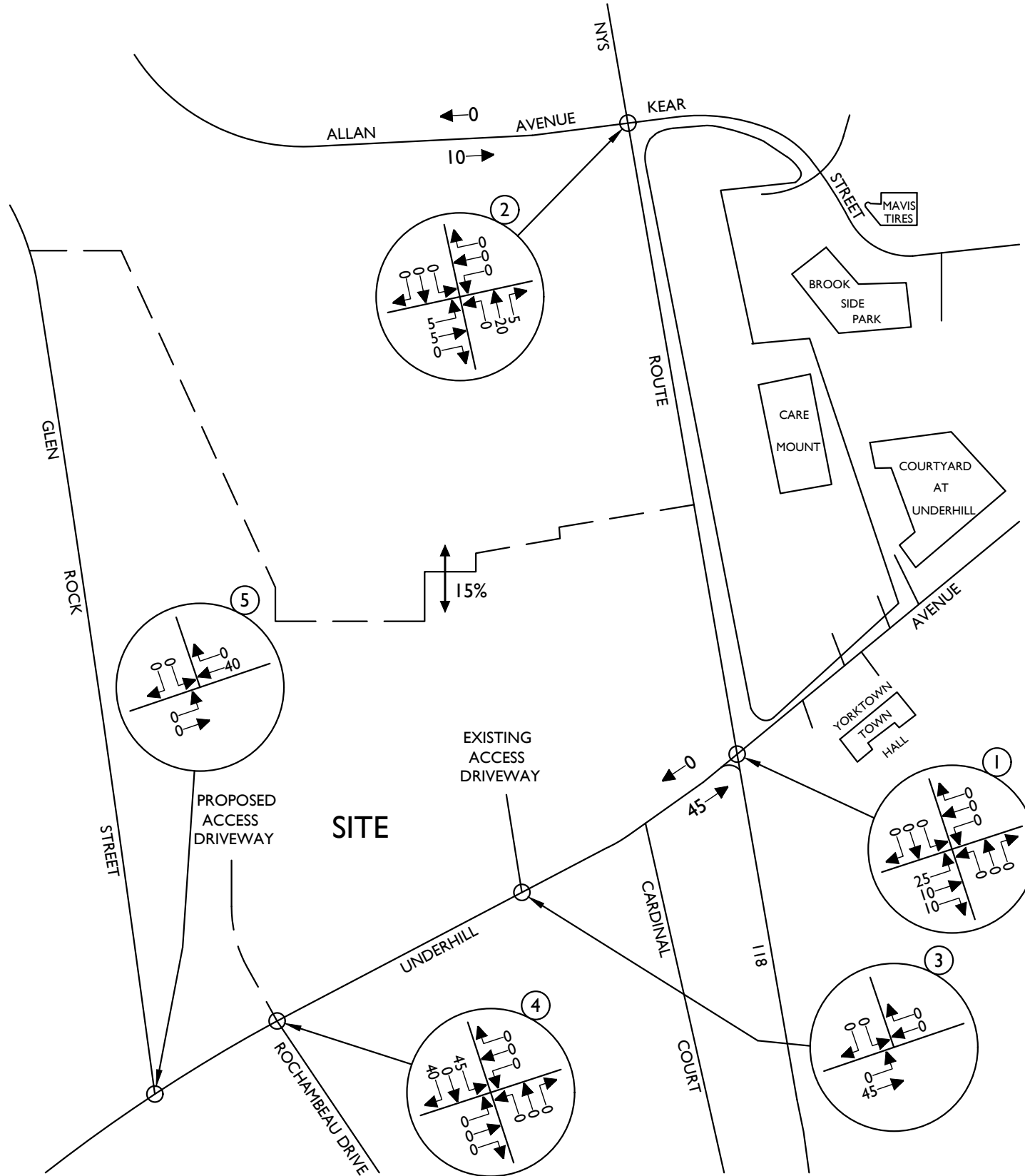
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AS SHOWN	4/20/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
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SHEET TITLE:	TOWNHOUSE ARRIVAL DISTRIBUTION (SENSITIVITY - 4,000 SQ. FT. RESTAURANT) (EXPRESSED AS A %)
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SHEET NUMBER:	18R
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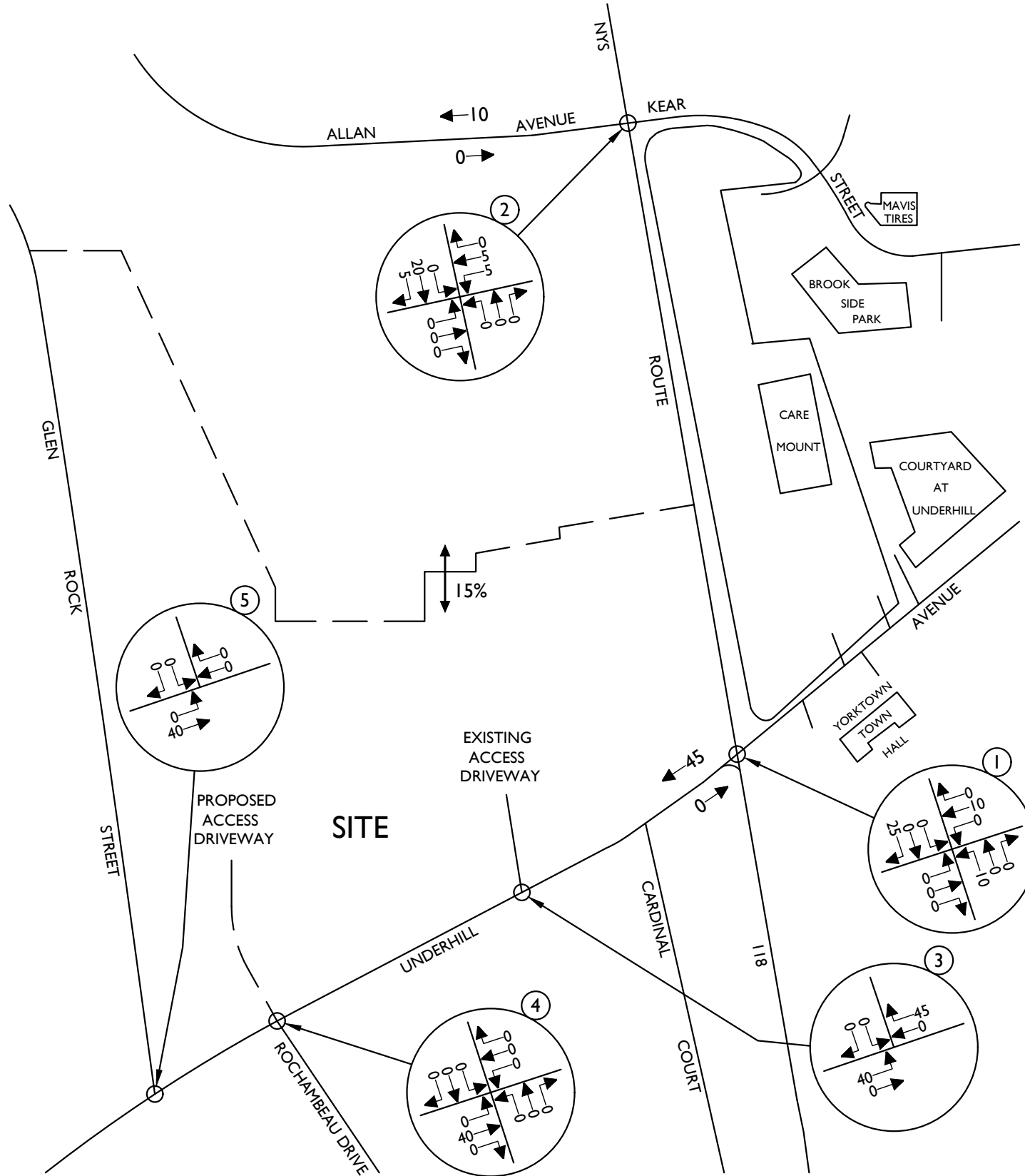
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AS SHOWN	4/20/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
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SHEET TITLE: TOWNHOUSE DEPARTURE DISTRIBUTION (SENSITIVITY - 4,000 SQ. FT. RESTAURANT) (EXPRESSED AS A %)

SHEET NUMBER: 19R

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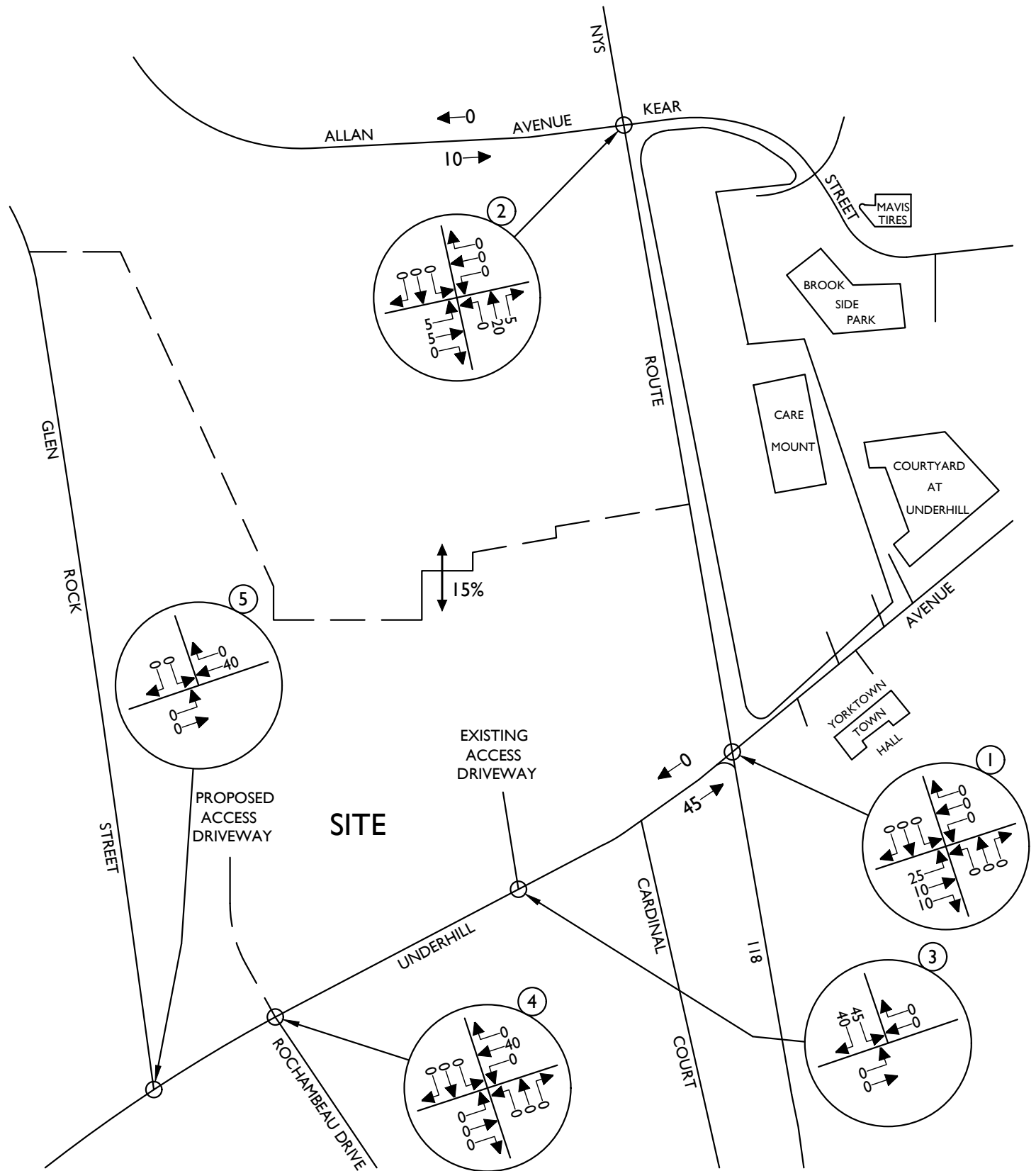
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AS SHOWN	4/20/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
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SHEET TITLE:  
APARTMENTS/CONDOS/COMMERCIAL  
ARRIVAL DISTRIBUTION  
(SENSITIVITY - 4,000 SQ. FT. RESTAURANT)  
(EXPRESSED AS A %)

SHEET NUMBER:

20R

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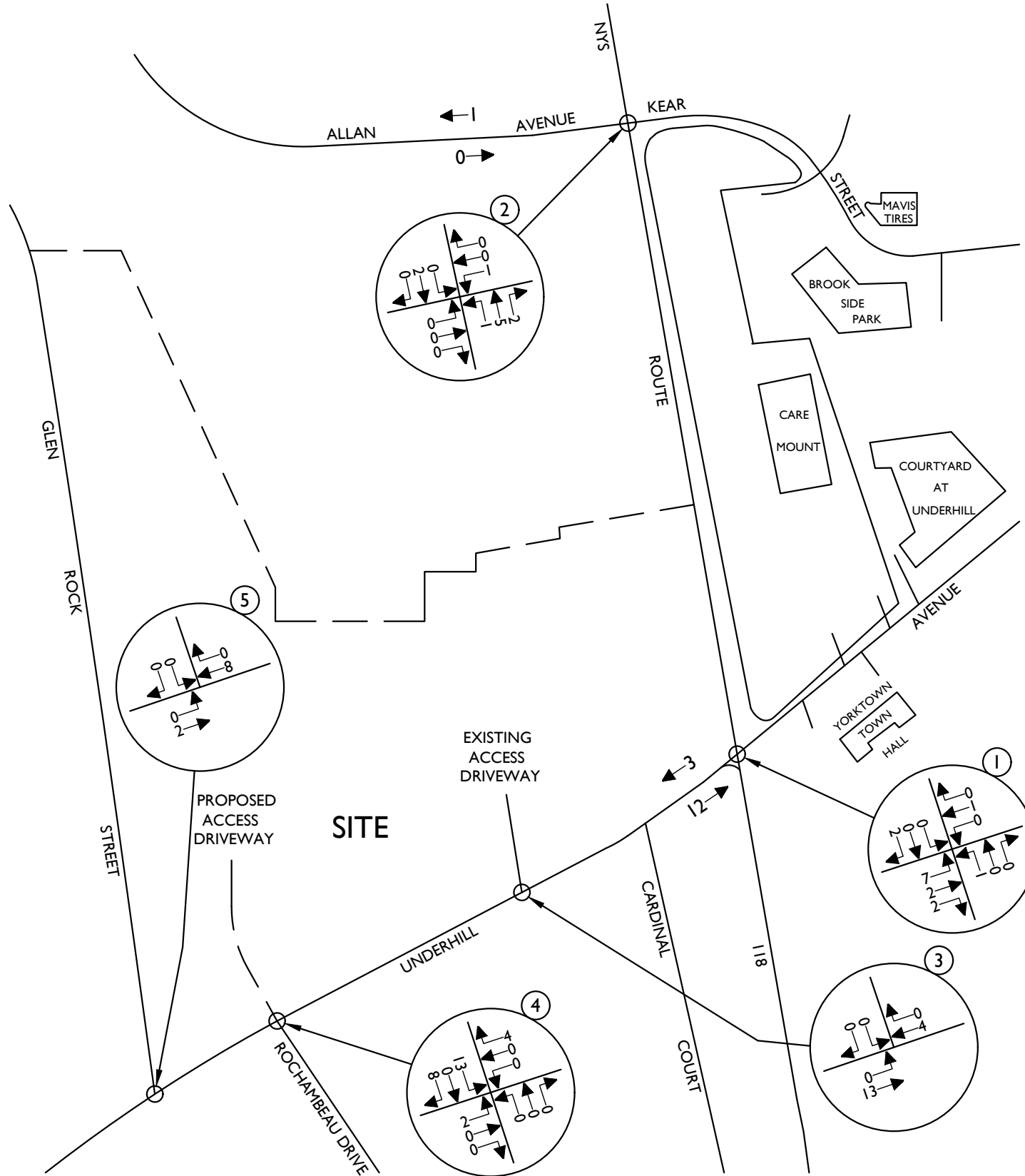
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AS SHOWN	4/20/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
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SHEET TITLE:  
APARTMENTS/CONDOS/COMMERCIAL  
DEPARTURE DISTRIBUTION  
(SENSITIVITY - 4,000 SQ. FT. RESTAURANT)  
(EXPRESSED AS A %)

SHEET NUMBER:

21R

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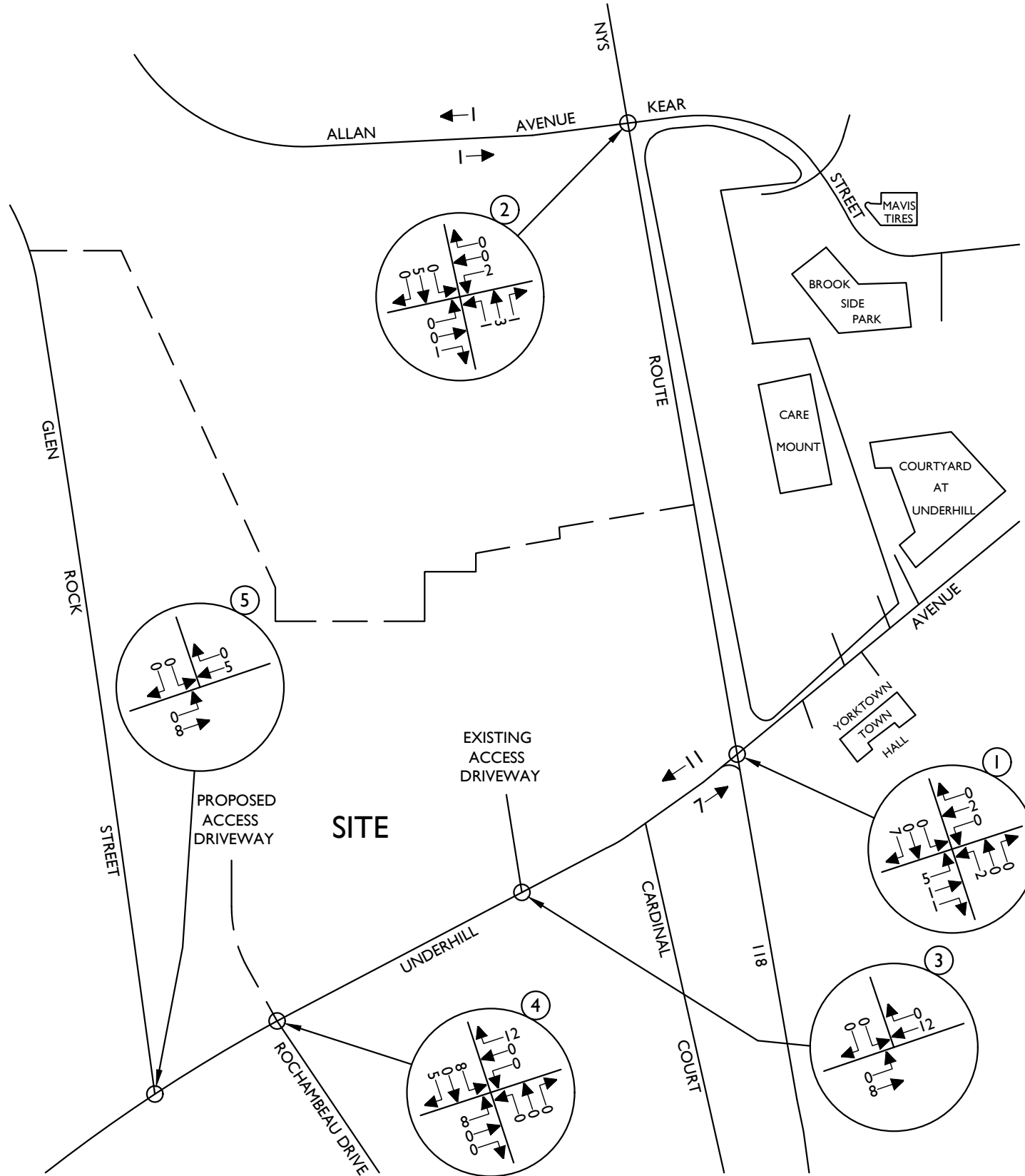
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PROJECT NUMBER: 20006297A	DRAWING NAME: 230420RGD_FIGURE_BD_SENSITIVITY_4K REST		

SHEET TITLE: TOWNHOUSE SITE GENERATED TRAFFIC VOLUMES (SENSITIVITY - 4,000 SQ. FT. RESTAURANT) WEEKDAY AM PEAK HOUR

SHEET NUMBER: 22R

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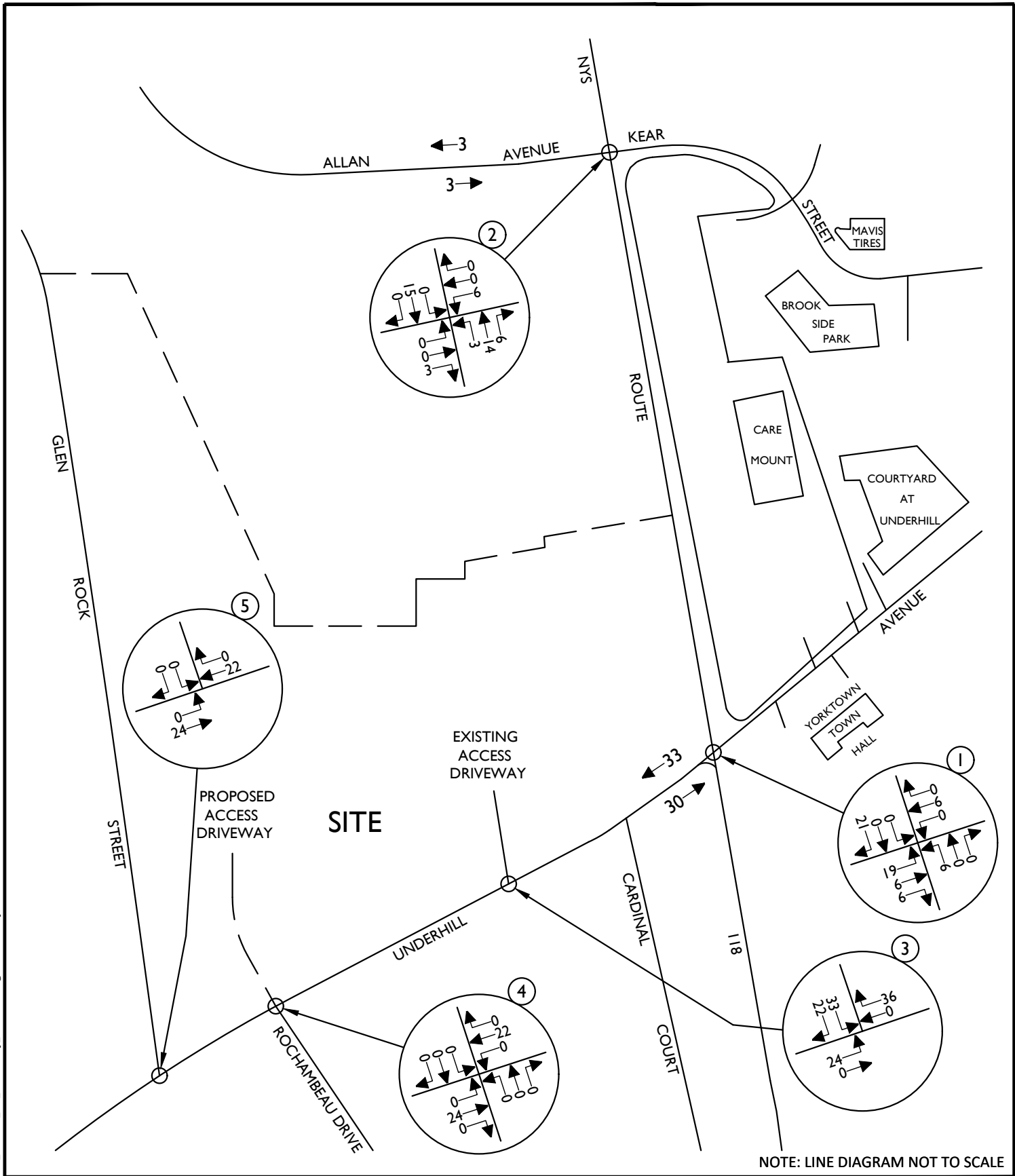
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AS SHOWN	4/20/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
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SHEET TITLE:  
 TOWNHOUSE  
 SITE GENERATED TRAFFIC VOLUMES  
 (SENSITIVITY - 4,000 SQ. FT. RESTAURANT)  
 WEEKDAY PEAK PM HOUR

SHEET NUMBER:  
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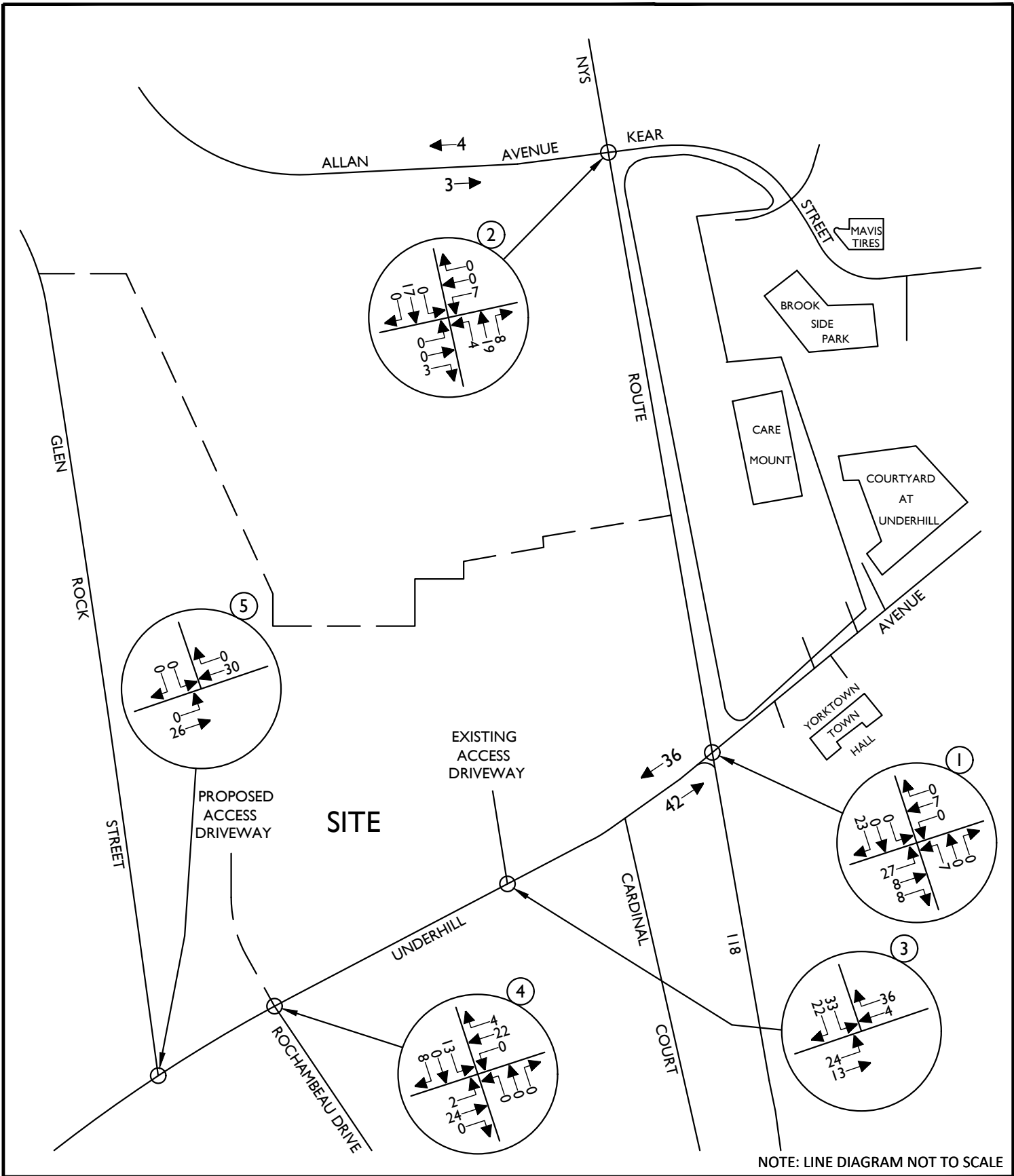
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SHEET TITLE:  
 APARTMENTS/CONDOS/COMMERCIAL  
 SITE GENERATED TRAFFIC VOLUMES  
 (SENSITIVITY - 4,000 SQ. FT. RESTAURANT)  
 WEEKDAY PEAK AM HOUR

SHEET NUMBER:  
 24R

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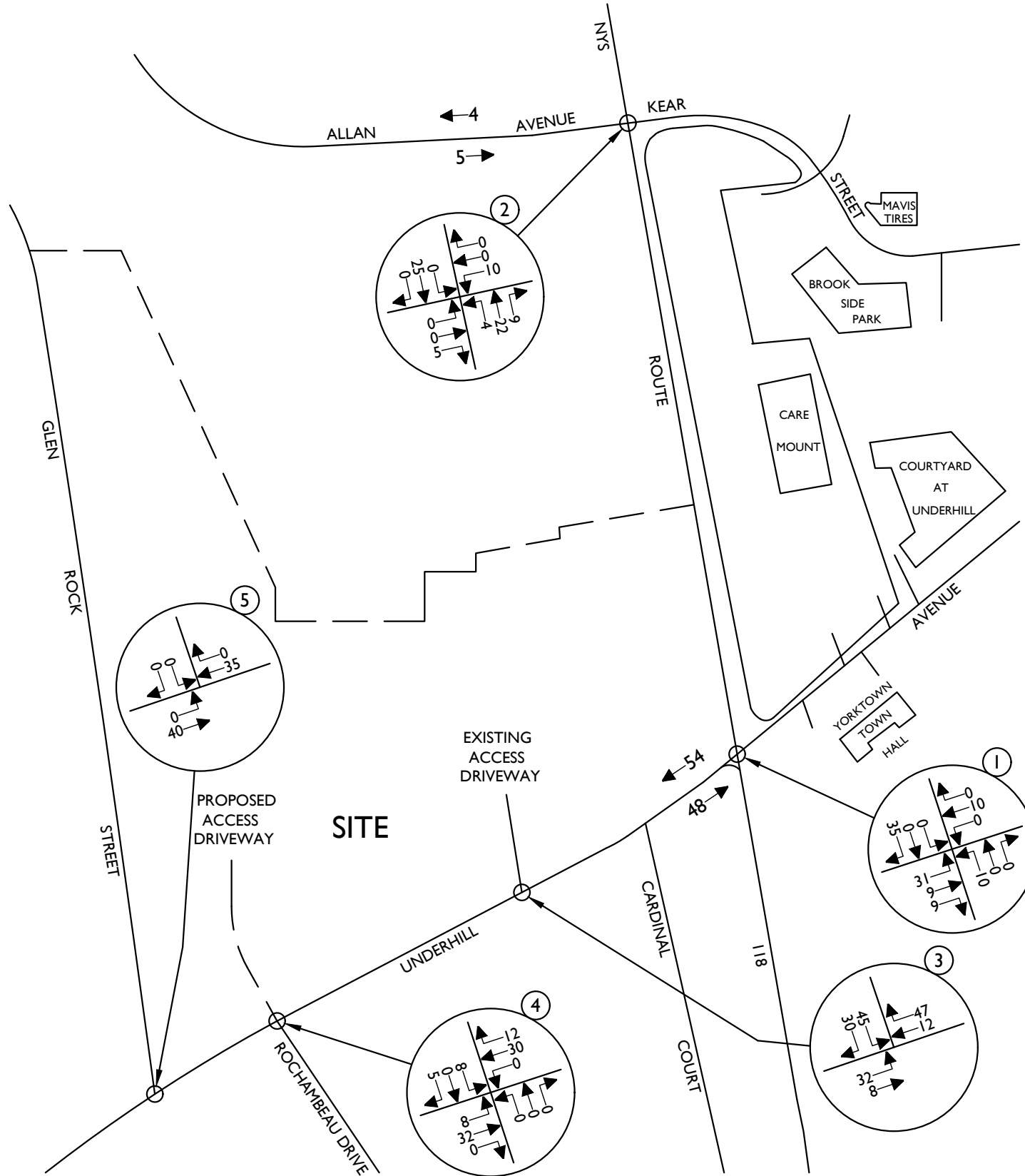
TRAFFIC IMPACT STUDY

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
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PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_BD_SENSITIVITY_4K_REST		

SHEET TITLE:  
 TOTAL SITE GENERATED  
 TRAFFIC VOLUMES  
 (SENSITIVITY - 4,000 SQ. FT. RESTAURANT)  
 WEEKDAY PEAK AM HOUR

SHEET NUMBER:  
 26R

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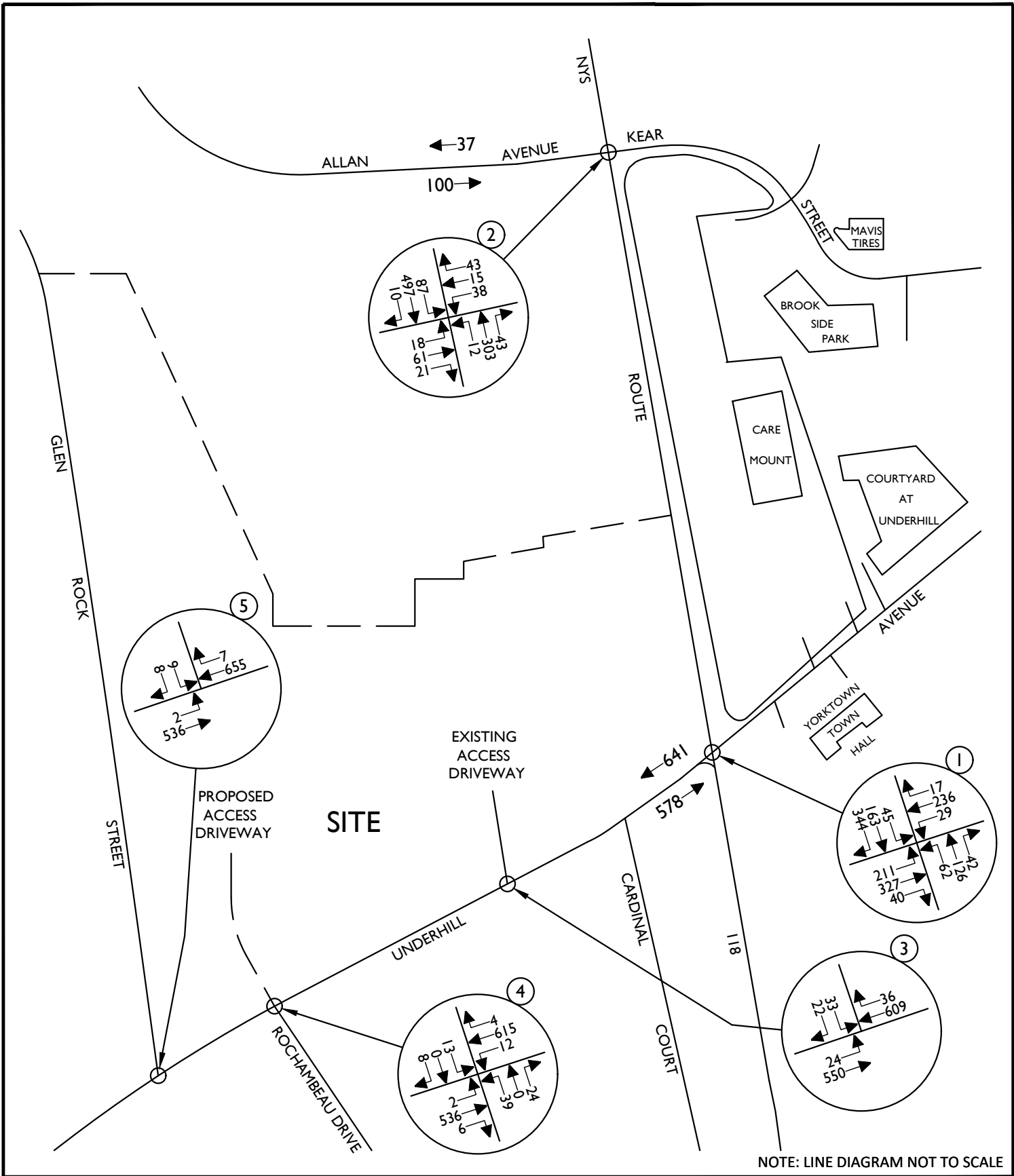
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SHEET TITLE:  
 TOTAL SITE GENERATED TRAFFIC VOLUMES (SENSITIVITY - 4,000 SQ. FT. RESTAURANT) WEEKDAY PEAK PM HOUR

SHEET NUMBER:  
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TRAFFIC IMPACT STUDY

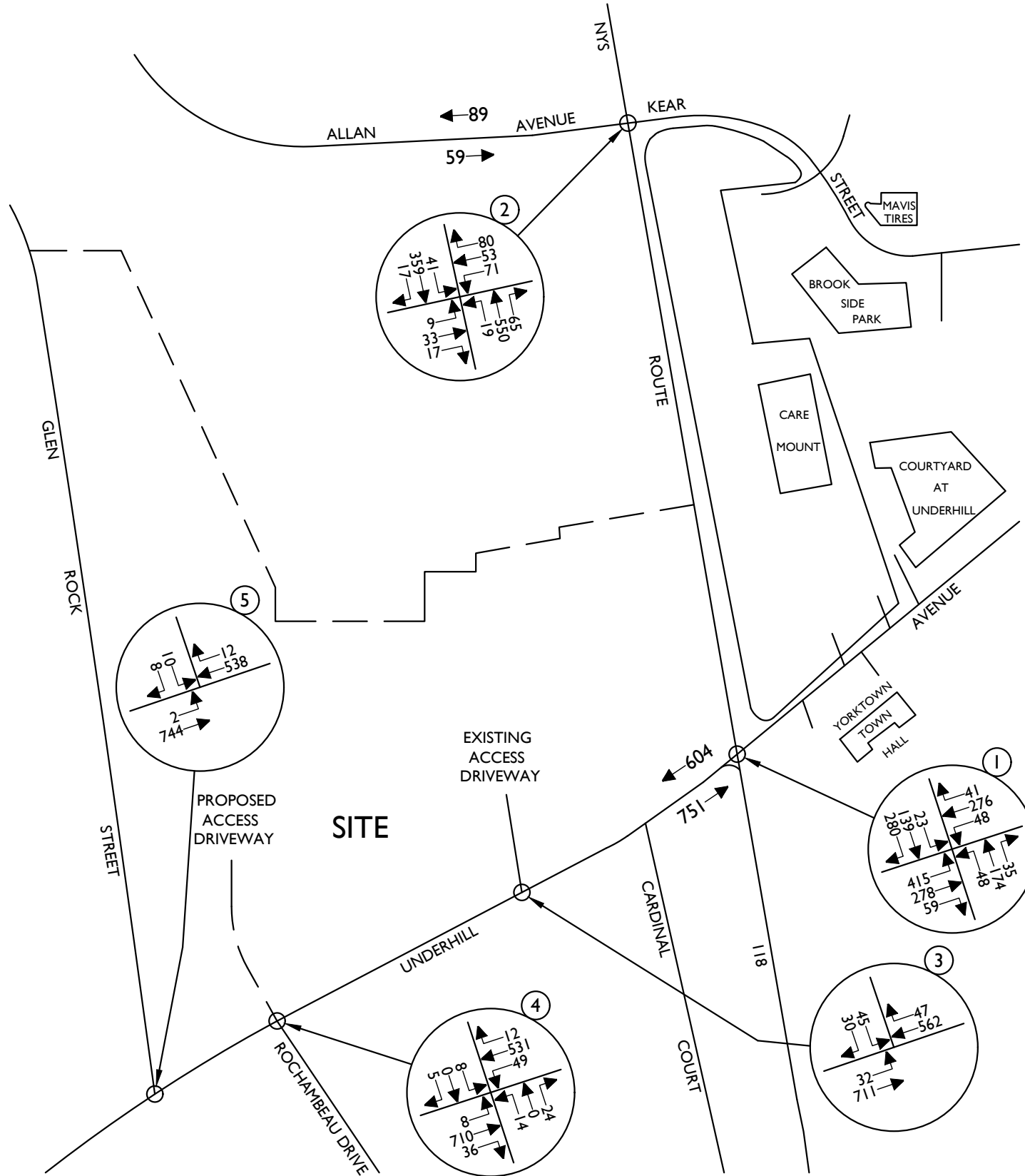
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AS SHOWN	4/20/23	R.H.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_BD_SENSITIVITY_4K		

SHEET TITLE:  
2025 BUILD TRAFFIC VOLUMES  
(SENSITIVITY - 4,000 SQ. FT. RESTAURANT)  
WEEKDAY PEAK AM HOUR  
(W/ APPROVED O.D.)

SHEET NUMBER:  
28R

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6297A\Reports\Traffic\Figures\230420RGD\_FIGURE\_BD\_Sensitivity\_4K\_Rest.dwg\29R By: RDANDREA



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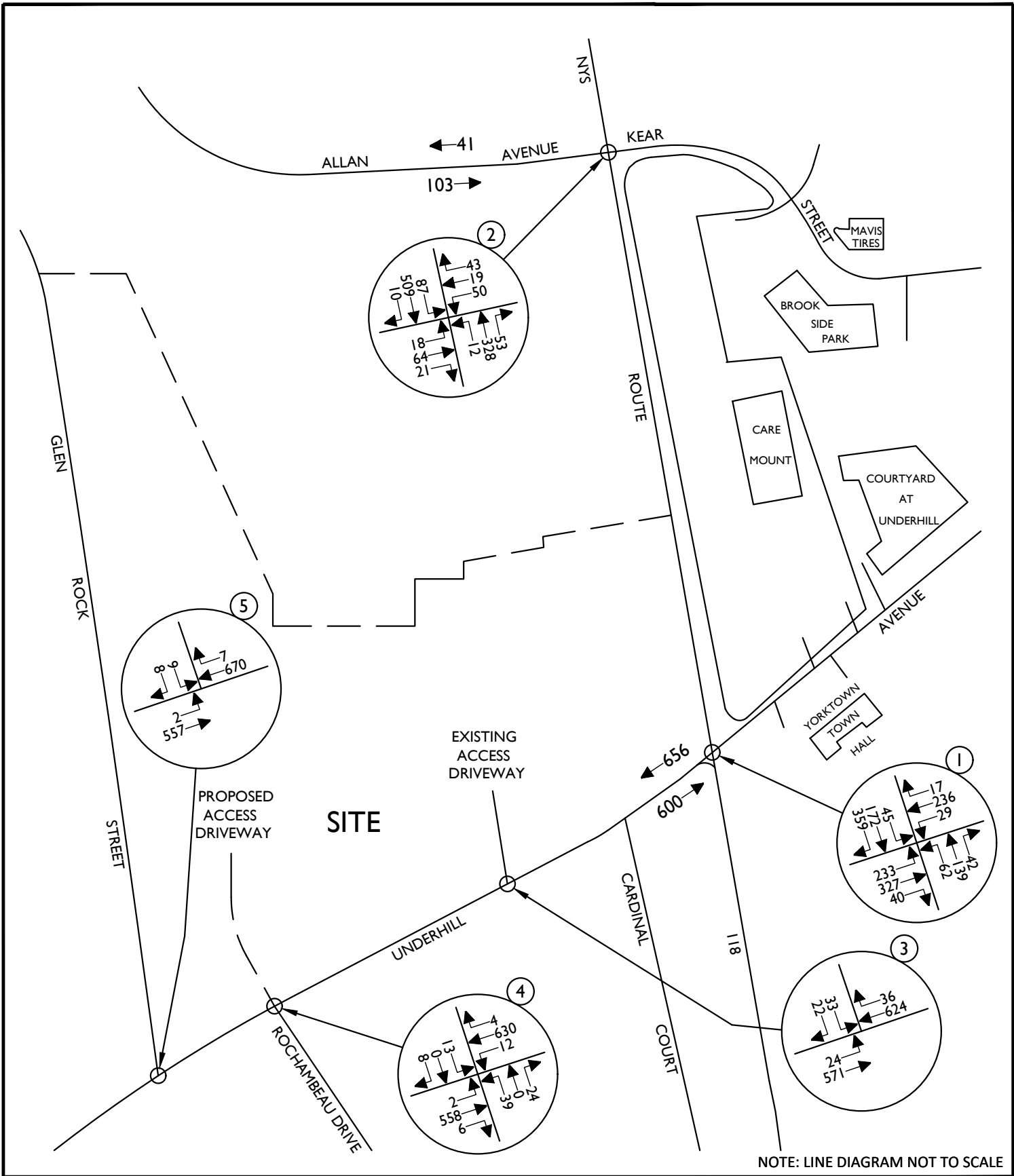
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20006297A	230420RGD_FIGURE_BD_SENSITIVITY_4K		

SHEET TITLE:  
 2025 BUILD TRAFFIC VOLUMES (SENSITIVITY - 4,000 SQ. FT. RESTAURANT) WEEKDAY PEAK PM HOUR (W/ APPROVED O.D.)

SHEET NUMBER:  
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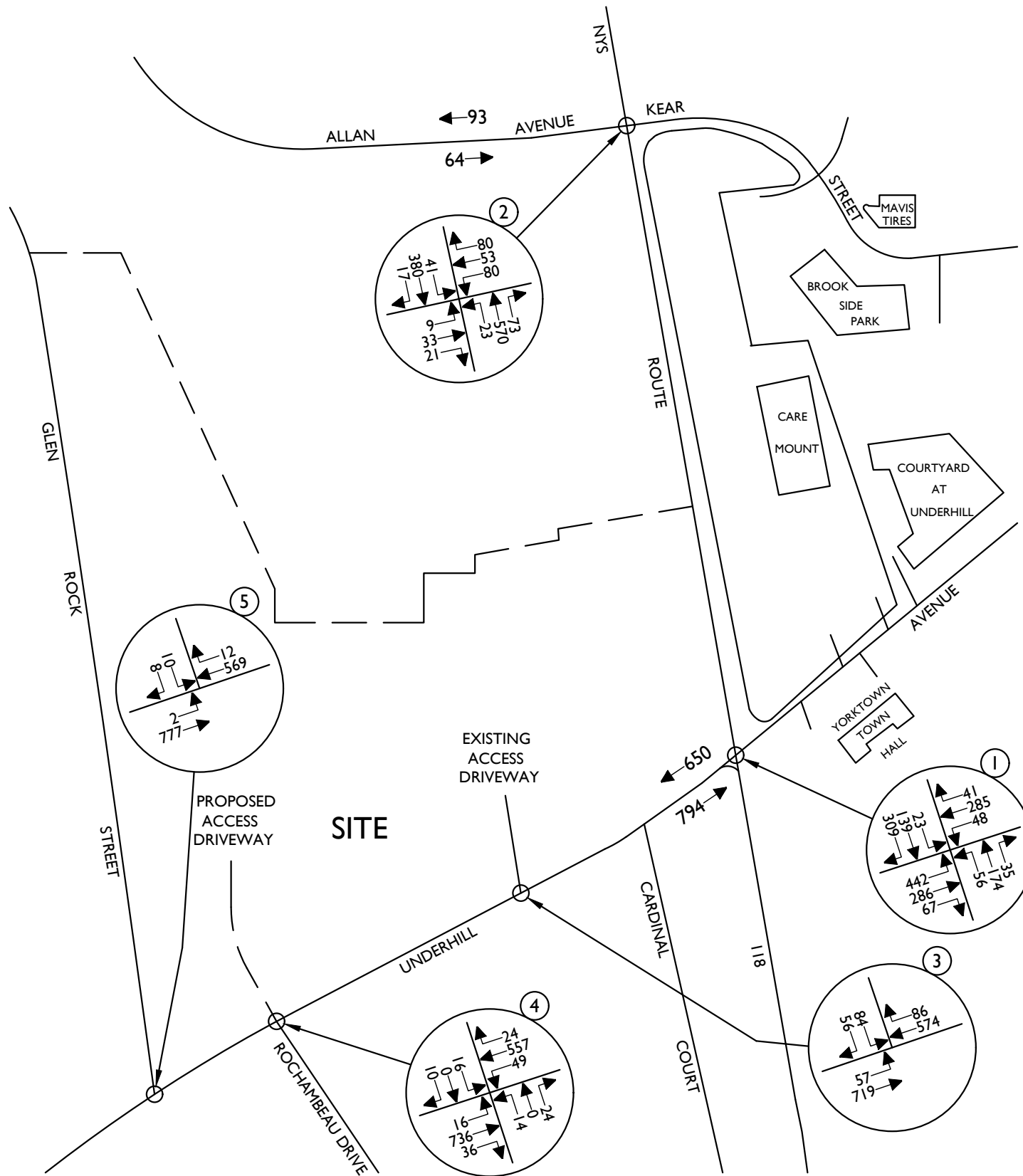
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TRAFFIC IMPACT STUDY			
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
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PROJECT NUMBER:	DRAWING NAME:		
20006297A	230420RGD_FIGURE_BD_SENSITIVITY_4K REST		
SHEET TITLE:			
2025 BUILD TRAFFIC VOLUMES (SENSITIVITY - 4,000 SQ. FT. RESTAURANT) WEEKDAY PEAK AM HOUR (W/ APPROVED & POTENTIAL O.D.)			
SHEET NUMBER:			40R

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PROJECT NUMBER:	DRAWING NAME:		
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SHEET TITLE:  
2025 BUILD TRAFFIC VOLUMES  
(SENSITIVITY - 4,000 SQ. FT. RESTAURANT)  
WEEKDAY PEAK PM HOUR  
(W/ APPROVED & POTENTIAL O.D.)

SHEET NUMBER:

41R



# Tables

**Table No. 1R**  
**Hourly Trip Generation Rates (HTGR) and**  
**Anticipated Site Generated Traffic Volumes**  
**Peak Hour of Generator**  
**Sensitivity Analysis With 4,000 Sq. Ft. Restaurant**

Underhill Farm Yorktown, NY	Entry			Exit		
	HTGR <sup>1</sup>	Volume	New Trips <sup>2</sup>	HTGR <sup>1</sup>	Volume	New Trips <sup>2</sup>
<b>Apartments/Condominiums/Townhouses</b> (148 Units)						
Peak AM Hour	0.13	19	19	0.41	61	61
Peak PM Hour	0.41	60	60	0.25	37	37
<b>Commercial - Office<sup>3</sup></b> (13,000 Sq. Ft.)						
Peak AM Hour	1.92	25	25	0.31	4	4
Peak PM Hour	0.38	5	5	2.00	26	26
<b>Commercial - Retail</b> (2,000 Sq. Ft.)						
Peak AM Hour	4.00	8	6	3.50	7	5
Peak PM Hour	7.00	14	11	6.00	12	9
<b>Quality Restaurant</b> (4,000 Sq. Ft.)						
Peak AM Hour	3.50	14	11	1.00	4	3
Peak PM Hour	5.00	20	15	3.25	13	10
<b>Total</b>						
Peak AM Hour	-	66	61	-	76	73
Peak PM Hour	-	99	91	-	88	82

**NOTES:**

- 1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 11TH EDITION, 2021. ITE LAND USE CODE - 220 - MULTIFAMILY HOUSING (MID-RISE), ITE LAND USE CODE - 931 - FINE DINING RESTAURANT, ITE LAND USE CODE - 710 - GENERAL OFFICE BUILDING, AND ITE LAND USE CODE - 822 - STRIP RETAIL PLAZA (<40K). PEAK HOUR OF GENERATOR RATES WERE UTILIZED FOR EACH LAND USE.
- 2) "NEW TRIPS" INCLUDE A 25% PASS-BY/DIVERTED LINK TRIP CREDIT FOR THE RETAIL AND RESTAURANT LAND USES.
- 3) PEAK HOUR OF GENERATOR RATES ARE NOT PROVIDED BY ITE FOR LAND USE 710 - GENERAL OFFICE BUILDING SINCE IT IS ASSUMED THAT THE PEAK HOUR OF OFFICE GENERATED TRAFFIC IS COINCIDENT WITH PEAK HOUR OF ADJACENT STREET TRAFFIC. THEREFORE PEAK HOUR OF ADJACENT STREET TRAFFIC RATES HAVE BEEN UTILIZED.

**Table No. 2R**  
**Level of Service Summary Table**  
**Weekday Peak AM Hour - Sensitivity Analysis with 4,000 Square Foot Restaurant**

	2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.					
	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay			
<b>1</b>	<b>NYS Route 118 &amp; Underhill Avenue</b>			<b>Signalized</b>														
	Underhill Avenue	EB	LT	0.66	C	22.8	0.75	C	27.5	0.84	C	34.3	0.82	C	32.9	0.92	D	45.0
			R	0.02	A	0.0	0.02	A	0.0	0.03	A	0.0	0.02	A	0.0	0.03	A	0.0
	Underhill Avenue	WB	LTR	0.32	B	15.5	0.38	B	16.9	0.41	B	18.2	0.40	B	18.1	0.46	B	20.0
	NYS Route 118	NB	LTR	0.54	C	24.0	0.57	C	24.4	0.60	C	25.4	0.57	C	24.1	0.60	C	25.1
	NYS Route 118	SB	LTR	0.88	D	35.7	0.89	D	37.0	0.90	D	37.6	0.90	D	38.0	0.90	D	38.1
			<b>Overall</b>	-	<b>C</b>	<b>25.8</b>	-	<b>C</b>	<b>27.8</b>	-	<b>C</b>	<b>30.6</b>	-	<b>C</b>	<b>30.2</b>	-	<b>C</b>	<b>34.6</b>
	<u>With Underhill Avenue Left Turn Lane &amp; NYS Route 118 SB Right Turn Lane</u>																	
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.42	B	12.2	-	-	-	0.45	B	12.7
			TR	-	-	-	-	-	-	0.45	B	16.3	-	-	-	0.45	B	17.5
	Underhill Avenue	WB	L	-	-	-	-	-	-	0.09	B	10.5	-	-	-	0.10	B	11.9
			TR	-	-	-	-	-	-	0.67	C	34.1	-	-	-	0.68	D	35.5
	NYS Route 118	NB	LTR	-	-	-	-	-	-	0.65	C	30.2	-	-	-	0.69	C	32.5
	NYS Route 118	SB	LT	-	-	-	-	-	-	0.54	C	26.8	-	-	-	0.56	C	27.7
			R	-	-	-	-	-	-	0.35	A	2.4	-	-	-	0.36	A	2.5
			<b>Overall</b>	-	-	-	-	-	-	-	<b>B</b>	<b>18.8</b>	-	-	-	-	<b>B</b>	<b>19.7</b>
	<u>With Left Turn Lanes All Approaches &amp; NYS Route 118 SB Right Turn Lane</u>																	
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.39	A	8.6	-	-	-	0.41	A	8.9
			TR	-	-	-	-	-	-	0.43	B	12.5	-	-	-	0.43	B	12.7
	Underhill Avenue	WB	L	-	-	-	-	-	-	0.08	A	7.3	-	-	-	0.10	A	9.1
			TR	-	-	-	-	-	-	0.66	C	28.5	-	-	-	0.66	C	29.6
	NYS Route 118	NB	L	-	-	-	-	-	-	0.27	C	23.4	-	-	-	0.27	C	23.9
			TR	-	-	-	-	-	-	0.52	C	25.0	-	-	-	0.56	C	26.6
	NYS Route 118	SB	L	-	-	-	-	-	-	0.18	C	22.1	-	-	-	0.18	C	22.5
			T	-	-	-	-	-	-	0.53	C	27.4	-	-	-	0.56	C	28.5
			R	-	-	-	-	-	-	0.36	A	2.2	-	-	-	0.37	A	2.3
			<b>Overall</b>	-	-	-	-	-	-	-	<b>B</b>	<b>15.7</b>	-	-	-	-	<b>B</b>	<b>16.2</b>

**Table No. 2R**  
**Level of Service Summary Table**  
**Weekday Peak AM Hour - Sensitivity Analysis with 4,000 Square Foot Restaurant**

				2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.				
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay		
2	NYS Route 118 & Allan Avenue/Kear Street	Unsignalized																		
			Allan Avenue	EB	LTR	0.38	C	30.6	0.39	C	31.1	0.40	C	30.9	0.42	C	31.4	0.43	C	31.1
			Kear Street	WB	LTR	0.28	C	23.1	0.33	C	22.8	0.36	C	24.8	0.43	C	27.4	0.46	C	28.8
			NYS Route 118	NB	LTR	0.25	A	4.6	0.27	A	4.8	0.30	A	5.0	0.33	A	5.5	0.35	A	5.8
			NYS Route 118	SB	LTR	0.46	A	6.4	0.52	A	7.4	0.54	A	7.7	0.58	A	8.8	0.60	A	9.2
			<b>Overall</b>			-	<b>A</b>	<b>9.2</b>	-	<b>A</b>	<b>10.0</b>	-	<b>B</b>	<b>10.3</b>	-	<b>B</b>	<b>11.4</b>	-	<b>B</b>	<b>11.8</b>
3	Underhill Avenue & East Site Access	Signalized																		
			Underhill Avenue	EB	LT	-	-	-	-	-	-	0.03	A	9.2	-	-	-	0.03	A	9.3
			East Site Access	SB	LR	-	-	-	-	-	-	0.29	D	29.0	-	-	-	0.31	D	30.7
4	Underhill Avenue & Rochambeau Drive/West Site Access	Unsignalized																		
			Underhill Avenue	EB	LTR	-	-	-	-	-	-	0.01	A	8.8	-	-	-	0.01	A	8.9
			Underhill Avenue	WB	LTR	0.01	A	8.4	0.01	A	8.5	0.01	A	8.9	0.01	A	8.6	0.01	A	9.0
			Rochambeau Drive	NB	LTR	0.15	C	15.0	0.17	C	15.8	0.22	C	20.2	0.17	C	16.3	0.23	C	21.1
			Site Access	SB	LTR	-	-	-	-	-	-	0.11	D	26.1	-	-	-	0.12	D	27.3
5	Underhill Avenue & Glen Rock Street	Unsignalized																		
			Underhill Avenue	EB	LT	0.01	A	8.9	0.01	A	9.0	0.01	A	9.1	0.01	A	9.1	0.01	A	9.2
			Glen Rock Street	SB	LR	0.07	C	18.7	0.07	C	20.2	0.08	C	21.5	0.08	C	21.0	0.08	C	22.3

**NOTES:**

- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

**Table No. 2R**  
**Level of Service Summary Table**  
**Weekday Peak AM Hour - Sensivity Analysis with 4,000 Square Foot Restaurant**

			2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.				
			v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay		
1	<b>NYS Route 118 &amp; Underhill Avenue</b>			<b>Signalized</b>															
		Underhill Avenue	EB	LT	0.78	C	23.6	0.88	C	32.7	1.00	E	55.5	0.96	D	46.9	1.09	E	84.7
				R	0.03	A	0.0	0.03	A	0.0	0.04	A	0.0	0.03	A	0.0	0.04	A	0.0
		Underhill Avenue	WB	LTR	0.33	B	10.8	0.41	B	12.5	0.48	B	15.7	0.45	B	14.6	0.54	B	18.1
		NYS Route 118	NB	LTR	0.67	D	37.0	0.69	D	37.1	0.72	D	38.9	0.67	D	35.2	0.77	D	42.8
		NYS Route 118	SB	LTR	0.84	D	40.2	0.85	D	40.6	0.87	D	41.9	0.87	D	41.6	0.89	D	42.6
				<b>Overall</b>	-	<b>C</b>	<b>26.4</b>	-	<b>C</b>	<b>30.1</b>	-	<b>D</b>	<b>40.0</b>	-	<b>D</b>	<b>36.2</b>	-	<b>D</b>	<b>52.4</b>
		<u>With Underhill Avenue Left Turn Lane &amp; NYS Route 118 SB Right Turn Lane</u>																	
		Underhill Avenue	EB	L	-	-	-	-	-	-	0.63	B	13.5	-	-	-	0.66	B	15.2
				TR	-	-	-	-	-	-	0.36	B	14.1	-	-	-	0.35	B	14.3
		Underhill Avenue	WB	L	-	-	-	-	-	-	0.14	B	11.8	-	-	-	0.15	B	12.5
				TR	-	-	-	-	-	-	0.78	D	42.5	-	-	-	0.79	D	45.2
		NYS Route 118	NB	LTR	-	-	-	-	-	-	0.73	D	42.0	-	-	-	0.77	D	44.9
		NYS Route 118	SB	LT	-	-	-	-	-	-	0.45	C	32.2	-	-	-	0.48	C	33.6
				R	-	-	-	-	-	-	0.27	A	1.8	-	-	-	0.29	A	2.1
				<b>Overall</b>	-	-	-	-	-	-	-	<b>C</b>	<b>22.6</b>	-	-	-	-	<b>C</b>	<b>23.9</b>
		<u>With Left Turn Lanes All Approaches &amp; NYS Route 118 SB Right Turn Lane</u>																	
	Underhill Avenue	EB	L	-	-	-	-	-	-	0.64	B	12.5	-	-	-	0.68	B	14.5	
			TR	-	-	-	-	-	-	0.35	B	12.2	-	-	-	0.35	B	12.5	
	Underhill Avenue	WB	L	-	-	-	-	-	-	0.15	A	9.8	-	-	-	0.15	B	10.0	
			TR	-	-	-	-	-	-	0.75	C	34.6	-	-	-	0.74	C	34.8	
	NYS Route 118	NB	L	-	-	-	-	-	-	0.20	C	25.8	-	-	-	0.20	C	25.7	
			TR	-	-	-	-	-	-	0.60	C	31.6	-	-	-	0.63	C	32.6	
	NYS Route 118	SB	L	-	-	-	-	-	-	0.11	C	24.8	-	-	-	0.12	C	24.9	
			T	-	-	-	-	-	-	0.41	C	28.2	-	-	-	0.44	C	28.5	
			R	-	-	-	-	-	-	0.28	A	2.0	-	-	-	0.30	A	2.0	
			<b>Overall</b>	-	-	-	-	-	-	-	<b>B</b>	<b>18.5</b>	-	-	-	-	<b>B</b>	<b>19.2</b>	

**Table No. 2R**  
**Level of Service Summary Table**  
**Weekday Peak AM Hour - Sensitivity Analysis with 4,000 Square Foot Restaurant**

				2021 Existing			2025 No-Build with Approved O.D.			2025 Build with Approved O.D.			2025 No-Build with Approved & Potential O.D.			2025 Build with Approved & Potential O.D.				
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay		
2	NYS Route 118 & Allan Avenue/Kear Street	Unsignalized																		
			Allan Avenue	EB	LTR	0.19	C	23.3	0.19	C	23.4	0.19	C	21.8	0.19	C	23.9	0.20	C	21.0
			Kear Street	WB	LTR	0.59	C	33.6	0.63	C	34.0	0.66	D	35.4	0.69	D	36.9	0.67	D	36.9
			NYS Route 118	NB	LTR	0.51	A	8.4	0.55	A	9.4	0.59	B	10.5	0.60	B	11.5	0.62	B	11.6
			NYS Route 118	SB	LTR	0.34	A	6.6	0.39	A	7.6	0.42	A	8.2	0.41	A	8.7	0.44	A	8.7
			Overall			-	B	12.2	-	B	13.3	-	B	14.1	-	B	15.6	-	B	14.9
3	Underhill Avenue & East Site Access	Signalized																		
			Underhill Avenue	EB	LT	-	-	-	-	-	-	0.04	A	9.1	-	-	-	0.07	A	9.5
			East Site Access	SB	LR	-	-	-	-	-	-	0.48	E	43.4	-	-	-	1.07	E	156.9
4	Underhill Avenue & Rochambeau Drive/West Site Access	Unsignalized																		
			Underhill Avenue	EB	LTR	-	-	-	-	-	-	0.01	A	8.6	-	-	-	0.01	A	8.8
			Underhill Avenue	WB	LTR	0.06	A	9.6	0.06	A	9.8	0.06	A	9.5	0.07	A	9.9	0.06	A	9.7
			Rochambeau Drive	NB	LTR	0.10	C	15.4	0.11	C	16.2	0.14	C	19.3	0.12	C	16.8	0.15	C	20.9
			Site Access	SB	LTR	-	-	-	-	-	-	0.10	D	33.7	-	-	-	0.22	E	43.1
5	Underhill Avenue & Glen Rock Street	Unsignalized																		
			Underhill Avenue	EB	LT	0.01	A	8.4	0.01	A	8.6	0.01	A	8.7	0.01	A	8.6	0.01	A	8.8
			Glen Rock Street	SB	LR	0.07	C	19.2	0.08	C	21.0	0.09	C	22.8	0.09	C	22.1	0.10	C	24.7

**NOTES:**

- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

# Capacity Analysis

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	211	327	40	29	236	17	62	126	42	45	163	344
Future Volume (vph)	211	327	40	29	236	17	62	126	42	45	163	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.975			0.916	
Flt Protected		0.981			0.995			0.987			0.996	
Satd. Flow (prot)	0	2002	1577	0	1804	0	0	1570	0	0	1645	0
Flt Permitted		0.728			0.869			0.671			0.952	
Satd. Flow (perm)	0	1486	1577	0	1576	0	0	1067	0	0	1573	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		3			14			103	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	229	355	43	32	257	18	67	137	46	49	177	374
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	584	43	0	307	0	0	250	0	0	600	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 1: NYS Route 118 & Underhill Avenue

Peak AM Hour  
 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	3.0	5.0		5.0	5.0		10.0	10.0		10.0		10.0
Minimum Split (s)	9.0	11.0		11.0	11.0		16.0	16.0		16.0		16.0
Total Split (s)	14.0	45.0		31.0	31.0		46.0	46.0		46.0		46.0
Total Split (%)	14.3%	45.9%		31.6%	31.6%		46.9%	46.9%		46.9%		46.9%
Maximum Green (s)	8.0	39.0		25.0	25.0		40.0	40.0		40.0		40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Lost Time Adjust (s)		0.0			0.0			0.0				0.0
Total Lost Time (s)		6.0			6.0			6.0				6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Recall Mode	None	None		None	None		Min	Min		None		None
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		39.3	83.5		39.3			32.1				32.1
Actuated g/C Ratio		0.47	1.00		0.47			0.38				0.38
v/c Ratio		0.84	0.03		0.41			0.60				0.90
Control Delay		34.3	0.0		18.2			25.4				37.6
Queue Delay		0.0	0.0		0.0			0.0				0.0
Total Delay		34.3	0.0		18.2			25.4				37.6
LOS		C	A		B			C				D
Approach Delay		31.9			18.2			25.4				37.6
Approach LOS		C			B			C				D
Queue Length 50th (ft)		268	0		105			96				244
Queue Length 95th (ft)		#523	0		193			172				#440
Internal Link Dist (ft)		310			219			381				978
Turn Bay Length (ft)			50									
Base Capacity (vph)		699	1577		744			522				813
Starvation Cap Reductn		0	0		0			0				0
Spillback Cap Reductn		0	0		0			0				0
Storage Cap Reductn		0	0		0			0				0
Reduced v/c Ratio		0.84	0.03		0.41			0.48				0.74

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	83.5
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	30.6
Intersection Capacity Utilization:	93.3%
Intersection LOS:	C
ICU Level of Service:	F

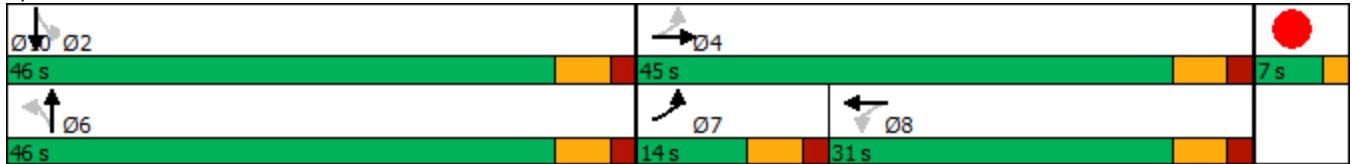
Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	7%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

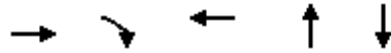
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	584	43	307	250	600
v/c Ratio	0.84	0.03	0.41	0.60	0.90
Control Delay	34.3	0.0	18.2	25.4	37.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	0.0	18.2	25.4	37.6
Queue Length 50th (ft)	268	0	105	96	244
Queue Length 95th (ft)	#523	0	193	172	#440
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	699	1577	744	522	813
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.84	0.03	0.41	0.48	0.74

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak AM Hour  
 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	18	61	21	38	15	43	12	303	43	87	497	10
Future Volume (vph)	18	61	21	38	15	43	12	303	43	87	497	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.972			0.939			0.984			0.998	
Fl <sub>t</sub> Protected		0.991			0.981			0.998			0.993	
Satd. Flow (prot)	0	1743	0	0	1896	0	0	1751	0	0	1767	0
Fl <sub>t</sub> Permitted		0.935			0.851			0.977			0.887	
Satd. Flow (perm)	0	1645	0	0	1645	0	0	1714	0	0	1578	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			31			7			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	65	22	40	16	46	13	322	46	93	529	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	106	0	0	102	0	0	381	0	0	633	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Fr <sub>t</sub>	
Fl <sub>t</sub> Protected	
Satd. Flow (prot)	
Fl <sub>t</sub> Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 2: NYS Route 118 & Allen Avenue/Kear Street

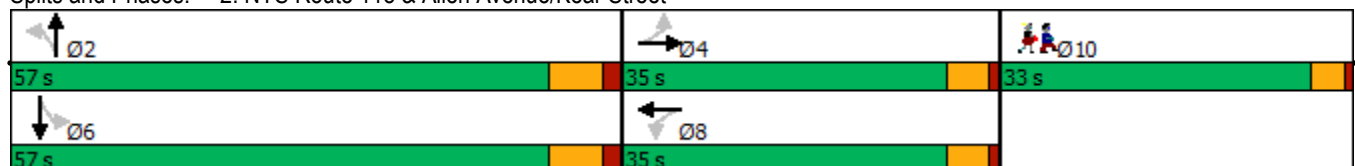
Peak AM Hour  
 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		10.8			10.8			52.2			52.2	
Actuated g/C Ratio		0.15			0.15			0.75			0.75	
v/c Ratio		0.40			0.36			0.30			0.54	
Control Delay		30.9			24.8			5.0			7.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		30.9			24.8			5.0			7.7	
LOS		C			C			A			A	
Approach Delay		30.9			24.8			5.0			7.7	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		40			29			53			117	
Queue Length 95th (ft)		84			71			102			227	
Internal Link Dist (ft)		269			289			978			263	
Turn Bay Length (ft)												
Base Capacity (vph)		720			732			1285			1182	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.15			0.14			0.30			0.54	

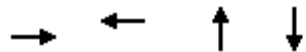
<b>Intersection Summary</b>	
Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	69.7
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	10.3
Intersection Capacity Utilization	77.4%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	D

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street





Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	106	102	381	633
v/c Ratio	0.40	0.36	0.30	0.54
Control Delay	30.9	24.8	5.0	7.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.9	24.8	5.0	7.7
Queue Length 50th (ft)	40	29	53	117
Queue Length 95th (ft)	84	71	102	227
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	720	732	1285	1182
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.15	0.14	0.30	0.54
<b>Intersection Summary</b>				

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 3: Underhill Avenue & Site Access

Peak AM Hour  
 04/20/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	↙
Traffic Volume (vph)	24	550	609	36	33	22
Future Volume (vph)	24	550	609	36	33	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.992		0.947	
Flt Protected		0.998			0.971	
Satd. Flow (prot)	0	1804	1769	0	1713	0
Flt Permitted		0.998			0.971	
Satd. Flow (perm)	0	1804	1769	0	1713	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	8%	4%	2%	2%	2%
Adj. Flow (vph)	27	611	677	40	37	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	638	717	0	61	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	58.4%
Analysis Period (min)	15
	ICU Level of Service B

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	24	550	609	36	33	22
Future Vol, veh/h	24	550	609	36	33	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	8	4	2	2	2
Mvmt Flow	27	611	677	40	37	24

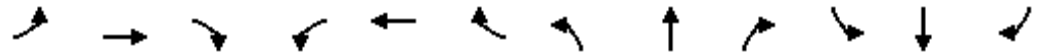
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	717	0	-	0	1362 697
Stage 1	-	-	-	-	697 -
Stage 2	-	-	-	-	665 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	884	-	-	-	163 441
Stage 1	-	-	-	-	494 -
Stage 2	-	-	-	-	511 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	884	-	-	-	156 441
Mov Cap-2 Maneuver	-	-	-	-	156 -
Stage 1	-	-	-	-	471 -
Stage 2	-	-	-	-	511 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	29
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	884	-	-	-	210
HCM Lane V/C Ratio	0.03	-	-	-	0.291
HCM Control Delay (s)	9.2	0	-	-	29
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak AM Hour  
 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	536	6	12	615	4	39	0	24	13	0	8
Future Volume (vph)	2	536	6	12	615	4	39	0	24	13	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.999			0.949			0.951	
Fl <sub>t</sub> Protected					0.999			0.970			0.969	
Satd. Flow (prot)	0	1808	0	0	1764	0	0	1828	0	0	1717	0
Fl <sub>t</sub> Permitted					0.999			0.970			0.969	
Satd. Flow (perm)	0	1808	0	0	1764	0	0	1828	0	0	1717	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			425			323			173	
Travel Time (s)		5.0			9.7			7.3			3.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	8%	20%	17%	4%	2%	6%	2%	5%	2%	2%	2%
Adj. Flow (vph)	2	558	6	13	641	4	41	0	25	14	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	566	0	0	658	0	0	66	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.3%
ICU Level of Service	A
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak AM Hour  
 04/20/2023

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	536	6	12	615	4	39	0	24	13	0	8
Future Vol, veh/h	2	536	6	12	615	4	39	0	24	13	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	8	20	17	4	2	6	2	5	2	2	2
Mvmt Flow	2	558	6	13	641	4	41	0	25	14	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	645	0	0	564	0	0	1238	1236	561	1247	1237	643
Stage 1	-	-	-	-	-	-	565	565	-	669	669	-
Stage 2	-	-	-	-	-	-	673	671	-	578	568	-
Critical Hdwy	4.12	-	-	4.27	-	-	5.76	5.12	5.55	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	4.76	4.12	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.76	4.12	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.353	-	-	3.554	4.018	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	940	-	-	937	-	-	242	285	582	150	176	473
Stage 1	-	-	-	-	-	-	626	633	-	447	456	-
Stage 2	-	-	-	-	-	-	569	591	-	501	506	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	940	-	-	937	-	-	233	278	582	141	172	473
Mov Cap-2 Maneuver	-	-	-	-	-	-	233	278	-	141	172	-
Stage 1	-	-	-	-	-	-	624	631	-	446	446	-
Stage 2	-	-	-	-	-	-	547	578	-	478	504	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.2			20.2			26.1		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	302	940	-	-	937	-	-	192
HCM Lane V/C Ratio	0.217	0.002	-	-	0.013	-	-	0.114
HCM Control Delay (s)	20.2	8.8	0	-	8.9	0	-	26.1
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.4

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 5: Underhill Avenue & Glen Rock Street

Peak AM Hour  
 04/20/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	536	655	7	9	8
Future Volume (vph)	2	536	655	7	9	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.936	
Flt Protected					0.974	
Satd. Flow (prot)	0	1804	1771	0	1501	0
Flt Permitted					0.974	
Satd. Flow (perm)	0	1804	1771	0	1501	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	8%	4%	2%	2%	14%
Adj. Flow (vph)	2	589	720	8	10	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	591	728	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	44.9%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	536	655	7	9	8
Future Vol, veh/h	2	536	655	7	9	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	8	4	2	2	14
Mvmt Flow	2	589	720	8	10	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	728	0	-	0	1317 724
Stage 1	-	-	-	-	724 -
Stage 2	-	-	-	-	593 -
Critical Hdwy	4.12	-	-	-	6.42 6.34
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.426
Pot Cap-1 Maneuver	876	-	-	-	174 406
Stage 1	-	-	-	-	480 -
Stage 2	-	-	-	-	552 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	876	-	-	-	173 406
Mov Cap-2 Maneuver	-	-	-	-	173 -
Stage 1	-	-	-	-	479 -
Stage 2	-	-	-	-	552 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	876	-	-	-	237
HCM Lane V/C Ratio	0.003	-	-	-	0.079
HCM Control Delay (s)	9.1	0	-	-	21.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

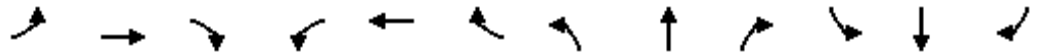


2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes on Pedestrian Ave) (Sensitivity Analysis) - Pedestrian Ave  
 1: NYS Route 118 & Underhill Avenue  
 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	327	40	29	236	17	62	126	42	45	163	344
Future Volume (vph)	211	327	40	29	236	17	62	126	42	45	163	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.990			0.975			0.850	
Flt Protected	0.950			0.950				0.987			0.989	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	0	1570	0	0	1657	1607
Flt Permitted	0.368			0.527				0.835			0.881	
Satd. Flow (perm)	649	1889	0	833	1826	0	0	1328	0	0	1476	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			3			10			322	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	229	355	43	32	257	18	67	137	46	49	177	374
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	398	0	32	275	0	0	250	0	0	226	374
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0

2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes of Pedal in How) (Sensitivity: 1: NYS Route 118 & Underhill Avenue) 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		8.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		11.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		4.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	34.9	31.4		23.7	15.0			19.0			19.0	38.9
Actuated g/C Ratio	0.52	0.47		0.36	0.22			0.28			0.28	0.58
v/c Ratio	0.42	0.45		0.09	0.67			0.65			0.54	0.35
Control Delay	12.2	16.3		10.5	34.1			30.2			26.8	2.5
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	12.2	16.3		10.5	34.1			30.2			26.8	2.5
LOS	B	B		B	C			C			C	A
Approach Delay		14.8			31.6			30.2			11.6	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	45	84		5	98			82			74	8
Queue Length 95th (ft)	112	252		21	225			195			173	45
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	881	1507		478	878			664			732	1432
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.26	0.26		0.07	0.31			0.38			0.31	0.26

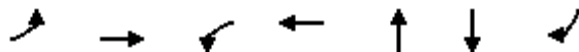
Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	66.7
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	18.8
Intersection Capacity Utilization:	68.8%
Intersection LOS:	B
ICU Level of Service:	C



2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes of ~~Peak Hour~~ (Sensitivity Analysis)) (Sensitivity Analysis)  
 1: NYS Route 118 & Underhill Avenue

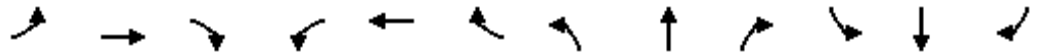
04/20/2023



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	229	398	32	275	250	226	374
v/c Ratio	0.42	0.45	0.09	0.67	0.65	0.54	0.35
Control Delay	12.2	16.3	10.5	34.1	30.2	26.8	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	16.3	10.5	34.1	30.2	26.8	2.5
Queue Length 50th (ft)	45	84	5	98	82	74	8
Queue Length 95th (ft)	112	252	21	225	195	173	45
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	881	1507	478	878	664	732	1432
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.26	0.07	0.31	0.38	0.31	0.26
<b>Intersection Summary</b>							



2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approaches) (Sense 1: NYS Route 118 & Underhill Avenue) 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	327	40	29	236	17	62	126	42	45	163	344
Future Volume (vph)	211	327	40	29	236	17	62	126	42	45	163	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.984			0.990			0.962			0.850	
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	1669	1513	0	1617	1554	1607
Flt Permitted	0.382			0.527			0.637			0.642	0.988	
Satd. Flow (perm)	674	1889	0	833	1826	0	1119	1513	0	1093	1537	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			3			17				359
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	229	355	43	32	257	18	67	137	46	49	177	374
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	229	398	0	32	275	0	67	183	0	44	182	374
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approach) (Sense 1: NYS Route 118 & Underhill Avenue) 04/20/2023



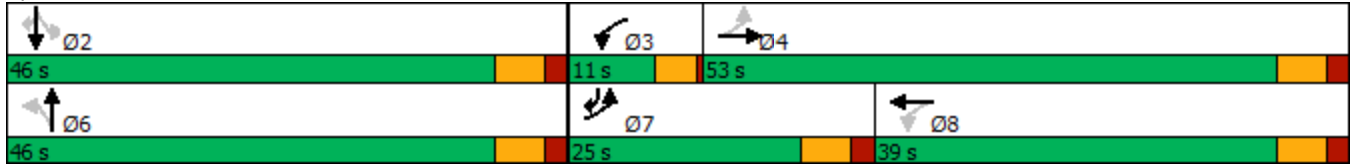
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		8.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		7.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	30.7	27.2		21.0	12.7		12.4	12.4		12.4	12.4	30.5
Actuated g/C Ratio	0.55	0.49		0.38	0.23		0.22	0.22		0.22	0.22	0.55
v/c Ratio	0.39	0.43		0.08	0.66		0.27	0.52		0.18	0.53	0.36
Control Delay	8.6	12.5		7.3	28.5		23.4	25.0		22.1	27.4	2.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.6	12.5		7.3	28.5		23.4	25.0		22.1	27.4	2.2
LOS	A	B		A	C		C	C		C	C	A
Approach Delay		11.1			26.3			24.6			11.3	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	31	58		3	77		18	46		11	53	2
Queue Length 95th (ft)	78	194		14	182		58	125		44	137	36
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	727	1621		416	1123		833	1131		814	1145	1219
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.31	0.25		0.08	0.24		0.08	0.16		0.05	0.16	0.31

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	55.6
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	15.7
Intersection Capacity Utilization	62.9%
Intersection LOS:	B
ICU Level of Service	B

Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approaches) (Sens  
 1: NYS Route 118 & Underhill Avenue

04/20/2023

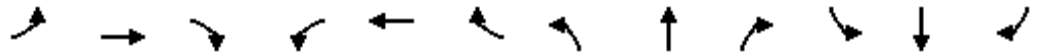


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	229	398	32	275	67	183	44	182	374
v/c Ratio	0.39	0.43	0.08	0.66	0.27	0.52	0.18	0.53	0.36
Control Delay	8.6	12.5	7.3	28.5	23.4	25.0	22.1	27.4	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	12.5	7.3	28.5	23.4	25.0	22.1	27.4	2.2
Queue Length 50th (ft)	31	58	3	77	18	46	11	53	2
Queue Length 95th (ft)	78	194	14	182	58	125	44	137	36
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	727	1621	416	1123	833	1131	814	1145	1219
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.25	0.08	0.24	0.08	0.16	0.05	0.16	0.31

Intersection Summary



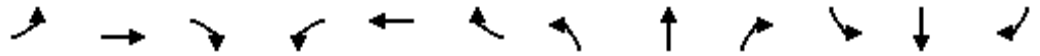
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak AM Hour)  
 1: NYS Route 118 & Underhill Avenue 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	327	40	29	236	17	62	139	42	45	172	359
Future Volume (vph)	233	327	40	29	236	17	62	139	42	45	172	359
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.976			0.916	
Flt Protected		0.980			0.995			0.987			0.996	
Satd. Flow (prot)	0	1999	1577	0	1804	0	0	1568	0	0	1644	0
Flt Permitted		0.710			0.804			0.684			0.953	
Satd. Flow (perm)	0	1448	1577	0	1458	0	0	1087	0	0	1573	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		3			13			103	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	253	355	43	32	257	18	67	151	46	49	187	390
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	608	43	0	307	0	0	264	0	0	626	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity) Peak AM Hour  
 1: NYS Route 118 & Underhill Avenue 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	3.0	5.0		5.0	5.0		10.0	10.0		10.0		10.0
Minimum Split (s)	9.0	11.0		11.0	11.0		16.0	16.0		16.0		16.0
Total Split (s)	14.0	45.0		31.0	31.0		46.0	46.0		46.0		46.0
Total Split (%)	14.3%	45.9%		31.6%	31.6%		46.9%	46.9%		46.9%		46.9%
Maximum Green (s)	8.0	39.0		25.0	25.0		40.0	40.0		40.0		40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Lost Time Adjust (s)		0.0			0.0			0.0				0.0
Total Lost Time (s)		6.0			6.0			6.0				6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Recall Mode	None	None		None	None		Min	Min		None		None
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		39.3	85.7		39.3			34.4				34.4
Actuated g/C Ratio		0.46	1.00		0.46			0.40				0.40
v/c Ratio		0.92	0.03		0.46			0.60				0.90
Control Delay		45.0	0.0		20.0			25.1				38.1
Queue Delay		0.0	0.0		0.0			0.0				0.0
Total Delay		45.0	0.0		20.0			25.1				38.1
LOS		D	A		B			C				D
Approach Delay		42.0			20.0			25.1				38.1
Approach LOS		D			B			C				D
Queue Length 50th (ft)		323	0		118			103				265
Queue Length 95th (ft)		#564	0		199			182				#476
Internal Link Dist (ft)		310			219			381				978
Turn Bay Length (ft)			50									
Base Capacity (vph)		663	1577		669			517				793
Starvation Cap Reductn		0	0		0			0				0
Spillback Cap Reductn		0	0		0			0				0
Storage Cap Reductn		0	0		0			0				0
Reduced v/c Ratio		0.92	0.03		0.46			0.51				0.79

**Intersection Summary**

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	85.7
Natural Cycle:	110
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	34.6
Intersection Capacity Utilization	96.2%
Intersection LOS:	C
ICU Level of Service	F

Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	7%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

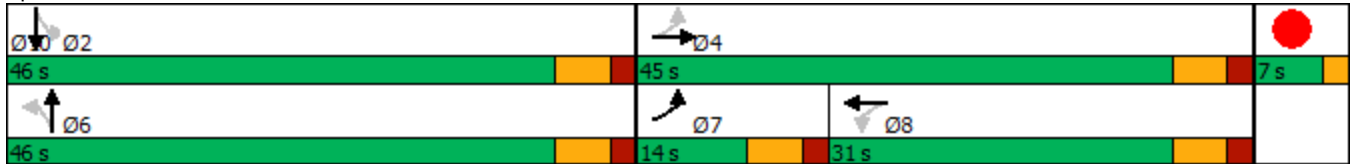
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitive Peak AM Hour  
 1: NYS Route 118 & Underhill Avenue 04/20/2023

Analysis Period (min) 15

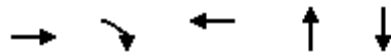
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak AM Hour  
 1: NYS Route 118 & Underhill Avenue 04/20/2023



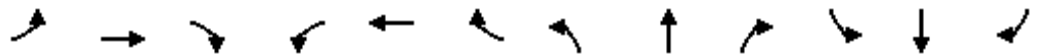
Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	608	43	307	264	626
v/c Ratio	0.92	0.03	0.46	0.60	0.90
Control Delay	45.0	0.0	20.0	25.1	38.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	0.0	20.0	25.1	38.1
Queue Length 50th (ft)	323	0	118	103	265
Queue Length 95th (ft)	#564	0	199	182	#476
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	663	1577	669	517	793
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.92	0.03	0.46	0.51	0.79

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



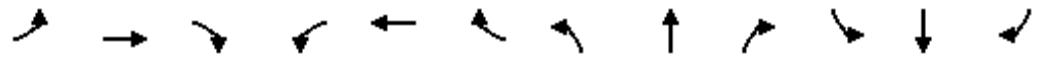
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak AM Hour) 04/20/2023  
 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	18	64	21	50	19	43	12	328	53	87	509	10
Future Volume (vph)	18	64	21	50	19	43	12	328	53	87	509	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.973			0.948			0.982			0.998	
Fl <sub>t</sub> Protected		0.991			0.978			0.998			0.993	
Satd. Flow (prot)	0	1745	0	0	1908	0	0	1747	0	0	1767	0
Fl <sub>t</sub> Permitted		0.943			0.826			0.978			0.880	
Satd. Flow (perm)	0	1660	0	0	1612	0	0	1712	0	0	1566	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			24			7			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	19	68	22	53	20	46	13	349	56	93	541	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	0	0	119	0	0	418	0	0	645	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Fr <sub>t</sub>	
Fl <sub>t</sub> Protected	
Satd. Flow (prot)	
Fl <sub>t</sub> Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

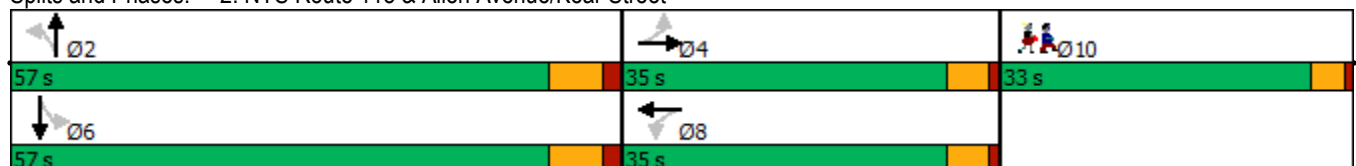
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak AM Hour)  
 2: NYS Route 118 & Allen Avenue/Kear Street 04/20/2023



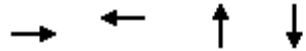
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		10.8			10.8			50.0			50.0	
Actuated g/C Ratio		0.15			0.15			0.69			0.69	
v/c Ratio		0.43			0.46			0.35			0.60	
Control Delay		31.1			28.8			5.8			9.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		31.1			28.8			5.8			9.2	
LOS		C			C			A			A	
Approach Delay		31.1			28.8			5.8			9.2	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		41			39			60			122	
Queue Length 95th (ft)		86			87			117			241	
Internal Link Dist (ft)		269			289			978			263	
<b>Turn Bay Length (ft)</b>												
Base Capacity (vph)		690			678			1178			1075	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.16			0.18			0.35			0.60	

<b>Intersection Summary</b>	
Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	72.8
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	11.8
Intersection LOS:	B
Intersection Capacity Utilization:	82.2%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	109	119	418	645
v/c Ratio	0.43	0.46	0.35	0.60
Control Delay	31.1	28.8	5.8	9.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.1	28.8	5.8	9.2
Queue Length 50th (ft)	41	39	60	122
Queue Length 95th (ft)	86	87	117	241
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	690	678	1178	1075
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.16	0.18	0.35	0.60
<b>Intersection Summary</b>				

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak AM Hour  
 3: Underhill Avenue & Site Access

04/20/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	571	624	36	33	22
Future Volume (vph)	24	571	624	36	33	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993		0.947	
Flt Protected		0.998			0.971	
Satd. Flow (prot)	0	1804	1771	0	1713	0
Flt Permitted		0.998			0.971	
Satd. Flow (perm)	0	1804	1771	0	1713	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	8%	4%	2%	2%	2%
Adj. Flow (vph)	27	634	693	40	37	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	661	733	0	61	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	59.5%
ICU Level of Service	B
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitive Peak AM Hour  
 3: Underhill Avenue & Site Access

04/20/2023

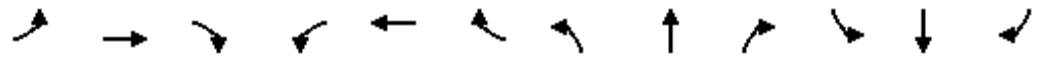
Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	24	571	624	36	33	22
Future Vol, veh/h	24	571	624	36	33	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	8	4	2	2	2
Mvmt Flow	27	634	693	40	37	24

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	733	0	-	0	1401 713
Stage 1	-	-	-	-	713 -
Stage 2	-	-	-	-	688 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	872	-	-	-	154 432
Stage 1	-	-	-	-	486 -
Stage 2	-	-	-	-	499 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	872	-	-	-	147 432
Mov Cap-2 Maneuver	-	-	-	-	147 -
Stage 1	-	-	-	-	463 -
Stage 2	-	-	-	-	499 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	30.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	872	-	-	-	200
HCM Lane V/C Ratio	0.031	-	-	-	0.306
HCM Control Delay (s)	9.3	0	-	-	30.7
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak AM Hour) 04/20/2023  
 4: Rochambeau Drive/Site Access & Underhill Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	558	6	12	630	4	39	0	24	13	0	8
Future Volume (vph)	2	558	6	12	630	4	39	0	24	13	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.999			0.949			0.951	
Fl <sub>t</sub> Protected					0.999			0.970			0.969	
Satd. Flow (prot)	0	1809	0	0	1765	0	0	1828	0	0	1717	0
Fl <sub>t</sub> Permitted					0.999			0.970			0.969	
Satd. Flow (perm)	0	1809	0	0	1765	0	0	1828	0	0	1717	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			425			323			173	
Travel Time (s)		5.0			9.7			7.3			3.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	8%	20%	17%	4%	2%	6%	2%	5%	2%	2%	2%
Adj. Flow (vph)	2	581	6	13	656	4	41	0	25	14	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	589	0	0	673	0	0	66	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	53.1%						ICU Level of Service A					
Analysis Period (min)	15											



2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak AM Hour  
 4: Rochambeau Drive/Site Access & Underhill Avenue 04/20/2023

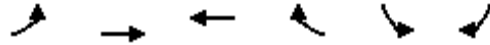
Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	558	6	12	630	4	39	0	24	13	0	8
Future Vol, veh/h	2	558	6	12	630	4	39	0	24	13	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	8	20	17	4	2	6	2	5	2	2	2
Mvmt Flow	2	581	6	13	656	4	41	0	25	14	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	660	0	0	587	0	0	1276	1274	584	1285	1275	658
Stage 1	-	-	-	-	-	-	588	588	-	684	684	-
Stage 2	-	-	-	-	-	-	688	686	-	601	591	-
Critical Hdwy	4.12	-	-	4.27	-	-	5.76	5.12	5.55	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	4.76	4.12	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.76	4.12	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.353	-	-	3.554	4.018	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	928	-	-	918	-	-	231	274	567	142	167	464
Stage 1	-	-	-	-	-	-	614	623	-	439	449	-
Stage 2	-	-	-	-	-	-	562	585	-	487	494	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	928	-	-	918	-	-	222	267	567	133	163	464
Mov Cap-2 Maneuver	-	-	-	-	-	-	222	267	-	133	163	-
Stage 1	-	-	-	-	-	-	612	621	-	438	439	-
Stage 2	-	-	-	-	-	-	540	572	-	464	493	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.2			21.1			27.3		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	289	928	-	-	918	-	-	183
HCM Lane V/C Ratio	0.227	0.002	-	-	0.014	-	-	0.12
HCM Control Delay (s)	21.1	8.9	0	-	9	0	-	27.3
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.9	0	-	-	0	-	-	0.4

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak AM Hour  
 5: Underhill Avenue & Glen Rock Street 04/20/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	557	670	7	9	8
Future Volume (vph)	2	557	670	7	9	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.936	
Flt Protected					0.974	
Satd. Flow (prot)	0	1804	1771	0	1501	0
Flt Permitted					0.974	
Satd. Flow (perm)	0	1804	1771	0	1501	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	8%	4%	2%	2%	14%
Adj. Flow (vph)	2	612	736	8	10	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	614	744	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.7%
ICU Level of Service	A
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak AM Hour  
 5: Underhill Avenue & Glen Rock Street 04/20/2023

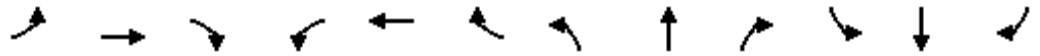
Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	557	670	7	9	8
Future Vol, veh/h	2	557	670	7	9	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	8	4	2	2	14
Mvmt Flow	2	612	736	8	10	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	744	0	0	1356	740
Stage 1	-	-	-	740	-
Stage 2	-	-	-	616	-
Critical Hdwy	4.12	-	-	6.42	6.34
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.426
Pot Cap-1 Maneuver	864	-	-	165	398
Stage 1	-	-	-	472	-
Stage 2	-	-	-	539	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	864	-	-	164	398
Mov Cap-2 Maneuver	-	-	-	164	-
Stage 1	-	-	-	470	-
Stage 2	-	-	-	539	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	22.3
HCM LOS			C

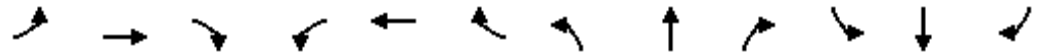
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	864	-	-	-	227
HCM Lane V/C Ratio	0.003	-	-	-	0.082
HCM Control Delay (s)	9.2	0	-	-	22.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Right All-But Underhill A  
 1: NYS Route 118 & Underhill Avenue Peak All-But Underhill A  
04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	327	40	29	235	17	61	139	42	45	172	356
Future Volume (vph)	231	327	40	29	235	17	61	139	42	45	172	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.990			0.976			0.850	
Flt Protected	0.950			0.950				0.988			0.990	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	0	1569	0	0	1657	1607
Flt Permitted	0.374			0.527				0.819			0.877	
Satd. Flow (perm)	660	1889	0	833	1826	0	0	1300	0	0	1468	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			3			10			325	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	251	355	43	32	255	18	66	151	46	49	187	387
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	398	0	32	273	0	0	263	0	0	236	387
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0

2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Right Over Underhill Avenue) Peak AM Hour Underhill Avenue  
 1: NYS Route 118 & Underhill Avenue 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		9.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	36.2	31.9		21.8	15.2			20.0			20.0	41.0
Actuated g/C Ratio	0.53	0.46		0.32	0.22			0.29			0.29	0.60
v/c Ratio	0.45	0.45		0.10	0.68			0.69			0.56	0.36
Control Delay	12.7	17.5		11.9	35.5			32.5			27.7	2.5
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	12.7	17.5		11.9	35.5			32.5			27.7	2.5
LOS	B	B		B	D			C			C	A
Approach Delay		15.6			33.0			32.5			12.1	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	53	89		6	106			94			84	10
Queue Length 95th (ft)	123	263		22	225			211			184	48
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	860	1466		392	848			627			703	1417
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.29	0.27		0.08	0.32			0.42			0.34	0.27

**Intersection Summary**

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 68.9

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 19.7

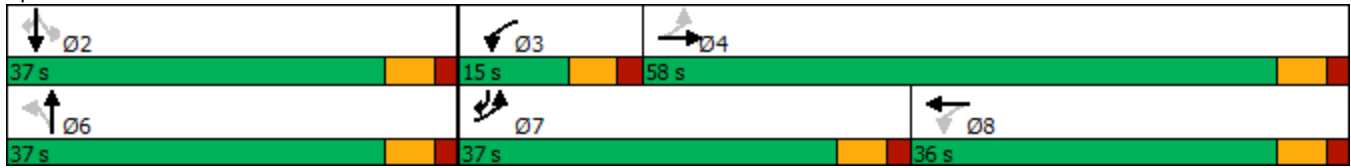
Intersection Capacity Utilization 71.0%

Intersection LOS: B

ICU Level of Service C

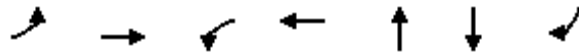
Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Right Movement) Underhill Avenue  
 1: NYS Route 118 & Underhill Avenue

04/20/2023



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	251	398	32	273	263	236	387
v/c Ratio	0.45	0.45	0.10	0.68	0.69	0.56	0.36
Control Delay	12.7	17.5	11.9	35.5	32.5	27.7	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.7	17.5	11.9	35.5	32.5	27.7	2.5
Queue Length 50th (ft)	53	89	6	106	94	84	10
Queue Length 95th (ft)	123	263	22	225	211	184	48
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	860	1466	392	848	627	703	1417
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.27	0.08	0.32	0.42	0.34	0.27

Intersection Summary





2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turning Lanes) All Approaches  
 1: NYS Route 118 & Underhill Avenue 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	327	40	29	235	17	61	139	42	45	172	356
Future Volume (vph)	231	327	40	29	235	17	61	139	42	45	172	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.984			0.990			0.965				0.850
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1676	1889	0	1501	1826	0	1669	1517	0	1617	1554	1607
Flt Permitted	0.391			0.527			0.628			0.634	0.989	
Satd. Flow (perm)	690	1889	0	833	1826	0	1103	1517	0	1079	1538	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			3			16				363
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	1%	5%	10%	1%	0%	3%	20%	16%	3%	17%	1%
Adj. Flow (vph)	251	355	43	32	255	18	66	151	46	49	187	387
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	251	398	0	32	273	0	66	197	0	44	192	387
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turn Reg Lanes) All Approaches  
 1: NYS Route 118 & Underhill Avenue 04/20/2023



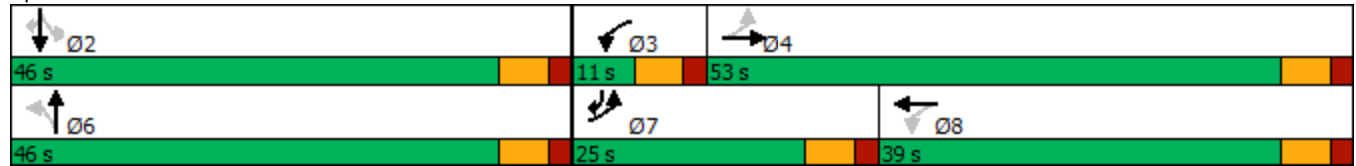
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		5.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	32.0	28.3		18.1	12.9		12.9	12.9		12.9	12.9	32.0
Actuated g/C Ratio	0.56	0.49		0.32	0.23		0.23	0.23		0.23	0.23	0.56
v/c Ratio	0.41	0.43		0.10	0.66		0.27	0.56		0.18	0.56	0.37
Control Delay	8.9	12.7		9.1	29.6		23.9	26.6		22.5	28.5	2.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.9	12.7		9.1	29.6		23.9	26.6		22.5	28.5	2.3
LOS	A	B		A	C		C	C		C	C	A
Approach Delay		11.2			27.5			25.9			11.8	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	36	60		4	82		19	55		12	61	3
Queue Length 95th (ft)	88	198		16	185		58	137		44	147	38
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	724	1583		323	1094		800	1104		782	1115	1206
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.35	0.25		0.10	0.25		0.08	0.18		0.06	0.17	0.32

**Intersection Summary**

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	57.3
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	16.2
Intersection Capacity Utilization:	65.1%
Intersection LOS:	B
ICU Level of Service:	C

Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved & Potential Other Development (W/ Turn Reg Lane Hour All Approa  
 1: NYS Route 118 & Underhill Avenue

04/20/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	251	398	32	273	66	197	44	192	387
v/c Ratio	0.41	0.43	0.10	0.66	0.27	0.56	0.18	0.56	0.37
Control Delay	8.9	12.7	9.1	29.6	23.9	26.6	22.5	28.5	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	12.7	9.1	29.6	23.9	26.6	22.5	28.5	2.3
Queue Length 50th (ft)	36	60	4	82	19	55	12	61	3
Queue Length 95th (ft)	88	198	16	185	58	137	44	147	38
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	724	1583	323	1094	800	1104	782	1115	1206
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.25	0.10	0.25	0.08	0.18	0.06	0.17	0.32
Intersection Summary									



2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	415	278	59	48	276	41	48	174	35	23	139	280
Future Volume (vph)	415	278	59	48	276	41	48	174	35	23	139	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	11	12	12	11	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.985			0.982			0.914	
Flt Protected		0.971			0.994			0.991			0.997	
Satd. Flow (prot)	0	1989	1655	0	1777	0	0	1672	0	0	1611	0
Flt Permitted		0.613			0.765			0.729			0.972	
Satd. Flow (perm)	0	1256	1655	0	1367	0	0	1230	0	0	1570	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		5			8			89	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	428	287	61	49	285	42	49	179	36	24	143	289
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	715	61	0	376	0	0	264	0	0	456	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.07	1.02	0.99	1.04	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 1: NYS Route 118 & Underhill Avenue

Peak PM Hour  
 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		16.0	16.0		16.0	16.0	
Total Split (s)	26.0	57.0		31.0	31.0		46.0	46.0		46.0	46.0	
Total Split (%)	23.6%	51.8%		28.2%	28.2%		41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	20.0	51.0		25.0	25.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		Min	Min		None	None	
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		51.5	89.9		51.5			26.3			26.3	
Actuated g/C Ratio		0.57	1.00		0.57			0.29			0.29	
v/c Ratio		1.00	0.04		0.48			0.72			0.87	
Control Delay		55.5	0.0		15.7			38.9			41.9	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		55.5	0.0		15.7			38.9			41.9	
LOS		E	A		B			D			D	
Approach Delay		51.1			15.7			38.9			41.9	
Approach LOS		D			B			D			D	
Queue Length 50th (ft)		371	0		114			129			200	
Queue Length 95th (ft)		#780	0		256			213			319	
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)			50									
Base Capacity (vph)		718	1655		784			556			753	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		1.00	0.04		0.48			0.47			0.61	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	89.9
Natural Cycle:	130
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.00
Intersection Signal Delay:	40.0
Intersection Capacity Utilization	101.8%
Intersection LOS:	D
ICU Level of Service	G



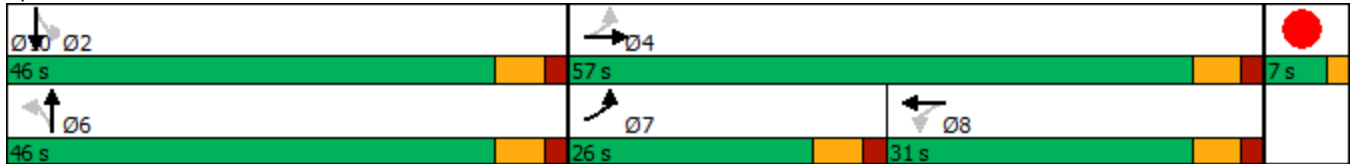
Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	6%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

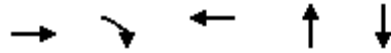
Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	715	61	376	264	456
v/c Ratio	1.00	0.04	0.48	0.72	0.87
Control Delay	55.5	0.0	15.7	38.9	41.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	55.5	0.0	15.7	38.9	41.9
Queue Length 50th (ft)	371	0	114	129	200
Queue Length 95th (ft)	#780	0	256	213	319
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	718	1655	784	556	753
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.00	0.04	0.48	0.47	0.61

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 2: NYS Route 118 & Allen Avenue/Kear Street

Peak PM Hour  
 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	9	33	17	71	53	80	19	550	65	41	359	17
Future Volume (vph)	9	33	17	71	53	80	19	550	65	41	359	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.961			0.947			0.986			0.994	
Fl <sub>t</sub> Protected		0.993			0.983			0.999			0.995	
Satd. Flow (prot)	0	1727	0	0	1916	0	0	1756	0	0	1763	0
Fl <sub>t</sub> Permitted		0.954			0.859			0.982			0.900	
Satd. Flow (perm)	0	1659	0	0	1674	0	0	1726	0	0	1595	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			24			5			2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	35	18	75	56	84	20	579	68	43	378	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	215	0	0	667	0	0	439	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Fr <sub>t</sub>	
Fl <sub>t</sub> Protected	
Satd. Flow (prot)	
Fl <sub>t</sub> Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 2: NYS Route 118 & Allen Avenue/Kear Street

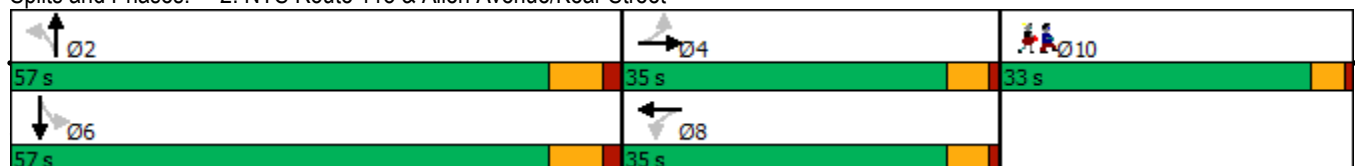
Peak PM Hour  
 04/20/2023



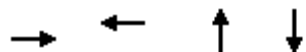
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		14.1			14.1			50.1			50.1	
Actuated g/C Ratio		0.19			0.19			0.66			0.66	
v/c Ratio		0.19			0.66			0.59			0.42	
Control Delay		21.8			35.4			10.5			8.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		21.8			35.4			10.5			8.2	
LOS		C			D			B			A	
Approach Delay		21.8			35.4			10.5			8.2	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)		18			84			149			83	
Queue Length 95th (ft)		49			152			295			168	
Internal Link Dist (ft)		269			289			978			263	
<b>Turn Bay Length (ft)</b>												
Base Capacity (vph)		664			675			1136			1049	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.09			0.32			0.59			0.42	

<b>Intersection Summary</b>	
Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	76.2
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	14.1
Intersection LOS:	B
Intersection Capacity Utilization:	67.2%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	62	215	667	439
v/c Ratio	0.19	0.66	0.59	0.42
Control Delay	21.8	35.4	10.5	8.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.8	35.4	10.5	8.2
Queue Length 50th (ft)	18	84	149	83
Queue Length 95th (ft)	49	152	295	168
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	664	675	1136	1049
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.32	0.59	0.42
<b>Intersection Summary</b>				



2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 3: Underhill Avenue & Site Access

Peak PM Hour  
 04/20/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	↙
Traffic Volume (vph)	32	711	562	47	45	30
Future Volume (vph)	32	711	562	47	45	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.990		0.946	
Flt Protected		0.998			0.971	
Satd. Flow (prot)	0	1905	1798	0	1711	0
Flt Permitted		0.998			0.971	
Satd. Flow (perm)	0	1905	1798	0	1711	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	36	790	624	52	50	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	826	676	0	83	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	74.4%
ICU Level of Service	D
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	32	711	562	47	45	30
Future Vol, veh/h	32	711	562	47	45	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	790	624	52	50	33

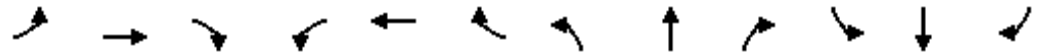
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	676	0	-	0	1512 650
Stage 1	-	-	-	-	650 -
Stage 2	-	-	-	-	862 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	915	-	-	-	132 469
Stage 1	-	-	-	-	520 -
Stage 2	-	-	-	-	414 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	915	-	-	-	123 469
Mov Cap-2 Maneuver	-	-	-	-	123 -
Stage 1	-	-	-	-	484 -
Stage 2	-	-	-	-	414 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	43.4
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	915	-	-	-	174
HCM Lane V/C Ratio	0.039	-	-	-	0.479
HCM Control Delay (s)	9.1	0	-	-	43.4
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	2.3

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak PM Hour  
 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	8	710	36	49	531	12	14	0	24	8	0	5
Future Volume (vph)	8	710	36	49	531	12	14	0	24	8	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.997			0.916			0.948	
Flt Protected		0.999			0.996			0.982			0.970	
Satd. Flow (prot)	0	1921	0	0	1794	0	0	1816	0	0	1713	0
Flt Permitted		0.999			0.996			0.982			0.970	
Satd. Flow (perm)	0	1921	0	0	1794	0	0	1816	0	0	1713	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			425			323			150	
Travel Time (s)		5.0			9.7			7.3			3.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	1%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
Adj. Flow (vph)	8	740	38	51	553	13	15	0	25	8	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	786	0	0	617	0	0	40	0	0	13	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	70.2%
ICU Level of Service	C
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 4: Rochambeau Drive/Site Access & Underhill Avenue

Peak PM Hour  
 04/20/2023

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	710	36	49	531	12	14	0	24	8	0	5
Future Vol, veh/h	8	710	36	49	531	12	14	0	24	8	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	1	2	2	2	2	2	2	5	2	2	2
Mvmt Flow	8	740	38	51	553	13	15	0	25	8	0	5

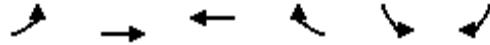
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	566	0	0	778	0	0	1439	1443	759	1450	1456	560
Stage 1	-	-	-	-	-	-	775	775	-	662	662	-
Stage 2	-	-	-	-	-	-	664	668	-	788	794	-
Critical Hdwy	4.12	-	-	4.12	-	-	5.72	5.12	5.55	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	1006	-	-	839	-	-	194	232	465	109	130	528
Stage 1	-	-	-	-	-	-	528	551	-	451	459	-
Stage 2	-	-	-	-	-	-	582	592	-	384	400	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1006	-	-	839	-	-	177	208	465	95	117	528
Mov Cap-2 Maneuver	-	-	-	-	-	-	177	208	-	95	117	-
Stage 1	-	-	-	-	-	-	521	543	-	445	418	-
Stage 2	-	-	-	-	-	-	525	539	-	358	394	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.8	19.3	33.7
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	291	1006	-	-	839	-	-	139
HCM Lane V/C Ratio	0.136	0.008	-	-	0.061	-	-	0.097
HCM Control Delay (s)	19.3	8.6	0	-	9.6	0	-	33.7
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.5	0	-	-	0.2	-	-	0.3

2025 Build Traffic Volumes W/Approved Other Development (Sensitivity)  
 5: Underhill Avenue & Glen Rock Street

Peak PM Hour  
 04/20/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	744	538	12	10	8
Future Volume (vph)	2	744	538	12	10	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.997		0.939	
Fl <sub>t</sub> Protected					0.973	
Satd. Flow (prot)	0	1909	1801	0	1588	0
Fl <sub>t</sub> Permitted					0.973	
Satd. Flow (perm)	0	1909	1801	0	1588	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	809	585	13	11	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	811	598	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.7%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	744	538	12	10	8
Future Vol, veh/h	2	744	538	12	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	809	585	13	11	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	598	0	-	0	1405 592
Stage 1	-	-	-	-	592 -
Stage 2	-	-	-	-	813 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	979	-	-	-	154 506
Stage 1	-	-	-	-	553 -
Stage 2	-	-	-	-	436 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	979	-	-	-	153 506
Mov Cap-2 Maneuver	-	-	-	-	153 -
Stage 1	-	-	-	-	551 -
Stage 2	-	-	-	-	436 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	22.8
HCM LOS			C

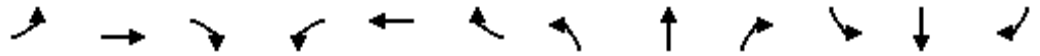
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	979	-	-	-	222
HCM Lane V/C Ratio	0.002	-	-	-	0.088
HCM Control Delay (s)	8.7	0	-	-	22.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes on Peak PM Hour) (Sensitivity 1: NYS Route 118 & Underhill Avenue) 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	411	277	58	48	275	41	46	174	35	23	139	275
Future Volume (vph)	411	277	58	48	275	41	46	174	35	23	139	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.981			0.981			0.850	
Flt Protected	0.950			0.950				0.991			0.993	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	0	1727	0	0	1833	1546
Flt Permitted	0.296			0.553				0.904			0.910	
Satd. Flow (perm)	533	1866	0	882	1797	0	0	1576	0	0	1680	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			7			7				281
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	424	286	60	49	284	42	47	179	36	24	143	284
Shared Lane Traffic (%)												
Lane Group Flow (vph)	424	346	0	49	326	0	0	262	0	0	167	284
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0

2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes on Peak PM Hour) (Sensitivity 1: NYS Route 118 & Underhill Avenue) 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		9.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	46.5	39.5		24.5	17.6			17.1			17.1	46.0
Actuated g/C Ratio	0.61	0.52		0.32	0.23			0.22			0.22	0.60
v/c Ratio	0.63	0.36		0.14	0.78			0.73			0.45	0.27
Control Delay	13.5	14.1		11.8	42.5			42.0			32.2	1.8
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	13.5	14.1		11.8	42.5			42.0			32.2	1.8
LOS	B	B		B	D			D			C	A
Approach Delay		13.8			38.5			42.0			13.1	
Approach LOS		B			D			D			B	
Queue Length 50th (ft)	86	97		8	134			107			65	1
Queue Length 95th (ft)	212	211		27	294			244			157	32
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	840	1356		394	760			688			730	1219
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.50	0.26		0.12	0.43			0.38			0.23	0.23

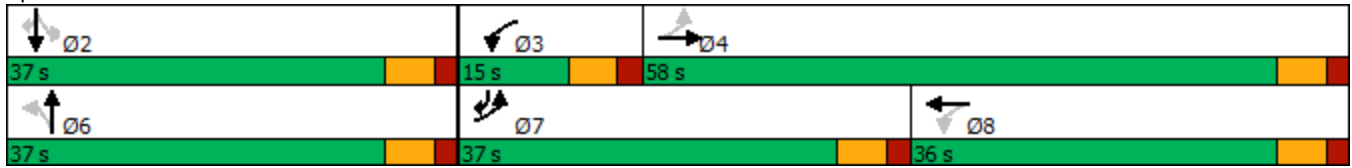
Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	76.4
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	22.6
Intersection Capacity Utilization	82.1%
Intersection LOS:	C
ICU Level of Service	E

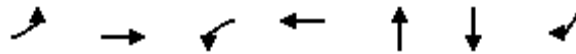


Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes w/Approved Other Development (W/ Turning Lanes of Peak PM Hour) (Sensitivity 1: NYS Route 118 & Underhill Avenue) 04/20/2023



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	424	346	49	326	262	167	284
v/c Ratio	0.63	0.36	0.14	0.78	0.73	0.45	0.27
Control Delay	13.5	14.1	11.8	42.5	42.0	32.2	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	14.1	11.8	42.5	42.0	32.2	1.8
Queue Length 50th (ft)	86	97	8	134	107	65	1
Queue Length 95th (ft)	212	211	27	294	244	157	32
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	840	1356	394	760	688	730	1219
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.26	0.12	0.43	0.38	0.23	0.23
Intersection Summary							



2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approaches) (Sense All Approaches)  
 1: NYS Route 118 & Underhill Avenue

04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	411	277	58	48	275	41	46	174	35	23	139	275
Future Volume (vph)	411	277	58	48	275	41	46	174	35	23	139	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.974			0.981			0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	1669	1724	0	1666	1743	1546
Flt Permitted	0.312			0.553			0.660			0.556	0.995	
Satd. Flow (perm)	561	1866	0	882	1797	0	1159	1724	0	975	1736	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			7			10				284
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	424	286	60	49	284	42	47	179	36	24	143	284
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	424	346	0	49	326	0	47	215	0	22	145	284
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approach) (Sense 1: NYS Route 118 & Underhill Avenue) 04/20/2023



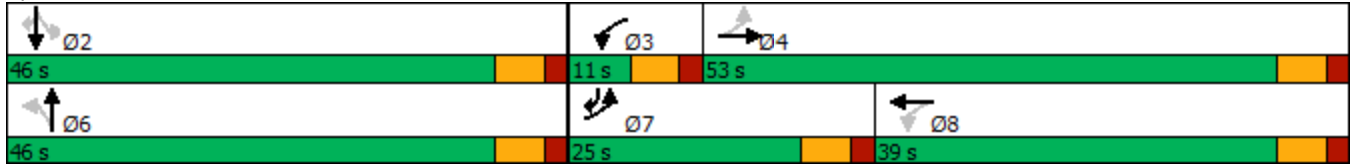
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		5.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	40.4	34.4		21.0	15.9		13.5	13.5		13.5	13.5	38.0
Actuated g/C Ratio	0.61	0.52		0.32	0.24		0.20	0.20		0.20	0.20	0.57
v/c Ratio	0.64	0.35		0.15	0.75		0.20	0.60		0.11	0.41	0.28
Control Delay	12.5	12.2		9.8	34.6		25.8	31.6		24.8	28.2	2.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	12.5	12.2		9.8	34.6		25.8	31.6		24.8	28.2	2.0
LOS	B	B		A	C		C	C		C	C	A
Approach Delay		12.4			31.4			30.5			11.5	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	73	84		7	118		16	76		7	54	0
Queue Length 95th (ft)	169	170		22	224		47	158		28	117	32
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	680	1360		329	920		717	1071		603	1074	1029
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.62	0.25		0.15	0.35		0.07	0.20		0.04	0.14	0.28

**Intersection Summary**

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	66.2
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	18.5
Intersection Capacity Utilization:	79.3%
Intersection LOS:	B
ICU Level of Service:	D

Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved Other Development (W/ Turning Lanes & Peak Approaches) (Sens  
 1: NYS Route 118 & Underhill Avenue

04/20/2023

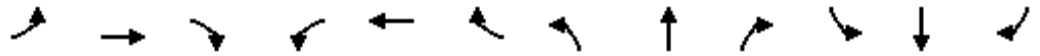


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	424	346	49	326	47	215	22	145	284
v/c Ratio	0.64	0.35	0.15	0.75	0.20	0.60	0.11	0.41	0.28
Control Delay	12.5	12.2	9.8	34.6	25.8	31.6	24.8	28.2	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	12.2	9.8	34.6	25.8	31.6	24.8	28.2	2.0
Queue Length 50th (ft)	73	84	7	118	16	76	7	54	0
Queue Length 95th (ft)	169	170	22	224	47	158	28	117	32
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	680	1360	329	920	717	1071	603	1074	1029
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.25	0.15	0.35	0.07	0.20	0.04	0.14	0.28
Intersection Summary									





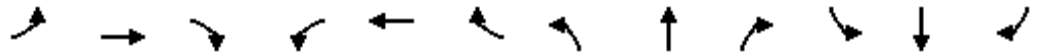
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak PM Hour)  
 1: NYS Route 118 & Underhill Avenue 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (vph)	442	286	67	48	285	41	56	174	35	23	139	309
Future Volume (vph)	442	286	67	48	285	41	56	174	35	23	139	309
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	12	12	12	11	12	12	11	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.985			0.982			0.911	
Flt Protected		0.971			0.994			0.989			0.998	
Satd. Flow (prot)	0	1989	1655	0	1777	0	0	1670	0	0	1607	0
Flt Permitted		0.600			0.704			0.674			0.973	
Satd. Flow (perm)	0	1229	1655	0	1259	0	0	1138	0	0	1566	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		5			8			98	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	456	295	69	49	294	42	58	179	36	24	143	319
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	751	69	0	385	0	0	273	0	0	486	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.89	0.97	1.03	1.03	1.03	1.02	1.07	1.02	0.99	1.04	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left		Right	Left			Left			Left		
Leading Detector (ft)	20	83	20	20	83		20	83		20	83	
Trailing Detector (ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Position(ft)	0	-5	0	0	-5		0	-5		0	-5	
Detector 1 Size(ft)	20	40	20	20	40		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43			43			43	
Detector 2 Size(ft)		40			40			40			40	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak PM Hour)  
 1: NYS Route 118 & Underhill Avenue 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Free	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			6				2
Permitted Phases	4		Free	8			6			2		
Detector Phase	7	4		8	8		6	6		2		2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		10.0	10.0		10.0		10.0
Minimum Split (s)	11.0	11.0		11.0	11.0		16.0	16.0		16.0		16.0
Total Split (s)	26.0	57.0		31.0	31.0		46.0	46.0		46.0		46.0
Total Split (%)	23.6%	51.8%		28.2%	28.2%		41.8%	41.8%		41.8%		41.8%
Maximum Green (s)	20.0	51.0		25.0	25.0		40.0	40.0		40.0		40.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Lost Time Adjust (s)		0.0			0.0			0.0				0.0
Total Lost Time (s)		6.0			6.0			6.0				6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0		2.0
Recall Mode	None	None		None	None		Min	Min		None		None
Walk Time (s)	7.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)		51.4	91.6		51.4			28.1				28.1
Actuated g/C Ratio		0.56	1.00		0.56			0.31				0.31
v/c Ratio		1.09	0.04		0.54			0.77				0.89
Control Delay		84.7	0.0		18.1			42.8				42.6
Queue Delay		0.0	0.0		0.0			0.0				0.0
Total Delay		84.7	0.0		18.1			42.8				42.6
LOS		F	A		B			D				D
Approach Delay		77.6			18.1			42.8				42.6
Approach LOS		E			B			D				D
Queue Length 50th (ft)		~496	0		131			138				217
Queue Length 95th (ft)		#842	0		278			231				346
Internal Link Dist (ft)		310			219			381				978
Turn Bay Length (ft)			50									
Base Capacity (vph)		690	1655		709			505				744
Starvation Cap Reductn		0	0		0			0				0
Spillback Cap Reductn		0	0		0			0				0
Storage Cap Reductn		0	0		0			0				0
Reduced v/c Ratio		1.09	0.04		0.54			0.54				0.65

**Intersection Summary**

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	91.6
Natural Cycle:	110
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.09
Intersection Signal Delay:	52.4
Intersection Capacity Utilization	108.3%
Intersection LOS:	D
ICU Level of Service	G

Lane Group	Ø10
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	6%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
<b>Intersection Summary</b>	

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitive Peak PM Hour)  
 1: NYS Route 118 & Underhill Avenue 04/20/2023

Analysis Period (min) 15

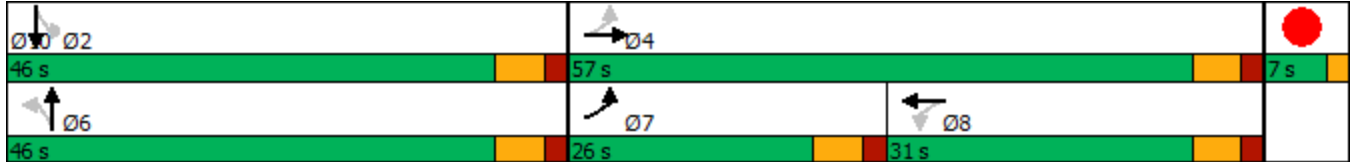
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

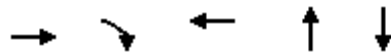
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: NYS Route 118 & Underhill Avenue



2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak PM Hour  
 1: NYS Route 118 & Underhill Avenue 04/20/2023



Lane Group	EBT	EBR	WBT	NBT	SBT
Lane Group Flow (vph)	751	69	385	273	486
v/c Ratio	1.09	0.04	0.54	0.77	0.89
Control Delay	84.7	0.0	18.1	42.8	42.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	84.7	0.0	18.1	42.8	42.6
Queue Length 50th (ft)	~496	0	131	138	217
Queue Length 95th (ft)	#842	0	278	231	346
Internal Link Dist (ft)	310		219	381	978
Turn Bay Length (ft)		50			
Base Capacity (vph)	690	1655	709	505	744
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.09	0.04	0.54	0.54	0.65

**Intersection Summary**

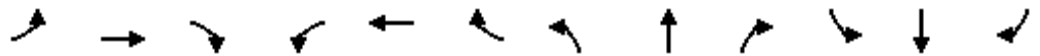
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak PM Hour)  
 2: NYS Route 118 & Allen Avenue/Kear Street 04/20/2023

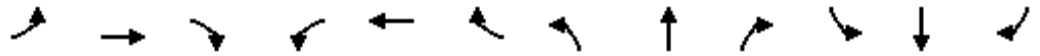


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	9	33	21	80	53	80	23	570	73	41	380	17
Future Volume (vph)	9	33	21	80	53	80	23	570	73	41	380	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	16	12	12	11	12	12	11	12
Grade (%)		-1%			5%			2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.955			0.949			0.985			0.995	
Fl <sub>t</sub> Protected		0.993			0.982			0.998			0.995	
Satd. Flow (prot)	0	1716	0	0	1918	0	0	1752	0	0	1765	0
Fl <sub>t</sub> Permitted		0.957			0.854			0.977			0.900	
Satd. Flow (perm)	0	1654	0	0	1668	0	0	1716	0	0	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			23			6			2	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		349			369			1058			343	
Travel Time (s)		7.9			8.4			18.0			5.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	35	22	84	56	84	24	600	77	43	400	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	0	0	224	0	0	701	0	0	461	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	1.04	0.99	1.03	0.88	1.03	1.01	1.06	1.01	1.01	1.06	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	83		20	83		20	0		20	0	
Trailing Detector (ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Position(ft)	0	-5		0	-5		0	0		0	0	
Detector 1 Size(ft)	20	40		20	40		20	0		20	0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		43			43							
Detector 2 Size(ft)		40			40							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lane Group	Ø10
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Lane Util. Factor	
Fr	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	10
Permitted Phases	
Detector Phase	



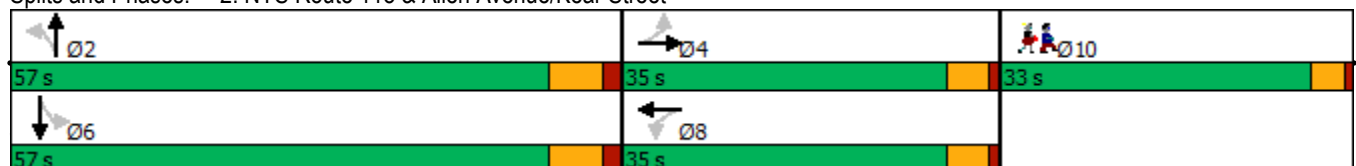
2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak PM Hour)  
 2: NYS Route 118 & Allen Avenue/Kear Street 04/20/2023



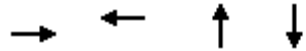
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
<b>Switch Phase</b>												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	15.0	15.0		15.0	15.0		57.0	57.0		57.0	57.0	
Total Split (s)	35.0	35.0		35.0	35.0		57.0	57.0		57.0	57.0	
Total Split (%)	28.0%	28.0%		28.0%	28.0%		45.6%	45.6%		45.6%	45.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			7.0			7.0	
<b>Lead/Lag</b>												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
<b>Walk Time (s)</b>												
Flash Dont Walk (s)												
<b>Pedestrian Calls (#/hr)</b>												
Act Effct Green (s)		14.6			14.6			50.1			50.1	
Actuated g/C Ratio		0.19			0.19			0.65			0.65	
v/c Ratio		0.20			0.67			0.62			0.44	
Control Delay		21.0			36.0			11.6			8.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		21.0			36.0			11.6			8.7	
LOS		C			D			B			A	
Approach Delay		21.0			36.0			11.6			8.7	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)		19			89			166			91	
Queue Length 95th (ft)		51			158			333			185	
Internal Link Dist (ft)		269			289			978			263	
<b>Turn Bay Length (ft)</b>												
Base Capacity (vph)		660			667			1123			1043	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.10			0.34			0.62			0.44	

<b>Intersection Summary</b>	
Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	76.7
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	14.9
Intersection LOS:	B
Intersection Capacity Utilization:	68.3%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 2: NYS Route 118 & Allen Avenue/Kear Street



Lane Group	Ø10
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	33.0
Total Split (s)	33.0
Total Split (%)	26%
Maximum Green (s)	29.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	21.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	66	224	701	461
v/c Ratio	0.20	0.67	0.62	0.44
Control Delay	21.0	36.0	11.6	8.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.0	36.0	11.6	8.7
Queue Length 50th (ft)	19	89	166	91
Queue Length 95th (ft)	51	158	333	185
Internal Link Dist (ft)	269	289	978	263
Turn Bay Length (ft)				
Base Capacity (vph)	660	667	1123	1043
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.34	0.62	0.44
<b>Intersection Summary</b>				

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak PM Hour  
 3: Underhill Avenue & Site Access

04/20/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	↙
Traffic Volume (vph)	57	719	574	86	84	56
Future Volume (vph)	57	719	574	86	84	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-5%	5%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.982		0.946	
Flt Protected		0.996			0.971	
Satd. Flow (prot)	0	1902	1783	0	1711	0
Flt Permitted		0.996			0.971	
Satd. Flow (perm)	0	1902	1783	0	1711	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		425	390		188	
Travel Time (s)		9.7	8.9		4.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	63	799	638	96	93	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	862	734	0	155	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.03	1.03	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	94.5%
ICU Level of Service	F
Analysis Period (min)	15

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak PM Hour  
 3: Underhill Avenue & Site Access

04/20/2023

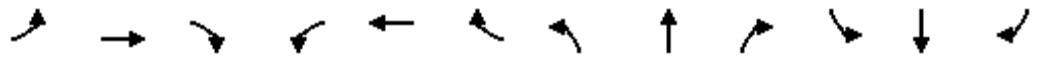
Intersection						
Int Delay, s/veh	14.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	57	719	574	86	84	56
Future Vol, veh/h	57	719	574	86	84	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	799	638	96	93	62

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	734	0	-	0	1611 686
Stage 1	-	-	-	-	686 -
Stage 2	-	-	-	-	925 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	871	-	-	-	115 447
Stage 1	-	-	-	-	500 -
Stage 2	-	-	-	-	386 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	871	-	-	-	100 447
Mov Cap-2 Maneuver	-	-	-	-	100 -
Stage 1	-	-	-	-	435 -
Stage 2	-	-	-	-	386 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	156.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	871	-	-	-	145
HCM Lane V/C Ratio	0.073	-	-	-	1.073
HCM Control Delay (s)	9.5	0	-	-	156.9
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	8.3

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak PM Hour)  
 4: Rochambeau Drive/Site Access & Underhill Avenue 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	16	736	36	49	557	24	14	0	24	16	0	10
Future Volume (vph)	16	736	36	49	557	24	14	0	24	16	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	14	12	12	12	12
Grade (%)		-6%			6%			-7%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.995			0.916			0.950	
Flt Protected		0.999			0.996			0.982			0.969	
Satd. Flow (prot)	0	1923	0	0	1791	0	0	1816	0	0	1715	0
Flt Permitted		0.999			0.996			0.982			0.969	
Satd. Flow (perm)	0	1923	0	0	1791	0	0	1816	0	0	1715	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		220			425			323			150	
Travel Time (s)		5.0			9.7			7.3			3.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	1%	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%
Adj. Flow (vph)	17	767	38	51	580	25	15	0	25	17	0	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	822	0	0	656	0	0	40	0	0	27	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.04	1.04	1.04	0.96	0.88	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 66.8% ICU Level of Service C

Analysis Period (min) 15

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak PM Hour)  
 4: Rochambeau Drive/Site Access & Underhill Avenue 04/20/2023

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	736	36	49	557	24	14	0	24	16	0	10
Future Vol, veh/h	16	736	36	49	557	24	14	0	24	16	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-6	-	-	6	-	-	-7	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	1	2	2	2	2	2	2	5	2	2	2
Mvmt Flow	17	767	38	51	580	25	15	0	25	17	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	605	0	0	805	0	0	1520	1527	786	1528	1534	593
Stage 1	-	-	-	-	-	-	820	820	-	695	695	-
Stage 2	-	-	-	-	-	-	700	707	-	833	839	-
Critical Hdwy	4.12	-	-	4.12	-	-	5.72	5.12	5.55	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	4.72	4.12	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.345	3.518	4.018	3.318
Pot Cap-1 Maneuver	973	-	-	819	-	-	176	213	451	96	116	506
Stage 1	-	-	-	-	-	-	508	535	-	433	444	-
Stage 2	-	-	-	-	-	-	564	577	-	363	381	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	973	-	-	819	-	-	156	187	451	82	102	506
Mov Cap-2 Maneuver	-	-	-	-	-	-	156	187	-	82	102	-
Stage 1	-	-	-	-	-	-	492	518	-	419	402	-
Stage 2	-	-	-	-	-	-	500	523	-	332	369	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.8			20.9			43.1		
HCM LOS							C			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	266	973	-	-	819	-	-	121
HCM Lane V/C Ratio	0.149	0.017	-	-	0.062	-	-	0.224
HCM Control Delay (s)	20.9	8.8	0	-	9.7	0	-	43.1
HCM Lane LOS	C	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.2	-	-	0.8

2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak PM Hour  
 5: Underhill Avenue & Glen Rock Street 04/20/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	777	569	12	10	8
Future Volume (vph)	2	777	569	12	10	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Grade (%)		-5%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.997		0.939	
Fl <sub>t</sub> Protected					0.973	
Satd. Flow (prot)	0	1909	1801	0	1588	0
Fl <sub>t</sub> Permitted					0.973	
Satd. Flow (perm)	0	1909	1801	0	1588	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		262	220		392	
Travel Time (s)		6.0	5.0		8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	845	618	13	11	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	847	631	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	1.04	1.04	1.09	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.5%
Analysis Period (min)	15
	ICU Level of Service A



2025 Build Traffic Volumes W/Approved & Potential Other Development (Sensitivity Peak PM Hour  
 5: Underhill Avenue & Glen Rock Street 04/20/2023

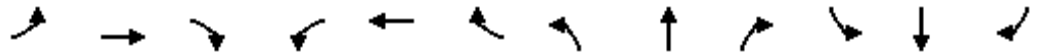
Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	2	777	569	12	10	8
Future Vol, veh/h	2	777	569	12	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-5	6	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	845	618	13	11	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	631	0	-	0	1474 625
Stage 1	-	-	-	-	625 -
Stage 2	-	-	-	-	849 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	951	-	-	-	139 485
Stage 1	-	-	-	-	534 -
Stage 2	-	-	-	-	419 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	951	-	-	-	138 485
Mov Cap-2 Maneuver	-	-	-	-	138 -
Stage 1	-	-	-	-	532 -
Stage 2	-	-	-	-	419 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	24.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	951	-	-	-	202
HCM Lane V/C Ratio	0.002	-	-	-	0.097
HCM Control Delay (s)	8.8	0	-	-	24.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Right on Red) Underhill Avenue  
 1: NYS Route 118 & Underhill Avenue 04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Future Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	12	12	12	12	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.981			0.983			0.850	
Flt Protected	0.950			0.950				0.992			0.993	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	0	1733	0	0	1833	1546
Flt Permitted	0.286			0.553				0.907			0.906	
Satd. Flow (perm)	515	1866	0	882	1797	0	0	1584	0	0	1672	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			7			7				281
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	453	286	60	49	284	42	47	195	36	24	156	305
Shared Lane Traffic (%)												
Lane Group Flow (vph)	453	346	0	49	326	0	0	278	0	0	180	305
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.02	1.02	1.02	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		1	2		1	2	2
Detector Template							Left			Left		
Leading Detector (ft)	83	83		83	83		20	83		20	83	83
Trailing Detector (ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		0	-5		0	-5	-5
Detector 1 Size(ft)	40	40		40	40		20	40		20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43			43			43	43
Detector 2 Size(ft)	40	40		40	40			40			40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0

2025 Build Traffic Volumes w/Approved & Potential Other Development (W/ Turn Bay) Peak PM Hour Underhill Avenue  
 1: NYS Route 118 & Underhill Avenue 04/20/2023



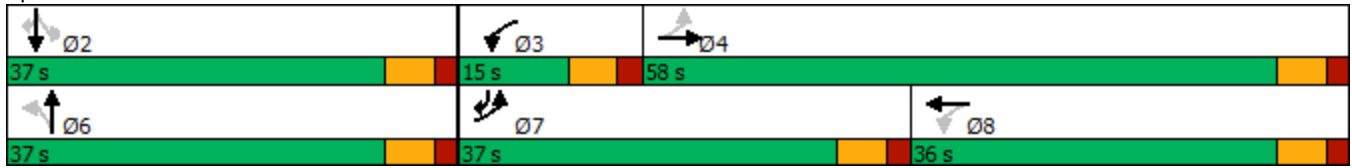
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	37.0	58.0		15.0	36.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	33.6%	52.7%		13.6%	32.7%		33.6%	33.6%		33.6%	33.6%	33.6%
Maximum Green (s)	31.0	52.0		9.0	30.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	49.0	42.0		25.0	18.1			18.0			18.0	49.0
Actuated g/C Ratio	0.61	0.53		0.31	0.23			0.23			0.23	0.61
v/c Ratio	0.66	0.35		0.15	0.79			0.77			0.48	0.29
Control Delay	15.2	14.3		12.5	45.2			44.9			33.6	2.1
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	15.2	14.3		12.5	45.2			44.9			33.6	2.1
LOS	B	B		B	D			D			C	A
Approach Delay		14.8			40.9			44.9			13.8	
Approach LOS		B			D			D			B	
Queue Length 50th (ft)	99	100		8	144			122			75	4
Queue Length 95th (ft)	258	218		29	300			259			167	39
Internal Link Dist (ft)		310			219			381			978	
Turn Bay Length (ft)	200											200
Base Capacity (vph)	813	1304		381	725			661			693	1193
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.56	0.27		0.13	0.45			0.42			0.26	0.26

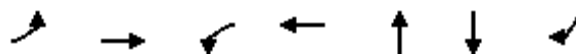
Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	79.9
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	23.9
Intersection Capacity Utilization	85.1%
Intersection LOS:	C
ICU Level of Service	E

Analysis Period (min) 15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue





Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	453	346	49	326	278	180	305
v/c Ratio	0.66	0.35	0.15	0.79	0.77	0.48	0.29
Control Delay	15.2	14.3	12.5	45.2	44.9	33.6	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	14.3	12.5	45.2	44.9	33.6	2.1
Queue Length 50th (ft)	99	100	8	144	122	75	4
Queue Length 95th (ft)	258	218	29	300	259	167	39
Internal Link Dist (ft)		310		219	381	978	
Turn Bay Length (ft)	200						200
Base Capacity (vph)	813	1304	381	725	661	693	1193
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.27	0.13	0.45	0.42	0.26	0.26
Intersection Summary							



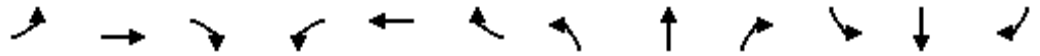
2025 Build Traffic Volumes W/Approved & Potential Other Development (Job# 20006297A - R.H. All Approva  
 1: NYS Route 118 & Underhill Avenue

04/20/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Future Volume (vph)	439	277	58	48	275	41	46	189	35	23	151	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	10	12	12	11	12	12	11	12	12
Grade (%)		-5%			4%			3%			-1%	
Storage Length (ft)	200		0	0		0	0		0	0		200
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.974			0.981			0.977				0.850
Flt Protected	0.950			0.950			0.950			0.950	0.999	
Satd. Flow (prot)	1710	1866	0	1515	1797	0	1669	1729	0	1666	1743	1546
Flt Permitted	0.311			0.553			0.652			0.516	0.995	
Satd. Flow (perm)	560	1866	0	882	1797	0	1145	1729	0	905	1736	1546
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			7			9				305
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		390			299			461			1058	
Travel Time (s)		8.9			6.8			7.9			18.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	9%	1%	6%	3%	5%	10%	0%	4%	5%
Adj. Flow (vph)	453	286	60	49	284	42	47	195	36	24	156	305
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	453	346	0	49	326	0	47	231	0	22	158	305
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.06	0.97	0.97	1.12	1.03	1.03	1.07	1.02	1.02	1.04	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		2	2		2	2		2	2	2
Detector Template												
Leading Detector (ft)	83	83		83	83		83	83		83	83	83
Trailing Detector (ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Position(ft)	-5	-5		-5	-5		-5	-5		-5	-5	-5
Detector 1 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43	43		43	43		43	43		43	43	43
Detector 2 Size(ft)	40	40		40	40		40	40		40	40	40
Detector 2 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

2025 Build Traffic Volumes W/Approved & Potential Other Development (Job# 20006297A - R.H. All Approvals) 04/20/2023  
 1: NYS Route 118 & Underhill Avenue

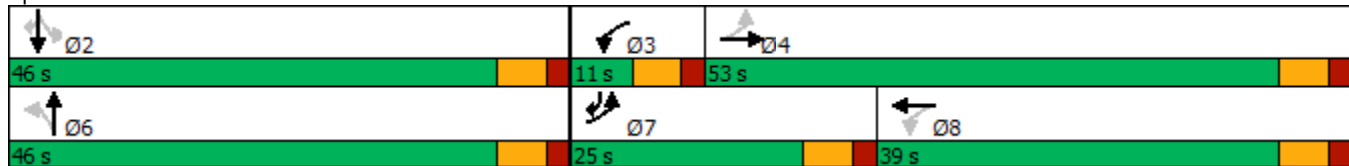


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4		3	8			6			2	7
Permitted Phases	4			8			6			2		2
Detector Phase	7	4		3	8		6	6		2	2	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		4.0	5.0		10.0	10.0		10.0	10.0	5.0
Minimum Split (s)	11.0	22.0		10.0	22.0		16.0	16.0		16.0	16.0	11.0
Total Split (s)	25.0	53.0		11.0	39.0		46.0	46.0		46.0	46.0	25.0
Total Split (%)	22.7%	48.2%		10.0%	35.5%		41.8%	41.8%		41.8%	41.8%	22.7%
Maximum Green (s)	19.0	47.0		5.0	33.0		40.0	40.0		40.0	40.0	19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		Min	Min		None	None	None
Walk Time (s)		5.0			5.0							
Flash Dont Walk (s)		11.0			11.0							
Pedestrian Calls (#/hr)		3			3							
Act Effct Green (s)	41.5	35.5		21.5	16.4		14.2	14.2		14.2	14.2	39.3
Actuated g/C Ratio	0.61	0.52		0.32	0.24		0.21	0.21		0.21	0.21	0.58
v/c Ratio	0.68	0.35		0.15	0.74		0.20	0.63		0.12	0.44	0.30
Control Delay	14.5	12.5		10.0	34.8		25.7	32.6		24.9	28.5	2.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	14.5	12.5		10.0	34.8		25.7	32.6		24.9	28.5	2.0
LOS	B	B		B	C		C	C		C	C	A
Approach Delay		13.6			31.6			31.5			11.7	
Approach LOS		B			C			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	68
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	19.2
Intersection LOS:	B
Intersection Capacity Utilization:	81.7%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 1: NYS Route 118 & Underhill Avenue







Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	453	346	49	326	47	231	22	158	305
v/c Ratio	0.68	0.35	0.15	0.74	0.20	0.63	0.12	0.44	0.30
Control Delay	14.5	12.5	10.0	34.8	25.7	32.6	24.9	28.5	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	12.5	10.0	34.8	25.7	32.6	24.9	28.5	2.0
Queue Length 50th (ft)	84	87	7	120	16	84	7	60	0
Queue Length 95th (ft)	#229	174	23	228	47	171	29	128	33
Internal Link Dist (ft)		310		219		381		978	
Turn Bay Length (ft)	200								200
Base Capacity (vph)	670	1320	326	893	687	1042	543	1042	1030
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.26	0.15	0.37	0.07	0.22	0.04	0.15	0.30

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



# Traffic Impact Study

## Appendix J | Traffic Volume Backup Data

# Maser Consulting

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

File Name : 1-UNDERHILL\_AVE\_&\_ROCHAMBEAU\_DR\_803547\_12-03-2020

Site Code :

Start Date : 12/3/2020

Page No : 1

Groups Printed- Lights - Buses - Trucks - Pedestrians

Start Time	From North					UNDERHILL AVE From East					ROCHAMBEAU DR From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:30 AM	0	0	0	0	0	0	75	1	0	76	4	0	12	0	16	0	33	0	0	33	125
06:45 AM	0	0	0	0	0	0	92	1	0	93	7	0	4	0	11	1	36	0	0	37	141
Total	0	0	0	0	0	0	167	2	0	169	11	0	16	0	27	1	69	0	0	70	266
07:00 AM	0	0	0	0	0	0	110	3	0	113	4	0	3	0	7	0	55	0	0	55	175
07:15 AM	0	0	0	0	0	0	127	0	0	127	9	0	11	0	20	0	67	0	0	67	214
07:30 AM	0	0	0	0	0	0	119	1	0	120	5	0	9	0	14	1	87	0	0	88	222
07:45 AM	0	0	0	0	0	0	84	3	0	87	4	0	5	0	9	1	125	0	0	126	222
Total	0	0	0	0	0	0	440	7	0	447	22	0	28	0	50	2	334	0	0	336	833
08:00 AM	0	0	0	0	0	0	122	2	0	124	3	0	8	0	11	3	94	0	0	97	232
08:15 AM	0	0	0	0	0	0	105	1	0	106	8	0	6	0	14	2	83	0	0	85	205
08:30 AM	0	0	0	0	0	0	100	5	0	105	4	0	6	0	10	0	88	0	0	88	203
08:45 AM	0	0	0	0	0	0	65	1	0	66	6	0	3	0	9	5	106	0	0	111	186
Total	0	0	0	0	0	0	392	9	0	401	21	0	23	0	44	10	371	0	0	381	826
09:00 AM	0	0	0	0	0	0	85	2	0	87	3	0	9	0	12	6	56	0	0	62	161
09:15 AM	0	0	0	0	0	0	88	4	0	92	2	0	1	0	3	4	59	0	0	63	158
09:30 AM	0	0	0	0	0	0	72	2	0	74	2	0	5	0	7	1	82	0	0	83	164
09:45 AM	0	0	0	0	0	0	59	0	0	59	3	0	6	0	9	1	76	0	0	77	145
Total	0	0	0	0	0	0	304	8	0	312	10	0	21	0	31	12	273	0	0	285	628
10:00 AM	0	0	0	0	0	0	75	1	0	76	5	0	1	0	6	1	77	0	0	78	160
10:15 AM	0	0	0	0	0	0	68	7	0	75	6	0	3	0	9	3	67	0	0	70	154
10:30 AM	0	0	0	0	0	0	91	4	0	95	5	0	7	0	12	1	56	0	0	57	164
10:45 AM	0	0	0	0	0	0	58	2	0	60	8	0	3	1	12	5	63	0	0	68	140
Total	0	0	0	0	0	0	292	14	0	306	24	0	14	1	39	10	263	0	0	273	618
11:00 AM	0	0	0	0	0	0	78	1	0	79	3	0	2	0	5	0	63	0	0	63	147
11:15 AM	0	0	0	0	0	0	55	4	0	59	4	0	2	0	6	7	64	0	0	71	136
11:30 AM	0	0	0	0	0	0	65	4	0	69	12	0	4	0	16	1	68	0	0	69	154
11:45 AM	0	0	0	0	0	0	74	3	0	77	3	0	2	0	5	4	69	0	0	73	155
Total	0	0	0	0	0	0	272	12	0	284	22	0	10	0	32	12	264	0	0	276	592
12:00 PM	0	0	0	0	0	0	72	3	0	75	0	0	0	0	0	1	72	0	0	73	148
12:15 PM	0	0	0	0	0	0	73	4	0	77	7	0	0	1	8	1	67	0	0	68	153
12:30 PM	0	0	0	0	0	0	74	4	0	78	3	0	0	0	3	2	71	0	0	73	154

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Site Code :

Start Date : 12/3/2020

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Groups Printed- Lights - Buses - Trucks - Pedestrians

Start Time	From North					UNDERHILL AVE From East					ROCHAMBEAU DR From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
12:45 PM	0	0	0	0	0	0	75	3	0	78	6	0	7	0	13	1	85	0	0	86	177
Total	0	0	0	0	0	0	294	14	0	308	16	0	7	1	24	5	295	0	0	300	632
01:00 PM	0	0	0	0	0	0	75	6	0	81	9	0	2	0	11	3	70	0	0	73	165
01:15 PM	0	0	0	0	0	0	63	5	0	68	9	0	4	0	13	5	76	0	0	81	162
01:30 PM	0	0	0	0	0	0	88	7	0	95	4	0	2	0	6	1	90	0	0	91	192
01:45 PM	0	0	0	0	0	0	76	8	0	84	8	0	0	0	8	1	105	0	0	106	198
Total	0	0	0	0	0	0	302	26	0	328	30	0	8	0	38	10	341	0	0	351	717
02:00 PM	0	0	0	0	0	0	74	5	0	79	5	0	3	1	9	1	100	0	0	101	189
02:15 PM	0	0	0	0	0	0	79	6	0	85	2	0	3	0	5	4	76	0	0	80	170
02:30 PM	0	0	0	0	0	0	116	6	0	122	2	0	3	0	5	4	93	0	0	97	224
02:45 PM	0	0	0	0	0	0	94	8	0	102	7	0	5	0	12	3	99	0	0	102	216
Total	0	0	0	0	0	0	363	25	0	388	16	0	14	1	31	12	368	0	0	380	799
03:00 PM	0	0	0	0	0	0	112	7	0	119	2	0	3	0	5	5	114	0	0	119	243
03:15 PM	0	0	0	0	0	0	105	5	0	110	6	0	3	1	10	8	141	0	0	149	269
03:30 PM	0	0	0	0	0	0	103	10	0	113	6	0	2	0	8	3	138	0	0	141	262
03:45 PM	0	0	0	0	0	0	93	7	0	100	5	0	3	0	8	7	160	0	0	167	275
Total	0	0	0	0	0	0	413	29	0	442	19	0	11	1	31	23	553	0	0	576	1049
04:00 PM	0	0	0	0	0	0	108	11	0	119	4	0	3	0	7	7	120	0	0	127	253
04:15 PM	0	0	0	0	0	0	92	11	0	103	6	0	4	0	10	7	140	0	0	147	260
04:30 PM	0	0	0	0	0	0	112	9	0	121	9	0	3	0	12	7	115	0	0	122	255
04:45 PM	0	0	0	0	0	0	108	11	0	119	7	0	2	0	9	3	136	0	0	139	267
Total	0	0	0	0	0	0	420	42	0	462	26	0	12	0	38	24	511	0	0	535	1035
05:00 PM	0	0	0	0	0	0	109	11	0	120	8	0	1	0	9	6	125	0	0	131	260
05:15 PM	0	0	0	0	0	0	98	5	0	103	2	0	3	0	5	9	118	0	0	127	235
05:30 PM	0	0	0	0	0	0	90	10	0	100	3	0	4	0	7	8	137	0	0	145	252
05:45 PM	0	0	0	0	0	0	91	16	0	107	5	0	3	0	8	7	123	0	0	130	245
Total	0	0	0	0	0	0	388	42	0	430	18	0	11	0	29	30	503	0	0	533	992
06:00 PM	0	0	0	0	0	0	79	5	0	84	6	0	1	0	7	8	98	0	0	106	197
06:15 PM	0	0	0	0	0	0	63	8	0	71	6	0	3	0	9	4	93	0	0	97	177
Grand Total	0	0	0	0	0	0	4189	243	0	4432	247	0	179	4	430	163	4336	0	0	4499	9361
Apprch %	0	0	0	0	0	0	94.5	5.5	0		57.4	0	41.6	0.9		3.6	96.4	0	0		
Total %	0	0	0	0	0	0	44.7	2.6	0	47.3	2.6	0	1.9	0	4.6	1.7	46.3	0	0	48.1	
Lights	0	0	0	0	0	0	4049	237	0	4286	241	0	173	0	414	158	4209	0	0	4367	9067
% Lights	0	0	0	0	0	0	96.7	97.5	0	96.7	97.6	0	96.6	0	96.3	96.9	97.1	0	0	97.1	96.9
Buses	0	0	0	0	0	0	68	2	0	70	1	0	2	0	3	1	65	0	0	66	139
% Buses	0	0	0	0	0	0	1.6	0.8	0	1.6	0.4	0	1.1	0	0.7	0.6	1.5	0	0	1.5	1.5
Trucks	0	0	0	0	0	0	72	4	0	76	5	0	4	0	9	4	62	0	0	66	151
% Trucks	0	0	0	0	0	0	1.7	1.6	0	1.7	2	0	2.2	0	2.1	2.5	1.4	0	0	1.5	1.6

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Groups Printed- Lights - Buses - Trucks - Pedestrians

	From North					UNDERHILL AVE From East					ROCHAMBEAU DR From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	4
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0.9	0	0	0	0	0	0



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## Groups Printed- Lights - Buses - Trucks - Pedestrians

Start Time	From North					UNDERHILL AVE From East					ROCHAMBEAU DR From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:30 AM	0	0	0	0	0	0	75	1	0	76	4	0	12	0	16	0	33	0	0	33	125
06:45 AM	0	0	0	0	0	0	92	1	0	93	7	0	4	0	11	1	36	0	0	37	141
Total	0	0	0	0	0	0	167	2	0	169	11	0	16	0	27	1	69	0	0	70	266
07:00 AM	0	0	0	0	0	0	110	3	0	113	4	0	3	0	7	0	55	0	0	55	175
07:15 AM	0	0	0	0	0	0	127	0	0	127	9	0	11	0	20	0	67	0	0	67	214
07:30 AM	0	0	0	0	0	0	119	1	0	120	5	0	9	0	14	1	87	0	0	88	222
07:45 AM	0	0	0	0	0	0	84	3	0	87	4	0	5	0	9	1	125	0	0	126	222
Total	0	0	0	0	0	0	440	7	0	447	22	0	28	0	50	2	334	0	0	336	833
08:00 AM	0	0	0	0	0	0	122	2	0	124	3	0	8	0	11	3	94	0	0	97	232
08:15 AM	0	0	0	0	0	0	105	1	0	106	8	0	6	0	14	2	83	0	0	85	205
08:30 AM	0	0	0	0	0	0	100	5	0	105	4	0	6	0	10	0	88	0	0	88	203
08:45 AM	0	0	0	0	0	0	65	1	0	66	6	0	3	0	9	5	106	0	0	111	186
Total	0	0	0	0	0	0	392	9	0	401	21	0	23	0	44	10	371	0	0	381	826
09:00 AM	0	0	0	0	0	0	85	2	0	87	3	0	9	0	12	6	56	0	0	62	161
09:15 AM	0	0	0	0	0	0	88	4	0	92	2	0	1	0	3	4	59	0	0	63	158
Grand Total	0	0	0	0	0	0	1172	24	0	1196	59	0	77	0	136	23	889	0	0	912	2244
Apprch %	0	0	0	0	0	0	98	2	0		43.4	0	56.6	0		2.5	97.5	0	0		
Total %	0	0	0	0	0	0	52.2	1.1	0	53.3	2.6	0	3.4	0	6.1	1	39.6	0	0	40.6	
Lights	0	0	0	0	0	0	1121	20	0	1141	58	0	74	0	132	22	850	0	0	872	2145
% Lights	0	0	0	0	0	0	95.6	83.3	0	95.4	98.3	0	96.1	0	97.1	95.7	95.6	0	0	95.6	95.6
Buses	0	0	0	0	0	0	29	1	0	30	0	0	1	0	1	0	26	0	0	26	57
% Buses	0	0	0	0	0	0	2.5	4.2	0	2.5	0	0	1.3	0	0.7	0	2.9	0	0	2.9	2.5
Trucks	0	0	0	0	0	0	22	3	0	25	1	0	2	0	3	1	13	0	0	14	42
% Trucks	0	0	0	0	0	0	1.9	12.5	0	2.1	1.7	0	2.6	0	2.2	4.3	1.5	0	0	1.5	1.9
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Start Time	From North					UNDERHILL AVE From East					ROCHAMBEAU DR From South					UNDERHILL AVE From West					Int. Total	
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 06:30 AM to 09:15 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:15 AM																						
07:15 AM	0	0	0	0	0	0	127	0	0	127	9	0	11	0	20	0	67	0	0	67	214	
07:30 AM	0	0	0	0	0	0	119	1	0	120	5	0	9	0	14	1	87	0	0	88	222	
07:45 AM	0	0	0	0	0	0	84	3	0	87	4	0	5	0	9	1	125	0	0	126	222	
08:00 AM	0	0	0	0	0	0	122	2	0	124	3	0	8	0	11	3	94	0	0	97	232	
Total Volume	0	0	0	0	0	0	452	6	0	458	21	0	33	0	54	5	373	0	0	378	890	
% App. Total	0	0	0	0	0	0	98.7	1.3	0		38.9	0	61.1	0		1.3	98.7	0	0			
PHF	.000	.000	.000	.000	.000	.000	.890	.500	.000	.902	.583	.000	.750	.000	.675	.417	.746	.000	.000	.750	.959	
Lights	0	0	0	0	0	0	434	5	0	439	20	0	31	0	51	4	344	0	0	348	838	
% Lights	0	0	0	0	0	0	96.0	83.3	0	95.9	95.2	0	93.9	0	94.4	80.0	92.2	0	0	92.1	94.2	
Buses	0	0	0	0	0	0	10	1	0	11	0	0	1	0	1	0	19	0	0	19	31	
% Buses	0	0	0	0	0	0	2.2	16.7	0	2.4	0	0	3.0	0	1.9	0	5.1	0	0	5.0	3.5	
Trucks	0	0	0	0	0	0	8	0	0	8	1	0	1	0	2	1	10	0	0	11	21	
% Trucks	0	0	0	0	0	0	1.8	0	0	1.7	4.8	0	3.0	0	3.7	20.0	2.7	0	0	2.9	2.4	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

# Maser Consulting

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

File Name : 1-UNDERHILL\_AVE\_&\_ROCHAMBEAU\_DR\_803547\_12-03-2020

Site Code :

Start Date : 12/3/2020

Page No : 1

Groups Printed- Lights - Buses - Trucks - Pedestrians

Start Time	From North					UNDERHILL AVE From East					ROCHAMBEAU DR From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
09:30 AM	0	0	0	0	0	0	72	2	0	74	2	0	5	0	7	1	82	0	0	83	164
09:45 AM	0	0	0	0	0	0	59	0	0	59	3	0	6	0	9	1	76	0	0	77	145
Total	0	0	0	0	0	0	131	2	0	133	5	0	11	0	16	2	158	0	0	160	309
10:00 AM	0	0	0	0	0	0	75	1	0	76	5	0	1	0	6	1	77	0	0	78	160
10:15 AM	0	0	0	0	0	0	68	7	0	75	6	0	3	0	9	3	67	0	0	70	154
10:30 AM	0	0	0	0	0	0	91	4	0	95	5	0	7	0	12	1	56	0	0	57	164
10:45 AM	0	0	0	0	0	0	58	2	0	60	8	0	3	1	12	5	63	0	0	68	140
Total	0	0	0	0	0	0	292	14	0	306	24	0	14	1	39	10	263	0	0	273	618
11:00 AM	0	0	0	0	0	0	78	1	0	79	3	0	2	0	5	0	63	0	0	63	147
11:15 AM	0	0	0	0	0	0	55	4	0	59	4	0	2	0	6	7	64	0	0	71	136
11:30 AM	0	0	0	0	0	0	65	4	0	69	12	0	4	0	16	1	68	0	0	69	154
11:45 AM	0	0	0	0	0	0	74	3	0	77	3	0	2	0	5	4	69	0	0	73	155
Total	0	0	0	0	0	0	272	12	0	284	22	0	10	0	32	12	264	0	0	276	592
12:00 PM	0	0	0	0	0	0	72	3	0	75	0	0	0	0	0	1	72	0	0	73	148
12:15 PM	0	0	0	0	0	0	73	4	0	77	7	0	0	1	8	1	67	0	0	68	153
Grand Total	0	0	0	0	0	0	840	35	0	875	58	0	35	2	95	26	824	0	0	850	1820
Apprch %	0	0	0	0	0	0	96	4	0		61.1	0	36.8	2.1		3.1	96.9	0	0		
Total %	0	0	0	0	0	0	46.2	1.9	0	48.1	3.2	0	1.9	0.1	5.2	1.4	45.3	0	0	46.7	
Lights	0	0	0	0	0	0	810	34	0	844	55	0	34	0	89	25	798	0	0	823	1756
% Lights	0	0	0	0	0	0	96.4	97.1	0	96.5	94.8	0	97.1	0	93.7	96.2	96.8	0	0	96.8	96.5
Buses	0	0	0	0	0	0	11	1	0	12	1	0	0	0	1	0	12	0	0	12	25
% Buses	0	0	0	0	0	0	1.3	2.9	0	1.4	1.7	0	0	0	1.1	0	1.5	0	0	1.4	1.4
Trucks	0	0	0	0	0	0	19	0	0	19	2	0	1	0	3	1	14	0	0	15	37
% Trucks	0	0	0	0	0	0	2.3	0	0	2.2	3.4	0	2.9	0	3.2	3.8	1.7	0	0	1.8	2
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	100	2.1	0	0	0	0	0	0.1



# Maser Consulting

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

File Name : 1-UNDERHILL\_AVE\_&\_ROCHAMBEAU\_DR\_803547\_12-03-2020

Site Code :

Start Date : 12/3/2020

Page No : 1

## Groups Printed- Lights - Buses - Trucks - Pedestrians

Start Time	From North					UNDERHILL AVE From East					ROCHAMBEAU DR From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
12:30 PM	0	0	0	0	0	0	74	4	0	78	3	0	0	0	3	2	71	0	0	73	154
12:45 PM	0	0	0	0	0	0	75	3	0	78	6	0	7	0	13	1	85	0	0	86	177
Total	0	0	0	0	0	0	149	7	0	156	9	0	7	0	16	3	156	0	0	159	331
01:00 PM	0	0	0	0	0	0	75	6	0	81	9	0	2	0	11	3	70	0	0	73	165
01:15 PM	0	0	0	0	0	0	63	5	0	68	9	0	4	0	13	5	76	0	0	81	162
01:30 PM	0	0	0	0	0	0	88	7	0	95	4	0	2	0	6	1	90	0	0	91	192
01:45 PM	0	0	0	0	0	0	76	8	0	84	8	0	0	0	8	1	105	0	0	106	198
Total	0	0	0	0	0	0	302	26	0	328	30	0	8	0	38	10	341	0	0	351	717
02:00 PM	0	0	0	0	0	0	74	5	0	79	5	0	3	1	9	1	100	0	0	101	189
02:15 PM	0	0	0	0	0	0	79	6	0	85	2	0	3	0	5	4	76	0	0	80	170
02:30 PM	0	0	0	0	0	0	116	6	0	122	2	0	3	0	5	4	93	0	0	97	224
02:45 PM	0	0	0	0	0	0	94	8	0	102	7	0	5	0	12	3	99	0	0	102	216
Total	0	0	0	0	0	0	363	25	0	388	16	0	14	1	31	12	368	0	0	380	799
03:00 PM	0	0	0	0	0	0	112	7	0	119	2	0	3	0	5	5	114	0	0	119	243
03:15 PM	0	0	0	0	0	0	105	5	0	110	6	0	3	1	10	8	141	0	0	149	269
Grand Total	0	0	0	0	0	0	1031	70	0	1101	63	0	35	2	100	38	1120	0	0	1158	2359
Apprch %	0	0	0	0	0	0	93.6	6.4	0		63	0	35	2		3.3	96.7	0	0		
Total %	0	0	0	0	0	0	43.7	3	0	46.7	2.7	0	1.5	0.1	4.2	1.6	47.5	0	0	49.1	
Lights	0	0	0	0	0	0	986	69	0	1055	63	0	33	0	96	36	1072	0	0	1108	2259
% Lights	0	0	0	0	0	0	95.6	98.6	0	95.8	100	0	94.3	0	96	94.7	95.7	0	0	95.7	95.8
Buses	0	0	0	0	0	0	24	0	0	24	0	0	1	0	1	1	22	0	0	23	48
% Buses	0	0	0	0	0	0	2.3	0	0	2.2	0	0	2.9	0	1	2.6	2	0	0	2	2
Trucks	0	0	0	0	0	0	21	1	0	22	0	0	1	0	1	1	26	0	0	27	50
% Trucks	0	0	0	0	0	0	2	1.4	0	2	0	0	2.9	0	1	2.6	2.3	0	0	2.3	2.1
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	100	2	0	0	0	0	0	0.1

# Maser Consulting

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

File Name : 1-UNDERHILL\_AVE\_&\_ROCHAMBEAU\_DR\_803547\_12-03-2020

Site Code :

Start Date : 12/3/2020

Page No : 2

Start Time	From North					UNDERHILL AVE From East					ROCHAMBEAU DR From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 12:30 PM to 03:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:30 PM																					
02:30 PM	0	0	0	0	0	0	116	6	0	122	2	0	3	0	5	4	93	0	0	97	224
02:45 PM	0	0	0	0	0	0	94	8	0	102	7	0	5	0	12	3	99	0	0	102	216
03:00 PM	0	0	0	0	0	0	112	7	0	119	2	0	3	0	5	5	114	0	0	119	243
03:15 PM	0	0	0	0	0	0	105	5	0	110	6	0	3	1	10	8	141	0	0	149	269
Total Volume	0	0	0	0	0	0	427	26	0	453	17	0	14	1	32	20	447	0	0	467	952
% App. Total	0	0	0	0	0	0	94.3	5.7	0		53.1	0	43.8	3.1		4.3	95.7	0	0		
PHF	.000	.000	.000	.000	.000	.000	.920	.813	.000	.928	.607	.000	.700	.250	.667	.625	.793	.000	.000	.784	.885
Lights	0	0	0	0	0	0	407	26	0	433	17	0	13	0	30	19	432	0	0	451	914
% Lights	0	0	0	0	0	0	95.3	100	0	95.6	100	0	92.9	0	93.8	95.0	96.6	0	0	96.6	96.0
Buses	0	0	0	0	0	0	12	0	0	12	0	0	1	0	1	1	8	0	0	9	22
% Buses	0	0	0	0	0	0	2.8	0	0	2.6	0	0	7.1	0	3.1	5.0	1.8	0	0	1.9	2.3
Trucks	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	7	0	0	7	15
% Trucks	0	0	0	0	0	0	1.9	0	0	1.8	0	0	0	0	0	0	1.6	0	0	1.5	1.6
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	100	3.1	0	0	0	0	0	0.1

# Maser Consulting

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

File Name : 1-UNDERHILL\_AVE\_&\_ROCHAMBEAU\_DR\_803547\_12-03-2020

Site Code :

Start Date : 12/3/2020

Page No : 1

Groups Printed- Lights - Buses - Trucks - Pedestrians

Start Time	From North					UNDERHILL AVE From East					ROCHAMBEAU DR From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
03:30 PM	0	0	0	0	0	0	103	10	0	113	6	0	2	0	8	3	138	0	0	141	262
03:45 PM	0	0	0	0	0	0	93	7	0	100	5	0	3	0	8	7	160	0	0	167	275
Total	0	0	0	0	0	0	196	17	0	213	11	0	5	0	16	10	298	0	0	308	537
04:00 PM	0	0	0	0	0	0	108	11	0	119	4	0	3	0	7	7	120	0	0	127	253
04:15 PM	0	0	0	0	0	0	92	11	0	103	6	0	4	0	10	7	140	0	0	147	260
04:30 PM	0	0	0	0	0	0	112	9	0	121	9	0	3	0	12	7	115	0	0	122	255
04:45 PM	0	0	0	0	0	0	108	11	0	119	7	0	2	0	9	3	136	0	0	139	267
Total	0	0	0	0	0	0	420	42	0	462	26	0	12	0	38	24	511	0	0	535	1035
05:00 PM	0	0	0	0	0	0	109	11	0	120	8	0	1	0	9	6	125	0	0	131	260
05:15 PM	0	0	0	0	0	0	98	5	0	103	2	0	3	0	5	9	118	0	0	127	235
05:30 PM	0	0	0	0	0	0	90	10	0	100	3	0	4	0	7	8	137	0	0	145	252
05:45 PM	0	0	0	0	0	0	91	16	0	107	5	0	3	0	8	7	123	0	0	130	245
Total	0	0	0	0	0	0	388	42	0	430	18	0	11	0	29	30	503	0	0	533	992
06:00 PM	0	0	0	0	0	0	79	5	0	84	6	0	1	0	7	8	98	0	0	106	197
06:15 PM	0	0	0	0	0	0	63	8	0	71	6	0	3	0	9	4	93	0	0	97	177
Grand Total	0	0	0	0	0	0	1146	114	0	1260	67	0	32	0	99	76	1503	0	0	1579	2938
Apprch %	0	0	0	0	0	0	91	9	0	100	67.7	0	32.3	0	100	4.8	95.2	0	0	100	
Total %	0	0	0	0	0	0	39	3.9	0	42.9	2.3	0	1.1	0	3.4	2.6	51.2	0	0	53.7	
Lights	0	0	0	0	0	0	1132	114	0	1246	65	0	32	0	97	75	1489	0	0	1564	2907
% Lights	0	0	0	0	0	0	98.8	100	0	98.9	97	0	100	0	98	98.7	99.1	0	0	99.1	98.9
Buses	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	9
% Buses	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0.3	0	0	0.3	0.3
Trucks	0	0	0	0	0	0	10	0	0	10	2	0	0	0	2	1	9	0	0	10	22
% Trucks	0	0	0	0	0	0	0.9	0	0	0.8	3	0	0	0	2	1.3	0.6	0	0	0.6	0.7
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



LOCATION: UNDERHILL AVENUE & GLEN ROCK STREET PROJECT: UNICORN - SOUNDVIEW  
 DATE OF COUNT: 12/03/20 DAY: THURSDAY JCE JOB #: 20006297A START TIME : 06:30 **AM**

ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT

AM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total		
	1	2	3	4	5	6	7	8	9	10	11	12			
06:30 AM 06:45 AM	0	34			89	1				1		3	128	A	
06:45 AM 07:00 AM	1	34			95	0				2		2	134	A	
07:00 AM 07:15 AM	2	52			104	0				0		2	160	A	
07:15 AM 07:30 AM	0	52			126	0				2		1	181	A	603
07:30 AM 07:45 AM	0	84			119	2				1		1	207	X	682
07:45 AM 08:00 AM	0	127			96	0				3		2	228	X	776
08:00 AM 08:15 AM	1	90			109	2				1		1	204	X	820
08:15 AM 08:30 AM	1	73			108	2				3		3	190	X	829
08:30 AM 08:45 AM	0	63			82	1				1		1	148	A	770
08:45 AM 09:00 AM	1	80			76	2				0		1	160	A	702
09:00 AM 09:15 AM	0	65			72	2				2		0	141	A	639
09:15 AM 09:30 AM	0	50			82	0				4		2	138	A	587
09:30 AM 09:45 AM													0	A	439
09:45 AM 10:00 AM													0	A	279
10:00 AM 10:15 AM													0	A	138
10:15 AM 10:30 AM													0	A	0

CALCULATED PEAK 15-MINUTE VOLUMES

06:30 AM 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
06:45 AM 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:00 AM 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:15 AM 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:30 AM 07:45 AM	0	84	0	0	119	2	0	0	0	1	0	1	207		
07:45 AM 08:00 AM	0	127	0	0	96	0	0	0	0	3	0	2	228		
08:00 AM 08:15 AM	1	90	0	0	109	2	0	0	0	1	0	1	204		
08:15 AM 08:30 AM	1	73	0	0	108	2	0	0	0	3	0	3	190		
08:30 AM 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:45 AM 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:00 AM 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:15 AM 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:30 AM 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:45 AM 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:00 AM 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:15 AM 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		

7	0	8	^	6	6
12	11	10	<	5	432
<	v	>	v	4	0
2	1	^	<	^	>
374	2	>	7	8	9
0	3	v	0	0	0

CALCULATED PEAK HOUR VOLUMES

AM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
07:30 AM 08:30 AM	2	374	0	0	432	6	0	0	0	8	0	7	829	0.908991
PHF BY MOVEMENT	0.50	0.74	#DIV/0!	#DIV/0!	0.91	0.75	#DIV/0!	#DIV/0!	#DIV/0!	0.67	#DIV/0!	0.58		
PHF BY APPROACH		0.74			0.90			#DIV/0!			0.63			



LOCATION: UNDERHILL AVENUE & GLEN ROCK STREET PROJECT: UNICORN - SOUNDVIEW  
 DATE OF COUNT: 12/03/20 DAY: THURSDAY JCE JOB #: 20006297A START TIME: 15:30 **PM**

**ENTER 15-MINUTE COUNT VOLUMES BY MOVEMENT**

PM PEAK HOUR	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND			total		
	1	2	3	4	5	6	7	8	9	10	11	12			
03:30 PM 03:45 PM	0	130			106	3				2		3	244	X	
03:45 PM 04:00 PM	1	165			89	2				4		2	263	X	
04:00 PM 04:15 PM	0	120			112	3				2		2	239	X	
04:15 PM 04:30 PM	1	137			85	2				1		0	226	X	972
04:30 PM 04:45 PM	1	120			111	2				3		1	238	2	966
04:45 PM 05:00 PM	2	137			108	5				2		0	254	A	957
05:00 PM 05:15 PM	0	123			103	3				1		2	232	A	950
05:15 PM 05:30 PM	1	124			102	2				1		1	231	A	955
05:30 PM 05:45 PM	1	136			93	5				4		1	240	A	957
05:45 PM 06:00 PM	4	112			85	4				8		0	213	A	916
06:00 PM 06:15 PM	1	106			78	2				4		0	191	A	875
06:15 PM 06:30 PM	0	85			64	3				2		2	156	A	800
06:30 PM 06:45 PM													0	A	560
06:45 PM 07:00 PM													0	A	347
07:00 PM 07:15 PM													0	A	156
07:15 PM 07:30 PM													0	A	0

**CALCULATED PEAK 15-MINUTE VOLUMES**

03:30 PM 03:45 PM	0	130	0	0	106	3	0	0	0	2	0	3	244		
03:45 PM 04:00 PM	1	165	0	0	89	2	0	0	0	4	0	2	263		
04:00 PM 04:15 PM	0	120	0	0	112	3	0	0	0	2	0	2	239		
04:15 PM 04:30 PM	1	137	0	0	85	2	0	0	0	1	0	0	226		
04:30 PM 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:45 PM 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:00 PM 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:15 PM 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:30 PM 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:45 PM 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
06:00 PM 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
06:15 PM 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
06:30 PM 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
06:45 PM 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:00 PM 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:15 PM 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		

7	0	9	^	6	10
12	11	10	<	5	392
<	v	>	v	4	0
2	1	^	<	^	>
552	2	>	7	8	9
0	3	v	0	0	0

**CALCULATED PEAK HOUR VOLUMES**

PM PEAK HOUR	1	2	3	4	5	6	7	8	9	10	11	12	total	PHF
03:30 PM 04:30 PM	2	552	0	0	392	10	0	0	0	9	0	7	972	0.923954
PHF BY MOVEMENT	0.50	0.84	#DIV/0!	#DIV/0!	0.88	0.83	#DIV/0!	#DIV/0!	#DIV/0!	0.56	#DIV/0!	0.58		
PHF BY APPROACH		0.83			0.87			#DIV/0!			0.67			

# Maser Consulting

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

File Name : NYS\_ROUTE\_118\_AT\_UNDERHILL\_AVE\_807569\_01-06-2021

Site Code :

Start Date : 1/6/2021

Page No : 1

Groups Printed- Lights - Buses - Trucks - Pedestrians

Start Time	NYS ROUTE 118 From North					UNDERHILL AVE From East					NYS ROUTE 118 From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:30 AM	60	16	1	0	77	1	20	2	0	23	2	3	2	0	7	4	9	18	0	31	138
06:45 AM	41	20	3	0	64	1	20	3	0	24	2	9	5	0	16	1	20	13	0	34	138
Total	101	36	4	0	141	2	40	5	0	47	4	12	7	0	23	5	29	31	0	65	276
07:00 AM	46	14	5	0	65	0	28	1	0	29	0	5	8	0	13	4	36	20	0	60	167
07:15 AM	79	23	5	0	107	1	44	1	0	46	1	11	13	0	25	2	34	21	0	57	235
07:30 AM	60	26	3	0	89	0	30	5	0	35	6	11	15	0	32	5	34	26	0	65	221
07:45 AM	59	27	10	0	96	0	31	3	0	34	5	12	11	0	28	6	44	40	0	90	248
Total	244	90	23	0	357	1	133	10	0	144	12	39	47	0	98	17	148	107	0	272	871
08:00 AM	51	16	4	0	71	0	29	2	0	31	5	17	7	0	29	3	52	39	0	94	225
08:15 AM	54	18	8	0	80	3	39	2	0	44	5	12	9	0	26	5	38	36	0	79	229
08:30 AM	50	22	10	0	82	2	39	3	0	44	10	19	7	0	36	6	68	28	0	102	264
08:45 AM	40	21	10	0	71	6	40	6	0	52	5	15	5	0	25	7	55	35	0	97	245
Total	195	77	32	0	304	11	147	13	0	171	25	63	28	0	116	21	213	138	0	372	963
09:00 AM	38	19	7	0	64	4	28	15	0	47	6	18	6	1	31	7	35	31	0	73	215
09:15 AM	44	16	7	0	67	4	45	7	0	56	5	15	2	0	22	3	28	24	0	55	200
Grand Total	622	238	73	0	933	22	393	50	0	465	52	147	90	1	290	53	453	331	0	837	2525
Apprch %	66.7	25.5	7.8	0		4.7	84.5	10.8	0		17.9	50.7	31	0.3		6.3	54.1	39.5	0		
Total %	24.6	9.4	2.9	0	37	0.9	15.6	2	0	18.4	2.1	5.8	3.6	0	11.5	2.1	17.9	13.1	0	33.1	
Lights	618	180	71	0	869	22	375	26	0	423	43	119	88	0	250	52	447	321	0	820	2362
% Lights	99.4	75.6	97.3	0	93.1	100	95.4	52	0	91	82.7	81	97.8	0	86.2	98.1	98.7	97	0	98	93.5
Buses	3	3	0	0	6	0	6	5	0	11	2	2	0	0	4	0	5	5	0	10	31
% Buses	0.5	1.3	0	0	0.6	0	1.5	10	0	2.4	3.8	1.4	0	0	1.4	0	1.1	1.5	0	1.2	1.2
Trucks	1	55	2	0	58	0	12	19	0	31	7	26	2	0	35	1	1	5	0	7	131
% Trucks	0.2	23.1	2.7	0	6.2	0	3.1	38	0	6.7	13.5	17.7	2.2	0	12.1	1.9	0.2	1.5	0	0.8	5.2
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0.3	0	0	0	0	0	0



# Maser Consulting

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

File Name : NYS\_ROUTE\_118\_AT\_UNDERHILL\_AVE\_807569\_01-06-2021

Site Code :

Start Date : 1/6/2021

Page No : 1

Groups Printed- Lights - Buses - Trucks - Pedestrians

Start Time	NYS ROUTE 118 From North					UNDERHILL AVE From East					NYS ROUTE 118 From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
03:30 PM	41	17	14	0	72	12	49	5	0	66	8	31	4	1	44	10	45	48	0	103	285
03:45 PM	37	27	11	0	75	11	38	7	0	56	9	37	6	0	52	9	38	72	0	119	302
Total	78	44	25	0	147	23	87	12	0	122	17	68	10	1	96	19	83	120	0	222	587
04:00 PM	43	20	6	0	69	14	48	12	0	74	8	29	9	0	46	9	49	65	0	123	312
04:15 PM	34	30	5	0	69	8	47	7	0	62	6	32	11	0	49	11	43	67	0	121	301
04:30 PM	40	24	7	0	71	19	45	6	0	70	7	21	3	0	31	9	45	66	0	120	292
04:45 PM	27	31	7	0	65	30	24	8	0	62	10	28	4	0	42	11	54	64	0	129	298
Total	144	105	25	0	274	71	164	33	0	268	31	110	27	0	168	40	191	262	0	493	1203
05:00 PM	0	54	21	0	75	56	1	21	0	78	5	32	0	0	37	8	45	70	0	123	313
05:15 PM	0	40	11	0	51	35	1	34	0	70	11	38	0	0	49	8	40	61	0	109	279
05:30 PM	0	37	14	0	51	35	0	8	0	43	11	28	0	0	39	13	48	67	0	128	261
05:45 PM	0	36	23	0	59	36	1	11	0	48	9	21	0	0	30	7	41	75	0	123	260
Total	0	167	69	0	236	162	3	74	0	239	36	119	0	0	155	36	174	273	0	483	1113
06:00 PM	1	40	23	0	64	31	0	15	0	46	3	22	0	1	26	10	30	59	0	99	235
06:15 PM	1	31	12	0	44	26	0	18	0	44	5	22	0	0	27	8	29	64	0	101	216
Grand Total	224	387	154	0	765	313	254	152	0	719	92	341	37	2	472	113	507	778	0	1398	3354
Apprch %	29.3	50.6	20.1	0		43.5	35.3	21.1	0		19.5	72.2	7.8	0.4		8.1	36.3	55.7	0		
Total %	6.7	11.5	4.6	0	22.8	9.3	7.6	4.5	0	21.4	2.7	10.2	1.1	0.1	14.1	3.4	15.1	23.2	0	41.7	
Lights	215	377	154	0	746	308	251	148	0	707	76	330	36	0	442	113	496	772	0	1381	3276
% Lights	96	97.4	100	0	97.5	98.4	98.8	97.4	0	98.3	82.6	96.8	97.3	0	93.6	100	97.8	99.2	0	98.8	97.7
Buses	2	1	0	0	3	0	0	2	0	2	2	0	0	0	2	0	1	2	0	3	10
% Buses	0.9	0.3	0	0	0.4	0	0	1.3	0	0.3	2.2	0	0	0	0.4	0	0.2	0.3	0	0.2	0.3
Trucks	7	9	0	0	16	5	3	2	0	10	14	11	1	0	26	0	10	4	0	14	66
% Trucks	3.1	2.3	0	0	2.1	1.6	1.2	1.3	0	1.4	15.2	3.2	2.7	0	5.5	0	2	0.5	0	1	2
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0.4	0	0	0	0	0	0.1



# Colliers Engineering

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

File Name : NYS\_ROUTE\_118\_AT\_UNDERHILL\_AVE\_900410\_11-16-2021

Site Code :

Start Date : 11/16/2021

Page No : 1

Groups Printed- Lights - Buses - Trucks - Pedestrians

Start Time	NYS ROUTE 118 From North					UNDERHILL AVE From East					NYS ROUTE 118 From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
06:30 AM	70	16	2	0	88	0	27	6	0	33	1	9	9	1	20	3	28	20	0	51	192
06:45 AM	57	15	2	0	74	0	33	2	0	35	3	12	13	0	28	2	46	24	0	72	209
Total	127	31	4	0	162	0	60	8	0	68	4	21	22	1	48	5	74	44	0	123	401
07:00 AM	86	20	1	0	107	1	33	4	0	38	5	33	15	0	53	7	33	23	0	63	261
07:15 AM	107	25	2	0	134	0	37	4	0	41	1	20	20	0	41	6	47	39	0	92	308
07:30 AM	80	28	3	0	111	2	37	6	0	45	3	20	14	0	37	7	59	31	0	97	290
07:45 AM	82	24	13	0	119	2	44	2	0	48	9	25	14	1	49	7	94	48	0	149	365
Total	355	97	19	0	471	5	151	16	0	172	18	98	63	1	180	27	233	141	0	401	1224
08:00 AM	76	36	9	0	121	3	58	3	0	64	5	23	10	0	38	4	59	37	0	100	323
08:15 AM	66	32	15	0	113	1	41	4	0	46	2	19	8	0	29	5	67	48	0	120	308
08:30 AM	83	22	7	0	112	4	43	4	0	51	8	32	21	0	61	5	50	42	0	97	321
08:45 AM	70	28	11	0	109	1	40	8	0	49	5	32	11	0	48	7	75	54	0	136	342
Total	295	118	42	0	455	9	182	19	0	210	20	106	50	0	176	21	251	181	0	453	1294
09:00 AM	61	24	6	0	91	5	53	9	0	67	6	36	8	0	50	6	33	38	0	77	285
09:15 AM	47	18	8	0	73	4	54	14	0	72	7	18	2	0	27	8	37	45	0	90	262
Grand Total	885	288	79	0	1252	23	500	66	0	589	55	279	145	2	481	67	628	449	0	1144	3466
Apprch %	70.7	23	6.3	0		3.9	84.9	11.2	0		11.4	58	30.1	0.4		5.9	54.9	39.2	0		
Total %	25.5	8.3	2.3	0	36.1	0.7	14.4	1.9	0	17	1.6	8	4.2	0.1	13.9	1.9	18.1	13	0	33	
Lights	855	249	79	0	1183	23	459	39	0	521	45	221	141	0	407	67	603	414	0	1084	3195
% Lights	96.6	86.5	100	0	94.5	100	91.8	59.1	0	88.5	81.8	79.2	97.2	0	84.6	100	96	92.2	0	94.8	92.2
Buses	19	2	0	0	21	0	30	11	0	41	1	12	3	0	16	0	21	18	0	39	117
% Buses	2.1	0.7	0	0	1.7	0	6	16.7	0	7	1.8	4.3	2.1	0	3.3	0	3.3	4	0	3.4	3.4
Trucks	11	37	0	0	48	0	11	16	0	27	9	46	1	0	56	0	4	17	0	21	152
% Trucks	1.2	12.8	0	0	3.8	0	2.2	24.2	0	4.6	16.4	16.5	0.7	0	11.6	0	0.6	3.8	0	1.8	4.4
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0.4	0	0	0	0	0	0.1

# Colliers Engineering

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

File Name : NYS\_ROUTE\_118\_AT\_UNDERHILL\_AVE\_900410\_11-16-2021

Site Code :

Start Date : 11/16/2021

Page No : 2

Start Time	NYS ROUTE 118 From North					UNDERHILL AVE From East					NYS ROUTE 118 From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 06:30 AM to 09:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	82	24	13	0	119	2	44	2	0	48	9	25	14	1	49	7	94	48	0	149	365
08:00 AM	76	36	9	0	121	3	58	3	0	64	5	23	10	0	38	4	59	37	0	100	323
08:15 AM	66	32	15	0	113	1	41	4	0	46	2	19	8	0	29	5	67	48	0	120	308
08:30 AM	83	22	7	0	112	4	43	4	0	51	8	32	21	0	61	5	50	42	0	97	321
Total Volume	307	114	44	0	465	10	186	13	0	209	24	99	53	1	177	21	270	175	0	466	1317
% App. Total	66	24.5	9.5	0		4.8	89	6.2	0		13.6	55.9	29.9	0.6		4.5	57.9	37.6	0		
PHF	.925	.792	.733	.000	.961	.625	.802	.813	.000	.816	.667	.773	.631	.250	.725	.750	.718	.911	.000	.782	.902
Lights	290	99	44	0	433	10	169	11	0	190	21	75	53	0	149	21	257	161	0	439	1211
% Lights	94.5	86.8	100	0	93.1	100	90.9	84.6	0	90.9	87.5	75.8	100	0	84.2	100	95.2	92.0	0	94.2	92.0
Buses	11	1	0	0	12	0	15	1	0	16	0	6	0	0	6	0	12	9	0	21	55
% Buses	3.6	0.9	0	0	2.6	0	8.1	7.7	0	7.7	0	6.1	0	0	3.4	0	4.4	5.1	0	4.5	4.2
Trucks	6	14	0	0	20	0	2	1	0	3	3	18	0	0	21	0	1	5	0	6	50
% Trucks	2.0	12.3	0	0	4.3	0	1.1	7.7	0	1.4	12.5	18.2	0	0	11.9	0	0.4	2.9	0	1.3	3.8
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0.6	0	0	0	0	0	0.1

# Colliers Engineering

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

File Name : NYS\_ROUTE\_118\_AT\_UNDERHILL\_AVE\_900410\_11-16-2021

Site Code :

Start Date : 11/16/2021

Page No : 1

## Groups Printed- Lights - Buses - Trucks - Pedestrians

Start Time	NYS ROUTE 118 From North					UNDERHILL AVE From East					NYS ROUTE 118 From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
02:00 PM	42	27	11	0	80	10	42	8	0	60	6	28	7	0	41	4	44	51	0	99	280
02:15 PM	45	20	4	0	69	9	40	7	0	56	5	24	3	2	34	2	38	50	0	90	249
02:30 PM	49	24	5	0	78	7	49	9	0	65	9	28	4	0	41	9	38	63	0	110	294
02:45 PM	48	31	4	0	83	9	46	5	0	60	5	31	13	0	49	11	37	51	0	99	291
Total	184	102	24	0	310	35	177	29	0	241	25	111	27	2	165	26	157	215	0	398	1114
03:00 PM	63	29	7	0	99	7	41	4	0	52	6	27	4	1	38	12	33	56	0	101	290
03:15 PM	43	33	11	0	87	13	42	3	0	58	5	25	9	0	39	19	50	88	0	157	341
03:30 PM	52	28	6	0	86	9	66	6	0	81	10	25	10	0	45	10	63	78	0	151	363
03:45 PM	40	21	10	0	71	7	56	14	0	77	7	37	6	0	50	9	65	88	0	162	360
Total	198	111	34	0	343	36	205	27	0	268	28	114	29	1	172	50	211	310	0	571	1354
04:00 PM	57	26	8	0	91	12	74	11	0	97	9	36	10	1	56	12	63	74	0	149	393
04:15 PM	46	27	6	0	79	6	66	7	0	79	8	35	11	2	56	10	67	96	0	173	387
04:30 PM	62	27	2	0	91	5	49	12	0	66	2	41	6	0	49	13	51	110	0	174	380
04:45 PM	63	28	7	0	98	5	52	5	0	62	8	35	10	0	53	14	59	83	0	156	369
Total	228	108	23	0	359	28	241	35	0	304	27	147	37	3	214	49	240	363	0	652	1529
05:00 PM	45	32	1	0	78	10	74	13	0	97	7	27	10	2	46	12	40	97	0	149	370
05:15 PM	46	30	4	0	80	14	46	3	0	63	6	33	12	0	51	9	46	127	0	182	376
05:30 PM	48	22	5	0	75	7	45	4	0	56	4	52	17	0	73	5	43	127	0	175	379
05:45 PM	46	20	2	0	68	4	43	7	0	54	3	68	9	0	80	11	52	125	0	188	390
Total	185	104	12	0	301	35	208	27	0	270	20	180	48	2	250	37	181	476	0	694	1515
06:00 PM	57	21	4	0	82	5	42	5	0	52	4	48	9	1	62	11	38	96	0	145	341
06:15 PM	45	19	2	0	66	4	37	4	0	45	3	28	3	0	34	11	31	73	0	115	260
06:30 PM	52	24	0	0	76	4	28	6	0	38	5	15	8	0	28	11	31	56	0	98	240
06:45 PM	29	16	3	0	48	2	24	8	0	34	3	20	5	0	28	10	27	39	0	76	186
Total	183	80	9	0	272	15	131	23	0	169	15	111	25	1	152	43	127	264	0	434	1027
Grand Total	978	505	102	0	1585	149	962	141	0	1252	115	663	166	9	953	205	916	1628	0	2749	6539
Apprch %	61.7	31.9	6.4	0		11.9	76.8	11.3	0		12.1	69.6	17.4	0.9		7.5	33.3	59.2	0		
Total %	15	7.7	1.6	0	24.2	2.3	14.7	2.2	0	19.1	1.8	10.1	2.5	0.1	14.6	3.1	14	24.9	0	42	
Lights	957	454	101	0	1512	148	934	132	0	1214	96	623	163	0	882	202	877	1606	0	2685	6293
% Lights	97.9	89.9	99	0	95.4	99.3	97.1	93.6	0	97	83.5	94	98.2	0	92.5	98.5	95.7	98.6	0	97.7	96.2
Buses	10	12	0	0	22	0	20	4	0	24	8	8	0	0	16	2	29	9	0	40	102
% Buses	1	2.4	0	0	1.4	0	2.1	2.8	0	1.9	7	1.2	0	0	1.7	1	3.2	0.6	0	1.5	1.6
Trucks	11	39	1	0	51	1	8	5	0	14	11	32	3	0	46	1	10	13	0	24	135
% Trucks	1.1	7.7	1	0	3.2	0.7	0.8	3.5	0	1.1	9.6	4.8	1.8	0	4.8	0.5	1.1	0.8	0	0.9	2.1
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9	0	0	0	0	0	9
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0.9	0	0	0	0	0	0.1



# Colliers Engineering

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

# Colliers Engineering

400 Columbus Avenue, Suite 180 E  
Valhalla, NY 10595

*Customer Loyalty through Client Satisfaction*

File Name : NYS\_ROUTE\_118\_AT\_UNDERHILL\_AVE\_900410\_11-16-2021

Site Code :

Start Date : 11/16/2021

Page No : 3

Start Time	NYS ROUTE 118 From North					UNDERHILL AVE From East					NYS ROUTE 118 From South					UNDERHILL AVE From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	57	26	8	0	91	12	74	11	0	97	9	36	10	1	56	12	63	74	0	149	393
04:15 PM	46	27	6	0	79	6	66	7	0	79	8	35	11	2	56	10	67	96	0	173	387
04:30 PM	62	27	2	0	91	5	49	12	0	66	2	41	6	0	49	13	51	110	0	174	380
04:45 PM	63	28	7	0	98	5	52	5	0	62	8	35	10	0	53	14	59	83	0	156	369
Total Volume	228	108	23	0	359	28	241	35	0	304	27	147	37	3	214	49	240	363	0	652	1529
% App. Total	63.5	30.1	6.4	0		9.2	79.3	11.5	0		12.6	68.7	17.3	1.4		7.5	36.8	55.7	0		
PHF	.905	.964	.719	.000	.916	.583	.814	.729	.000	.784	.750	.896	.841	.375	.955	.875	.896	.825	.000	.937	.973
Lights	226	101	22	0	349	28	240	31	0	299	23	134	35	0	192	49	231	360	0	640	1480
% Lights	99.1	93.5	95.7	0	97.2	100	99.6	88.6	0	98.4	85.2	91.2	94.6	0	89.7	100	96.3	99.2	0	98.2	96.8
Buses	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	0	7	0	0	7	10
% Buses	0	0	0	0	0	0	0.4	2.9	0	0.7	3.7	0	0	0	0.5	0	2.9	0	0	1.1	0.7
Trucks	2	7	1	0	10	0	0	3	0	3	3	13	2	0	18	0	2	3	0	5	36
% Trucks	0.9	6.5	4.3	0	2.8	0	0	8.6	0	1.0	11.1	8.8	5.4	0	8.4	0	0.8	0.8	0	0.8	2.4
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	3
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	100	1.4	0	0	0	0	0	0.2

COUNT_ID	870410_06112019	COUNT_ID	870410_06112019	COUNT_ID	870410_06112019
REGION	8	REGION	8	REGION	8
REGION_CODE	8	REGION_CODE	8	REGION_CODE	8
COUNTY_CODE	7	COUNTY_CODE	7	COUNTY_CODE	7
STATION	410	STATION	410	STATION	410
RCSTA	870410	RCSTA	870410	RCSTA	870410
FUNCTIONAL_CLASSES	16	FUNCTIONAL_CLASSES	16	FUNCTIONAL_CLASSES	16
FACTOR_GROUP	30	FACTOR_GROUP	30	FACTOR_GROUP	30
LATITUDE	41.256569	LATITUDE	41.256569	LATITUDE	41.256569
LONGITUDE	-73.787215	LONGITUDE	-73.787215	LONGITUDE	-73.787215
SPECIFIC_RECORDER_PLACEMENT	1135' N OF REVERE DR	SPECIFIC_RECORDER_PLACEMENT	1135' N OF REVERE DR	SPECIFIC_RECORDER_PLACEMENT	1135' N OF REVERE DR
CHANNEL_NOTES	NB Travel Lane	CHANNEL_NOTES	SB Travel lane	CHANNEL_NOTES	
DATA_TYPE	Volume Statistics	DATA_TYPE	Volume Statistics	DATA_TYPE	Volume Statistics
VEHICLE_AXLE_CODE	1	VEHICLE_AXLE_CODE	1	VEHICLE_AXLE_CODE	1
YEAR	2019	YEAR	2019	YEAR	2019
MONTH	6	MONTH	6	MONTH	6
DAY_OF_FIRST_DATA	11	DAY_OF_FIRST_DATA	11	DAY_OF_FIRST_DATA	11
FEDERAL_DIRECTION	Northbound	FEDERAL_DIRECTION	Southbound	FEDERAL_DIRECTION	Combined Total
FULL_COUNT		FULL_COUNT		FULL_COUNT	Y
AVG_WKDAY_INTERVAL_1	8	AVG_WKDAY_INTERVAL_1	9	AVG_WKDAY_INTERVAL_1	17
AVG_WKDAY_INTERVAL_2	7	AVG_WKDAY_INTERVAL_2	3	AVG_WKDAY_INTERVAL_2	10
AVG_WKDAY_INTERVAL_3	3	AVG_WKDAY_INTERVAL_3	6	AVG_WKDAY_INTERVAL_3	9
AVG_WKDAY_INTERVAL_4	5	AVG_WKDAY_INTERVAL_4	5	AVG_WKDAY_INTERVAL_4	10
AVG_WKDAY_INTERVAL_5	8	AVG_WKDAY_INTERVAL_5	6	AVG_WKDAY_INTERVAL_5	14
AVG_WKDAY_INTERVAL_6	16	AVG_WKDAY_INTERVAL_6	15	AVG_WKDAY_INTERVAL_6	31
AVG_WKDAY_INTERVAL_7	59	AVG_WKDAY_INTERVAL_7	66	AVG_WKDAY_INTERVAL_7	125
AVG_WKDAY_INTERVAL_8	124	AVG_WKDAY_INTERVAL_8	245	AVG_WKDAY_INTERVAL_8	369
AVG_WKDAY_INTERVAL_9	152	AVG_WKDAY_INTERVAL_9	220	AVG_WKDAY_INTERVAL_9	372
AVG_WKDAY_INTERVAL_10	135	AVG_WKDAY_INTERVAL_10	176	AVG_WKDAY_INTERVAL_10	311
AVG_WKDAY_INTERVAL_11	111	AVG_WKDAY_INTERVAL_11	131	AVG_WKDAY_INTERVAL_11	242
AVG_WKDAY_INTERVAL_12	129	AVG_WKDAY_INTERVAL_12	140	AVG_WKDAY_INTERVAL_12	269
AVG_WKDAY_INTERVAL_13	142	AVG_WKDAY_INTERVAL_13	141	AVG_WKDAY_INTERVAL_13	283
AVG_WKDAY_INTERVAL_14	142	AVG_WKDAY_INTERVAL_14	150	AVG_WKDAY_INTERVAL_14	292
AVG_WKDAY_INTERVAL_15	162	AVG_WKDAY_INTERVAL_15	158	AVG_WKDAY_INTERVAL_15	320
AVG_WKDAY_INTERVAL_16	151	AVG_WKDAY_INTERVAL_16	146	AVG_WKDAY_INTERVAL_16	297
AVG_WKDAY_INTERVAL_17	172	AVG_WKDAY_INTERVAL_17	125	AVG_WKDAY_INTERVAL_17	297
AVG_WKDAY_INTERVAL_18	173	AVG_WKDAY_INTERVAL_18	127	AVG_WKDAY_INTERVAL_18	300
AVG_WKDAY_INTERVAL_19	138	AVG_WKDAY_INTERVAL_19	116	AVG_WKDAY_INTERVAL_19	254
AVG_WKDAY_INTERVAL_20	90	AVG_WKDAY_INTERVAL_20	84	AVG_WKDAY_INTERVAL_20	174
AVG_WKDAY_INTERVAL_21	73	AVG_WKDAY_INTERVAL_21	62	AVG_WKDAY_INTERVAL_21	135
AVG_WKDAY_INTERVAL_22	41	AVG_WKDAY_INTERVAL_22	47	AVG_WKDAY_INTERVAL_22	88
AVG_WKDAY_INTERVAL_23	24	AVG_WKDAY_INTERVAL_23	29	AVG_WKDAY_INTERVAL_23	53
AVG_WKDAY_INTERVAL_24	14	AVG_WKDAY_INTERVAL_24	12	AVG_WKDAY_INTERVAL_24	26
AVG_WKDAY_DAILY_TRAFFIC	2079	AVG_WKDAY_DAILY_TRAFFIC	2219	AVG_WKDAY_DAILY_TRAFFIC	4298
SEASONAL_FACTOR	1.113	SEASONAL_FACTOR	1.113	SEASONAL_FACTOR	1.113
AXLE_FACTOR	1	AXLE_FACTOR	1	AXLE_FACTOR	1
AADT	1868	AADT	1994	AADT	3862
HIGH_HOUR_VALUE	173	HIGH_HOUR_VALUE	245	HIGH_HOUR_VALUE	372
HIGH_HOUR_INTERVAL	18	HIGH_HOUR_INTERVAL	8	HIGH_HOUR_INTERVAL	9
K_FACTOR		K_FACTOR		K_FACTOR	9
D_FACTOR		D_FACTOR		D_FACTOR	59
FLAG_FIELD		FLAG_FIELD		FLAG_FIELD	
BATCH_ID	345263	BATCH_ID	345263	BATCH_ID	345263

Station 871330

UNDERHILL AVE  
from NY 118 to HANOVER ST

**Direction:**

Eastbound

---

Calculation Year:	2019
AADT Type:	Estimate
AADT:	2795

---

Truck AADT Type:	Actual
Truck AADT:	79
Truck Percentage:	3

---

NHS:	
Functional Class:	16
Route_ID:	204333011

---

Average Speed (mph):	29
DHV:	
DDHV:	
Morning Peak:	272
Afternoon Peak:	201
Evening Peak:	279

Related tables:

Volume Statistics

Class Statistics

Speed Statistics

Station 871330

ENDERBILL AVE  
from NY 118 to HANOVER ST

Direction:	Westbound
Calculation Year:	2019
ADT Type:	Estimate
ADT:	2745
Truck ADT Type:	Actual
Truck ADT:	69
Truck Percentage:	3
NHS:	
Functional Class:	16
Route_ID	204333011
Average Speed (mph):	27
DHV:	
DDHV:	
Morning Peak:	251
Afternoon Peak:	199
Evening Peak:	257

Related tables:

Volume Statistics

Class Statistics

Speed Statistics



Station 871330

UNDERHILL AVE  
from NY 118 to HANOVER ST

Direction: Combined Total

Calculation Year: 2019  
AADT Type: Estimate  
AADT: 5540

Truck AADT Type: Actual  
Truck AADT: 148  
Truck Percentage: 3

NHS:  
Functional Class: 16  
Route\_ID: 204333011

Average Speed (mph): 28  
DHV: 483  
DDHV: 253  
Morning Peak: 523  
Afternoon Peak: 378  
Evening Peak: 534

Related tables:

- Volume Statistics >
- Class Statistics >
- Speed Statistics >

[Zoom to](#)

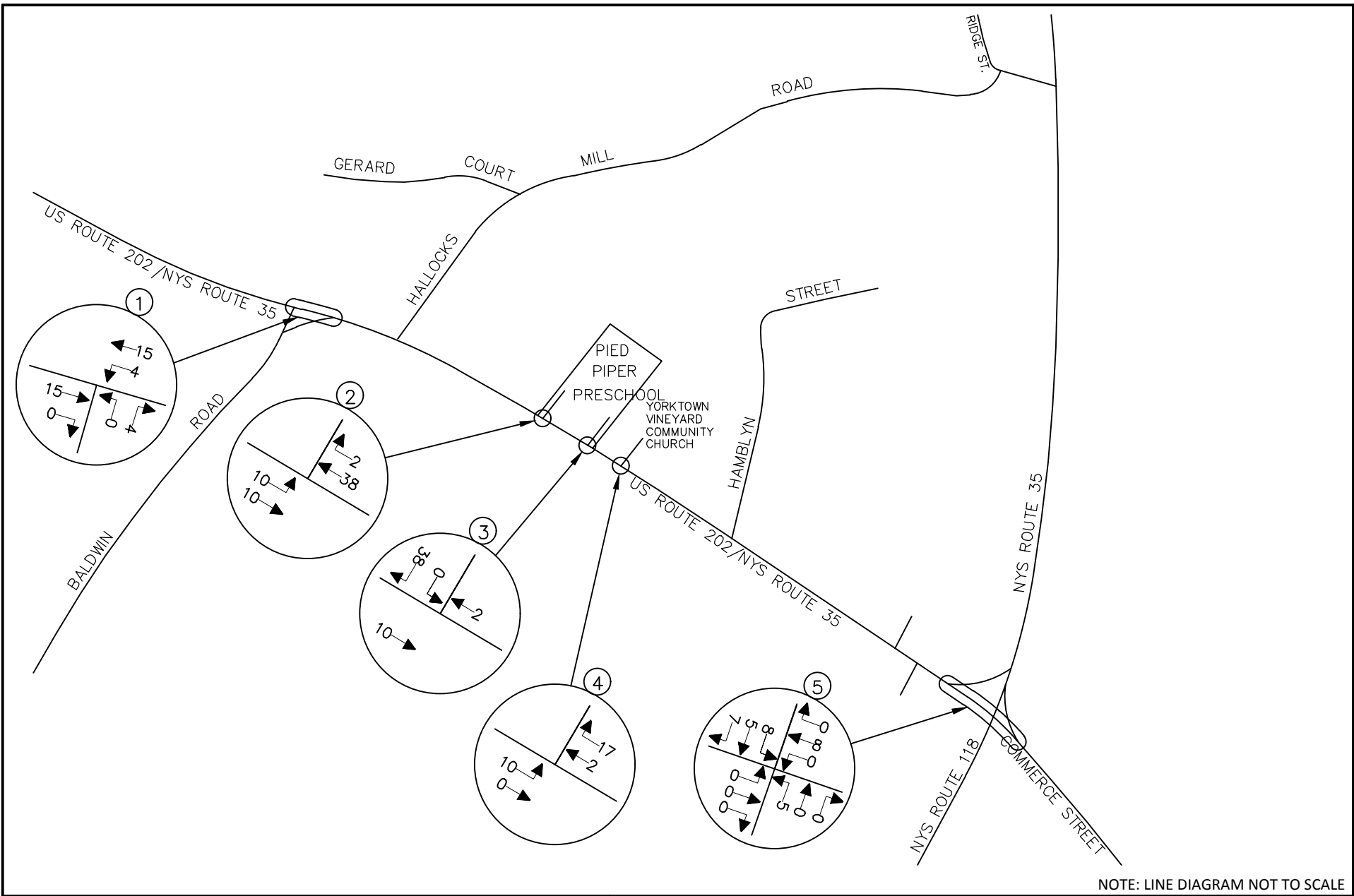


# Traffic Impact Study

## Appendix K | Other Development Backup Data

# Pied Piper Daycare





NOTE: LINE DIAGRAM NOT TO SCALE



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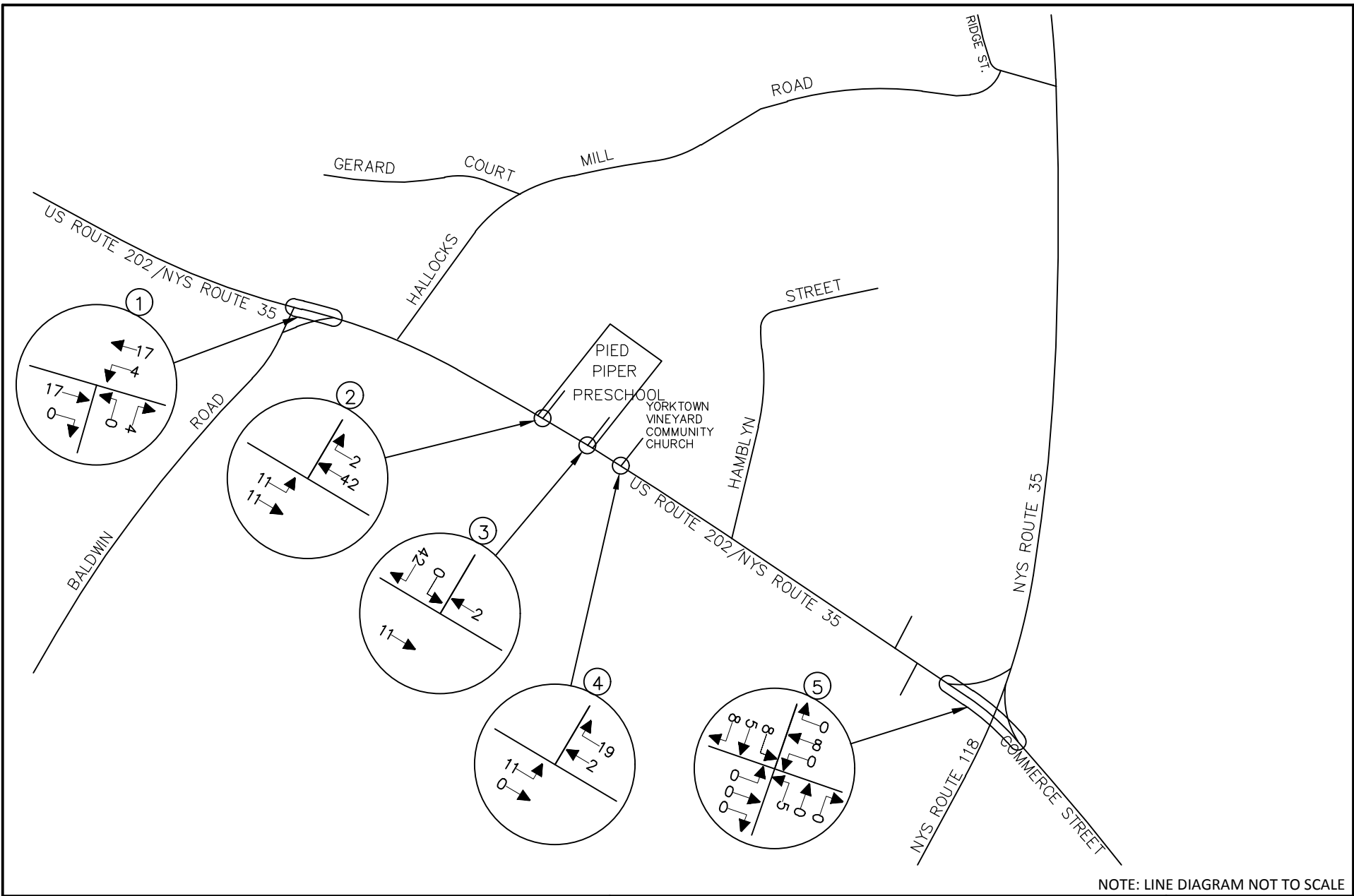
email: solutions @ maserconsulting.com

PIED PIPER PRE-SCHOOL EXPANSION  
 TOWN OF YORKTOWN, NEW YORK

SITE GENERATED TRAFFIC VOLUMES  
 WEEKDAY PEAK AM HOUR



JOB NUMBER:	DATE:
16003228A	MAR. 2017
FIGURE NUMBER:	



NOTE: LINE DIAGRAM NOT TO SCALE



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PIED PIPER PRE-SCHOOL EXPANSION  
 TOWN OF YORKTOWN, NEW YORK

SITE GENERATED TRAFFIC VOLUMES  
 WEEKDAY PEAK PM HOUR



JOB NUMBER:	DATE:
16003228A	MAR. 2017
FIGURE NUMBER:	

**TABLE 1**

**HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED  
SITE GENERATED TRAFFIC VOLUMES**

<b>PIED PIPER PRE-SCHOOL EXPANSION TOWN OF YORKTOWN, NY</b>	ENTRY		EXIT	
	HTGR*	VOLUME	HTGR*	VOLUME
<b>PIED PIPER PRE-SCHOOL EXPANSION (136 STUDENTS)</b>				
PEAK AM HOUR	0.48	65	0.48	65
PEAK PM HOUR	0.53	72	0.53	72
<b>EXISTING PIED PIPER PRE-SCHOOL (66 STUDENTS)</b>				
PEAK AM HOUR	0.48	32	0.48	32
PEAK PM HOUR	0.53	35	0.53	35
<b>NET ADDITIONAL</b>		<b>VOLUME</b>		<b>VOLUME</b>
PEAK AM HOUR	-	33	-	33
PEAK PM HOUR	-	37	-	37

NOTES:

- 1) \* HTGR-HOURLY TRIP GENERATION RATES EXPRESSED IN TERMS OF TRIPS PER 1000 S.F. FOR LAND USES - 565-DAY CARE CENTER; BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PUBLICATION ENTITLED "TRIP GENERATION", 9TH EDITION, 2012.
- 2) RATES USED ON 136 STUDENTS EXPANSION ARE FROM ACTUAL COUNT.

# The Weyant



## Traffic Impact Study

The Weyant Residential Development  
U.S. Route 202/NYS Route 35 and Hamblin Street  
Town of Yorktown, Westchester County, NY

May 24, 2017

*Prepared For*

Site Design Consultants  
251-F Underhill Avenue  
Yorktown Heights, NY 10598

*Prepared By*

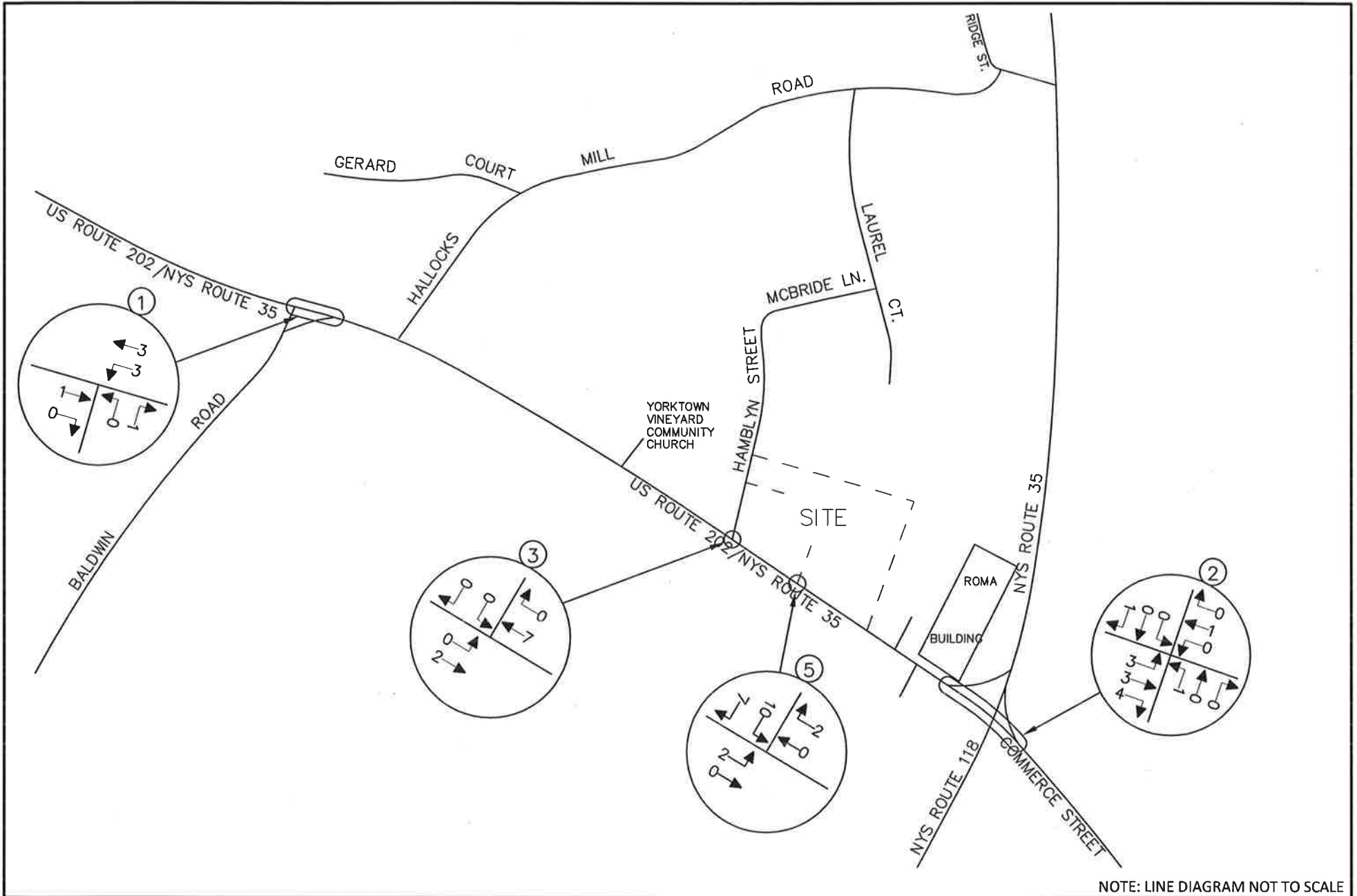
Maser Consulting P.A.  
400 Columbus Avenue, Suite 180E  
Valhalla, NY 10595  
914.347.7500

A handwritten signature in black ink, appearing to read 'Philip J. Grealy', is written over a horizontal line.

Philip J. Grealy, Ph.D., P.E., Principal  
License No. 59858

MC Project No. 17000798A





NOTE: LINE DIAGRAM NOT TO SCALE



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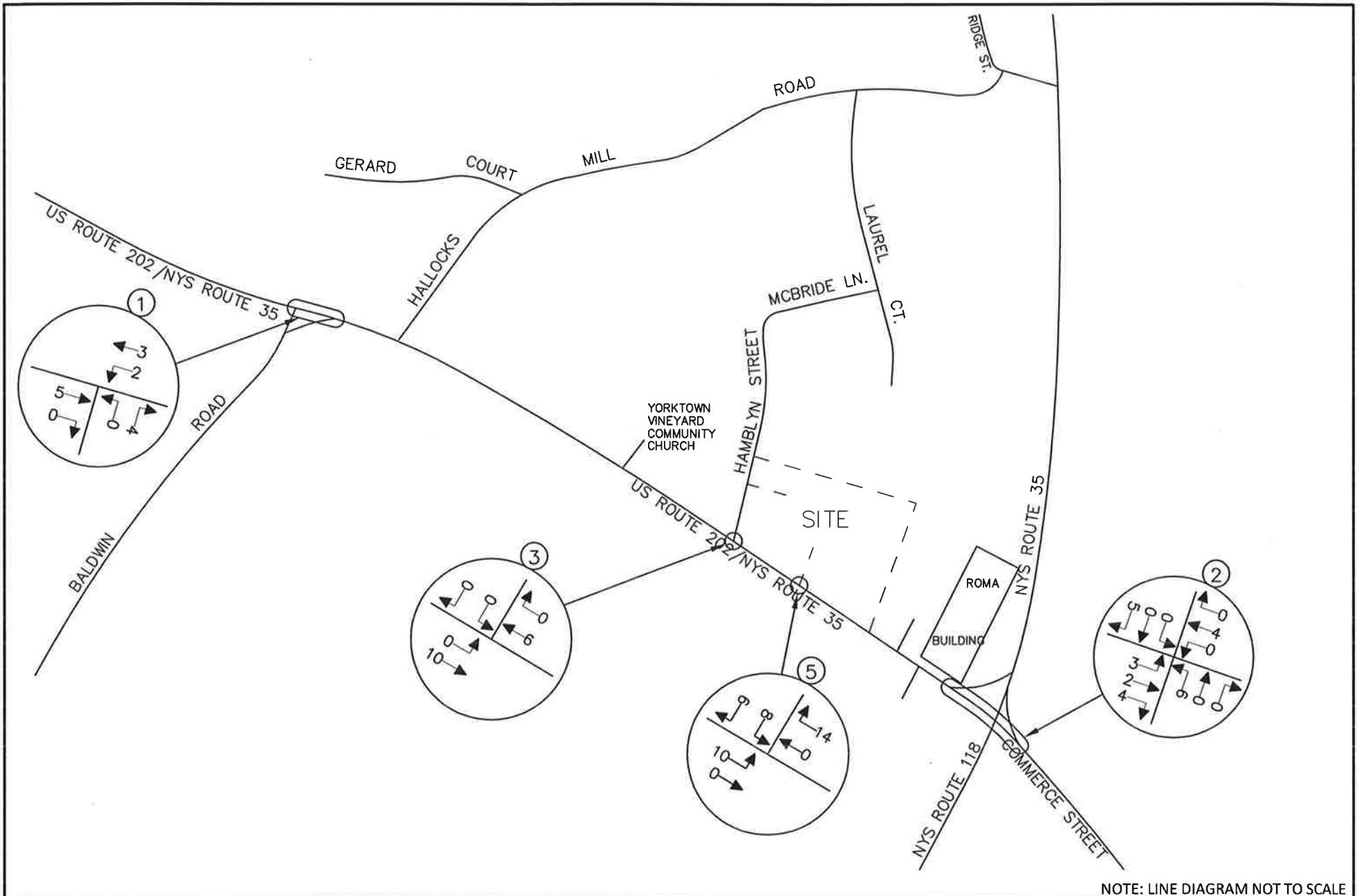
email: solutions @ maserconsulting.com

THE WEYANT  
 TOWN OF YORKTOWN, NEW YORK

SITE GENERATED TRAFFIC VOLUMES  
 WEEKDAY PEAK AM HOUR  
 (ALTERNATE 2 W/ ROUTE 202/35 SITE ACCESS)



JOB NUMBER:	DATE:
17000798A	MAY 2017
FIGURE NUMBER:	



NOTE: LINE DIAGRAM NOT TO SCALE



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THE WEYANT  
 TOWN OF YORKTOWN, NEW YORK

SITE GENERATED TRAFFIC VOLUMES  
 WEEKDAY PEAK PM HOUR  
 (ALTERNATE 2 W/ ROUTE 202/35 SITE ACCESS)



JOB NUMBER:	DATE:
17000798A	MAY 2017
FIGURE NUMBER:	

**TABLE 1**  
**HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED**  
**SITE GENERATED TRAFFIC VOLUMES**

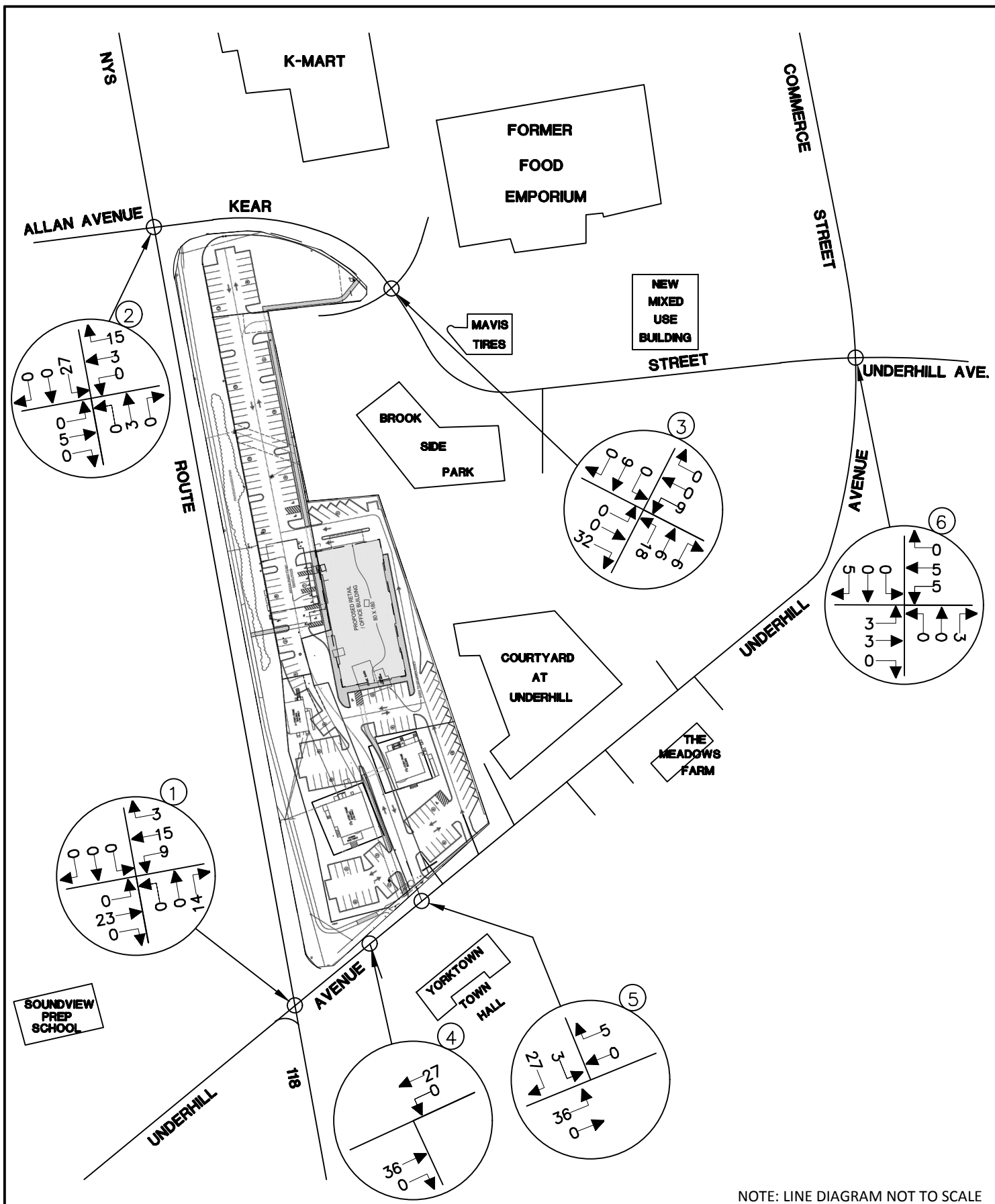
THE WEYANT TOWN OF YORKTOWN, NY	ENTRY		EXIT	
	HTGR*	VOLUME	HTGR*	VOLUME
APARTMENT (36 DWELLING UNITS)				
PEAK AM HOUR	0.12	4	0.47	17
PEAK PM HOUR	0.68	24	0.36	14

NOTES:



- 1) \* HTGR-HOURLY TRIP GENERATION RATES EXPRESSED IN TERMS OF TRIPS PER 1000 S.F. FOR LAND USES - 220 APARTMENT;  
 BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PUBLICATION ENTITLED "TRIP GENERATION", 9TH EDITION, 2012.

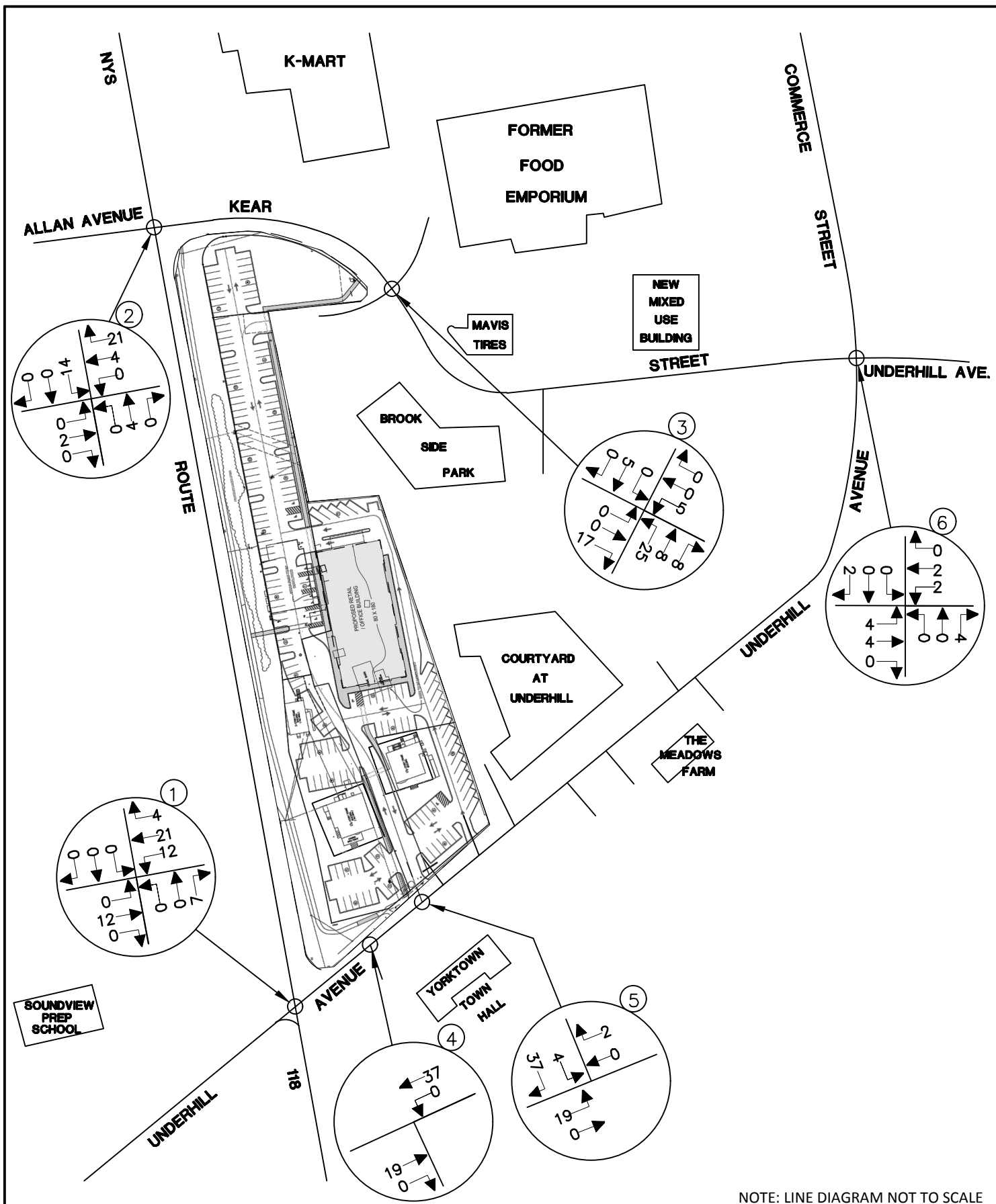


# CareMount Building



NOTE: LINE DIAGRAM NOT TO SCALE

 <p><b>MASER</b> CONSULTING P. A.</p> <p>Customer Loyalty through Client Satisfaction www.maserconsulting.com Engineers ■ Planners ■ Surveyors Landscape Architects ■ Environmental Scientists State of N.Y. Certificate of Authorization: 0008671 / 0008821</p>	<p><b>WESTCHESTER OFFICE</b> 400 Columbus Avenue, Suite 180E Valhalla, NY 10595 Phone: 914.347.7500 Fax: 914.347.7266 email: solutions @ maserconsulting.com</p>	<p><b>MURPHY'S REDEVELOPMENT</b> YORKTOWN, NY</p> <p><b>SITE GENERATED TRAFFIC VOLUMES</b> WEEKDAY PEAK AM HOUR</p>						
				<table border="1"> <tr> <td>JOB NUMBER:</td> <td>DATE:</td> </tr> <tr> <td>17003875A</td> <td>DEC. 2017</td> </tr> <tr> <td colspan="2">FIGURE NUMBER:</td> </tr> <tr> <td colspan="2">14</td> </tr> </table>	JOB NUMBER:	DATE:	17003875A	DEC. 2017
JOB NUMBER:	DATE:							
17003875A	DEC. 2017							
FIGURE NUMBER:								
14								



NOTE: LINE DIAGRAM NOT TO SCALE

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email: solutions @ maserconsulting.com

**MURPHY'S REDEVELOPMENT**  
YORKTOWN, NY

**SITE GENERATED TRAFFIC VOLUMES**  
WEEKDAY PEAK PM HOUR

JOB NUMBER:	DATE:
17003875A	DEC. 2017
FIGURE NUMBER:	
15	

**TABLE 1**  
**HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED**  
**SITE GENERATED TRAFFIC VOLUMES**

<b>MURPHY'S REDEVELOPMENT YORKTOWN, NY</b>	ENTRY			EXIT		
	HTGR*	VOLUME	NEW TRIPS	HTGR*	VOLUME	NEW TRIPS
OFFICE (20,981 S.F.)						
PEAK AM HOUR	2.30	48	41	0.31	7	6
PEAK PM HOUR	0.31	7	6	2.30	48	41
SPECIALTY RETAIL (23,981 S.F.)						
PEAK AM HOUR	3.28	79	50	3.56	85	54
PEAK PM HOUR	3.42	82	52	3.42	82	52
LESS EXISTING						
MURPHY'S RESTAURANT EXISTING TRAFFIC						
PEAK AM HOUR	-	1	1	-	1	1
PEAK PM HOUR	-	10	10	-	11	11
SUBTOTAL		VOLUME			VOLUME	
PEAK AM HOUR	-	126	90	-	91	59
PEAK PM HOUR	-	79	48	-	119	82

NOTES:

1) \* HTGR-HOURLY TRIP GENERATION RATES EXPRESSED IN TERMS OF TRIPS PER 1000 S.F. FOR LAND USES - 710 OFFICE AND 820 SPECIALTY RETAIL CENTER; BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PUBLICATION ENTITLED "TRIP GENERATION", 9TH EDITION, 2012.

2) NEW TRIPS INCLUDE AN INTERPLAY CREDIT OF 15% FOR ALL LAND USES AND A PASS-BY CREDIT OF 25% FOR SPECIALTY RETAIL USES.

# Gardena Hotel

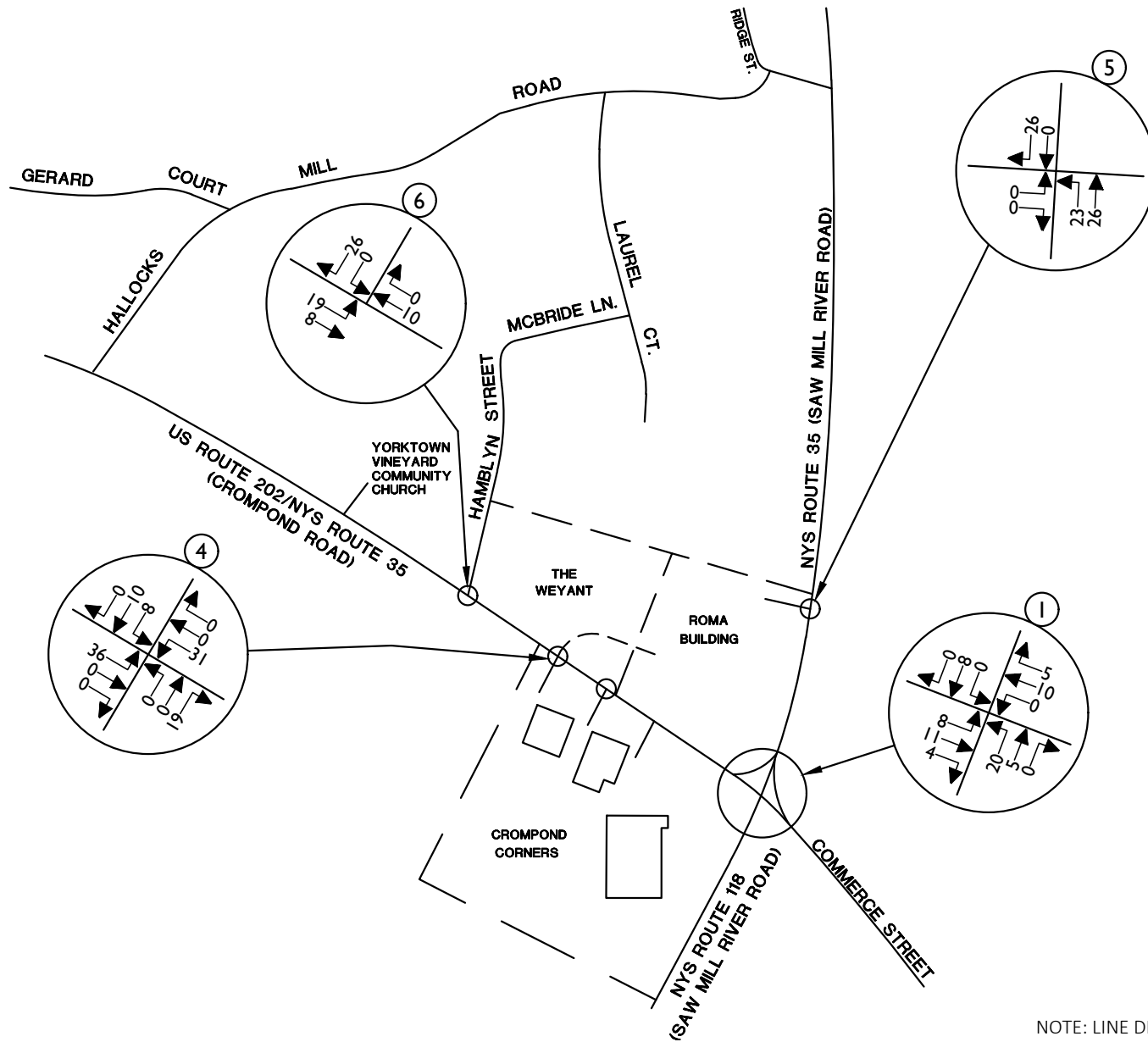
**Table OD-3**  
**Gardena Hotel**  
**Hourly Trip Generation Rates (HTGR) and**  
**Anticipated Site Generated Traffic Volumes**

	Entry		Exit	
	HTGR <sup>1</sup>	Volume	HTGR <sup>1</sup>	Volume
<b>Hotel</b> (18 Rooms)				
Peak AM Hour	0.03	5	0.02	3
Peak PM Hour	0.03	5	0.04	6
<b>Restaurant</b> (100 Seats)				
Peak AM Hour	0.07	1	0.07	1
Peak PM Hour	1.27	19	0.60	9
<b>Total</b>				
Peak AM Hour	-	6	-	4
Peak PM Hour	-	24	-	15

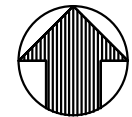
**NOTES:**

- 1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 11TH EDITION, 2021. ITE LAND USE CODE 310 - HOTEL AND ITE LAND USE CODE 931 - FINE DINING RESTAURANT.

# Roma Building Redevelopment



NOTE: LINE DIAGRAM NOT TO SCALE



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**THE ROMA BUILDING**  
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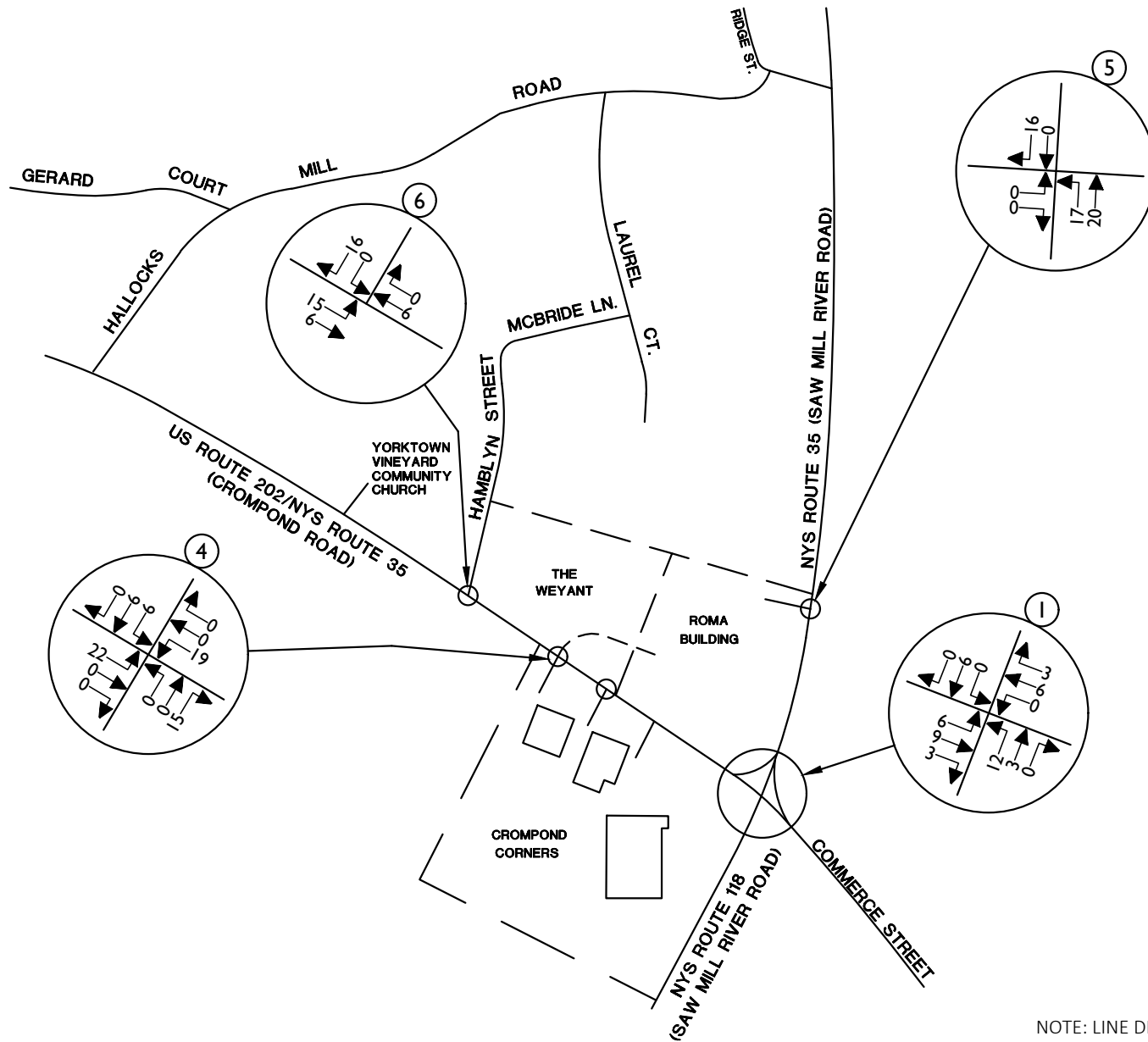
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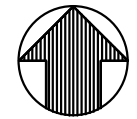
SHEET TITLE:  
**SITE GENERATED  
 TRAFFIC VOLUMES  
 WEEKDAY PEAK AM HOUR**

SHEET NUMBER:  
**FIGURE NO. 12**





NOTE: LINE DIAGRAM NOT TO SCALE



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SHEET TITLE:  
**SITE GENERATED  
TRAFFIC VOLUMES  
WEEKDAY PEAK PM HOUR**

SHEET NUMBER:  
**FIGURE NO. 13**

**TABLE NO. 1**

**HOURLY TRIP GENERATION RATES  
AND ANTICIPATED SITE GENERATED TRAFFIC VOLUMES**

**THE ROMA BUILDING - TOWN OF YORKTOWN, NEW YORK**

LAND USE	ENTRY		EXIT		TOTAL	
	HTGR*	VOLUME	HTGR*	VOLUME	HTGR*	VOLUME
<b>ROMA BUILDING - RETAIL (9,150 s.f.) (1)</b>						
WEEKDAY PEAK AM HOUR	5.07	46	3.11	29	8.18	75
WEEKDAY PEAK PM HOUR	4.88	45	5.28	48	10.16	93
<b>ROMA BUILDING - RESIDENTIAL (42 UNITS) (2)</b>						
WEEKDAY PEAK AM HOUR	0.12	5	0.38	16	0.50	21
WEEKDAY PEAK PM HOUR	0.40	17	0.24	10	0.64	27
<b>ROMA BUILDING - TOTAL</b>						
WEEKDAY PEAK AM HOUR	---	51	---	45	---	96
WEEKDAY PEAK PM HOUR	---	62	---	58	---	120
<b>EXISTING ROMA BUILDING - RETAIL (26,700 s.f.) (1)</b>						
WEEKDAY PEAK AM HOUR	3.80	102	2.35	63	6.15	165
WEEKDAY PEAK PM HOUR	3.65	98	3.99	107	7.64	205

THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) - TRIP GENERATION HANDBOOK - 10TH EDITION

(1) ITE LAND USE 820 - SHOPPING CENTER

(2) ITE LAND USE 220 - MULTIFAMILY HOUSING (LOW-RISE)

# Former Turco's/Uncle Giuseppe's Supermarket

**Table OD-1  
Former Turco's/Uncle Guiseppe's Redevelopment  
Hourly Trip Generation Rates (HTGR) and  
Anticipated Site Generated Traffic Volumes**

	Entry			Exit		
	HTGR <sup>1</sup>	Volume	New Trips <sup>2</sup>	HTGR <sup>1</sup>	Volume	New Trips <sup>2</sup>
<b>Supermarket</b> (30,000 sq. ft.)						
Peak AM Hour	1.70	51	36	1.17	35	25
Peak PM Hour	4.87	146	102	4.83	145	102

**NOTES:**

- 1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 11TH EDITION, 2021. ITE LAND USE CODE 850 - SUPERMARKET.
- 2) "NEW TRIPS" INCLUDE A 30% PASS-BY/DIVERTED LINK TRIP CREDIT.

# K-Mart Redevelopment

**Table OD-2  
K-Mart Redevelopment  
Hourly Trip Generation Rates (HTGR) and  
Anticipated Site Generated Traffic Volumes**

	Entry			Exit		
	HTGR <sup>1</sup>	Volume	New Trips <sup>2</sup>	HTGR <sup>1</sup>	Volume	New Trips <sup>2</sup>
<b>Multi Family Residential</b> (150 Dwelling Units)						
Peak AM Hour	0.11	17	15	0.35	52	47
Peak PM Hour	0.36	54	49	0.21	31	28
<b>Retail</b> (15,000 sq. ft.)						
Peak AM Hour	1.53	23	16	1.00	15	10
Peak PM Hour	3.47	52	35	3.47	52	35
<b>Total</b>						
Peak AM Hour	-	40	31	-	67	57
Peak PM Hour	-	106	84	-	83	63

**NOTES:**

1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 11TH EDITION, 2021. ITE LAND USE CODE 220 - MULTI FAMILY HOUSING (LOW-RISE) AND ITE LAND USE CODE 822 - STRIP RETAIL PLAZA (<40K).

2) "NEW TRIPS" INCLUDE A 10% INTERNAL TRIP CREDIT AND 30% PASS-BY/DIVERTED LINK TRIP CREDIT APPLIED TO THE RETAIL.



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## Underhill Farms Application

# REVIEW OF UNDERHILL FARMS TRAFFIC/TRANSPORTATION ANALYSES

Prepared for:  
Town of Yorktown

March 2023

Prepared by:



118 Maple Avenue, Suite #2

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1.21025.00

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# 1. Introduction

Underhill Farms (370 Underhill Avenue; S/B/L 48.06-1-30) is a proposed mixed-use development on the site of the former Soundview Preparatory School that would consist of 48 townhouses, a 32-unit condominium building, a 68-unit apartment building, and 17,580 square feet of retail and office space.

This report provides Transpo Group's review of the Traffic/Transportation analyses presented by the applicant's professionals, specifically:

- Expanded Environmental Assessment Form (EAF) dated 1/23/23
- PM Peak Hour Traffic Summary dated 6/17/22
- Summary of Traffic Study dated 4/26/22
- Traffic Impact Study (TIS) dated 4/11/22, and supporting electronic Synchro traffic-analysis and MS-Excel trip-distribution datafiles

The EAF contains certain changes from the April-2022 TIS; for instance the total number of new site-generated vehicle trips during the PM peak hour is calculated in the TIS to be 175 and in the EAF to be 178. This specific example is linked with changes to the development program specified for the site. It is assumed that the newer EAF supersedes the earlier documents.

This review considers both the technical analyses prepared on behalf of the applicant (in Section 2), as well as in Section 3 general observations. Throughout this document, **yellow highlighting** indicates specific recommendations.

## 2. Review of Accuracy of Technical Analyses

### 2.1 *Development Program*

The amount of proposed development is the core input used to calculate the amount of travel to and from the site (see next section), as well as the parking demand.

The EAF's Trip Generation analyses (see next section) account for a total of 20,000 square feet of non-residential development (9,500 sq. ft. Office; 5,500 sq. ft. Retail; 5,000 sq. ft. Restaurant).

The EAF's Parking adequacy analysis accounts for a total of 19,000 square feet of non-residential development (11,000 sq. ft. Retail; 7,000 sq. ft. Office/Retail; 1,000 sq. ft. Restaurant).

**We recommend that the Applicant revise the analyses of Trip Generation and/or Parking Demand inputs to reflect consistency with one another as well as the proposed development program.**

### 2.2 *Trip Generation*

The determination of the increase/decrease of trips on the road system uses an approach known as "trip generation". This is a standard technique that draws on established relationships between amounts of development and number-of-trips, using the Institute of Transportation Engineers' Trip Generation Manual (11th edition). The number of new trips generated by the proposed development is then used to determine the possibility of impacts on the roadway network and need for possible improvement measures.

AM and PM peak hour weekday trip generation rates are published by ITE for both the hour with the highest number of trips into/out of the development site, as well as the hour with the highest amount of traffic on the adjacent roadway. In general, the former of these two rates is the higher one. **We recommend that the applicant provide both of these trip generation calculations.**

The applicant's trip generation analysis uses a 40% credit for "pass-by" trips for the Retail and Restaurant uses. This refers to an estimate of how many of the trips entering/exiting the site to access these uses

represent a stop as part of a longer trip, as opposed to a 'new' trip. A larger 'pass-by' credit has the effect of reducing the number of trips passing through nearby intersections, for which the applicant is responsible for possible improvement measures. NYSDOT typically permits a pass-by credit of 25%<sup>1</sup>. We recommend that the applicant reduce the pass-by credit for the Retail and Restaurant land-uses from 40% to 25%.

Finally, the applicant proposes to use the "Fine Dining" land use category (ITE code 931) for purposes of generating vehicle-trips to/from the proposed Restaurant on the site. The Trip Generation Manual contains published trip generation rates for various types of restaurants, with the Fine Dining trip generation on the lower end of the rates. We recommend that the applicant either provide documentation of enforceable mechanisms to ensure that the restaurant that ultimately occupies this space is consistent with the definition of the Fine Dining category, or revise the trip generation analysis to use a Restaurant category that reflects the reasonable worst-case scenario (i.e. higher trip generation rates) if the type of Restaurant that can occupy this site is as yet undetermined.

### **2.3 Analysis of Impacts of "Potential Other Development"**

The TIS presents traffic volumes which are asserted to account for potential other development in the Yorktown Heights hamlet, specifically: Roma Redevelopment, the redevelopment of the vacant former K-Mart and Food Emporium buildings, as well as the Commerce Street Hotel.

The documents reviewed do not contain the parameters of this analysis, specifically the assumed amount of development on each of these sites, the trip generation calculations, and the trip distribution approach.

We recommend that the Applicant provide this information documenting the trip generation and distribution analyses for "Potential other Development" so that it can be reviewed. This is important because it relates to the extent to which the Underhill Farms applicant or the developers of other sites are liable for making improvements to the road network (e.g. the improvement at the 118/Underhill Avenue intersection), which appears to be a part of the applicant's proposal to contribute funds to cover only part of the costs of installing turn lanes at the Underhill Avenue/118 intersection.

### **2.4 Trip Distribution**

Trip Distribution refers to the directions (to/from roadway X to the east, to/from roadway Y to the north, etc.) that the generated trips will take to and from the development site.

We recommend that the applicant clarify which uses of the site (townhomes, condominiums, restaurant, etc.) are proposed to be accessed by vehicles turning into/out of the western (narrower) vs. the eastern (wider) proposed access points. It appears to us that a very large proportion of vehicles accessing the site are likely to use the eastern driveway, with the main (possibly only) users of the western driveway being the townhomes. There is also a discrepancy between the arrival/departure figures; for instance Figure 11 of the EAF claims that 10% of traffic leaving the site will turn left from the western driveway and 10% will turn right from this same driveway, whereas Figure 13 shows more than twice the number turning right versus left (15 vehicles vs. 7). Increasing the proportion of right-turning vs. left-turning movements at this intersection has the effect of both making the level of service at this access point calculated to be better, and reducing the calculation of this applicant's impact on Level of Service at the 118/Underhill Ave intersection. We recommend that the applicant confirm this apparent discrepancy and if necessary revise the analysis.

---

<sup>1</sup> Examples include:

[http://www.yorktownny.org/sites/default/files/fileattachments/planning/page/209/section\\_iii.k\\_\\_9-10-12.pdf](http://www.yorktownny.org/sites/default/files/fileattachments/planning/page/209/section_iii.k__9-10-12.pdf),  
[https://www.tarrytownny.gov/sites/g/files/vyhlf1306/f/uploads/39-51\\_traffic\\_study\\_initial\\_8\\_7\\_20.pdf](https://www.tarrytownny.gov/sites/g/files/vyhlf1306/f/uploads/39-51_traffic_study_initial_8_7_20.pdf), and  
<https://mynewcastle.org/DocumentCenter/View/610/12-04-2018-Applicant-Request-PDF>

The EAF assumes that 15% of the site-generated vehicular traffic will access Underhill Farms through the proposed cross-access to Beaver Ridge, with 5% coming from Beaver Ridge itself, 5% from Allan Avenue, and the remaining 5% from Rt 118. In our opinion this 15% is a high estimate given the indirect routing through the Beaver Ridge property, and that it is particularly unlikely that 5% of the *vehicle*-trips will originate from the neighboring Beaver Ridge property. The effect of selecting a higher value for this item is to reduce the amount of site-generated traffic that is modeled as passing through the 118/Underhill Avenue intersection, and hence reducing this applicant's calculation of impact on this intersection. **We recommend that the applicant substantiate the selection of 15% for this value.**

## 2.5 Intersection Capacity Analyses

"Capacity Analysis" refers to the calculation of the Level of Service (classified in letter grades A through F) at the site access points and potentially impacted intersections in the vicinity of the proposed development. Capacity analysis was performed by the applicant using industry-standard Synchro software. **We recommend that the capacity analyses should be revised by the applicant to reflect the recommended changes to the Trip Generation analysis (see Section 2.2).**

The eastbound approach of the Rt 118/Underhill Avenue intersection is modeled by the Applicant as having a single lane that accommodates through traffic as well as both left-turning and right-turning traffic. This is inaccurate: the right-turning movement is yield-controlled and currently is allocated a short dedicated turn lane. Based on aerial photography, it appears that eastbound right-turning vehicles can pass up to approximately three eastbound through/left-turning vehicles stopped at this approach's stopline; see Figure 1. **We recommend that the analysis be revised to reflect this channelized yield-controlled right turn.** Using the applicant's Synchro input files, this revision by itself appears to result in the calculated existing-conditions PM Level of Service at this intersection going from 'D' (40 seconds of delay) to 'C' (33 seconds of delay).

*Figure 1: Aerial photography showing channelized right-turn of eastbound Underhill Avenue approach to NY 118 (source: Google Maps)*



The applicant's capacity analysis uses a value of 0.95 for the "Peak Hour Factor" (PHF) for all turning movements in the analysis. Values closer to 1.0 have the effect of resulting in calculations of better LOS,

and lower values have the effect of resulting in calculations of worse LOS (note that the default PHF value in Synchro is 0.92, rather than 0.95). We recommend that the analysis be revised to include separate calculations of PHF for each turning-movement based on traffic count data, consistent with best practices as well as recent practice within Yorktown<sup>2</sup>.

## **2.6 Scope of Traffic Analysis**

The applicant's traffic study for Underhill Farms does not analyze possible impacts to traffic flow at the "Triangle" intersection, which is the main bottleneck within the Yorktown Heights road system and is located approximately ½ mile to the north of the project site. It also does not consider the potential for possible impacts at the 118/Downing Drive intersection located between Underhill Farms and the Triangle intersection. The applicant's offer of \$450K (see Section 2.7 below) towards traffic improvements appears to be focused on the Underhill/118 intersection, and does not contribute to the cost of potential improvements at those other nearby intersections.

However, the applicant's analysis does consider traffic from other potential development sites in the vicinity of the Triangle intersection, including sites on the other side of it (specifically the Roma Building located immediately north of it), making the argument that this traffic contributes to the need for improvements at the Underhill/118 intersection. The Roma Building's 2018 traffic study likewise did not analyze the intersection of Underhill/118.

## **2.7 Applicant's offer of \$450K towards improving Underhill/118 intersection**

The EAF proposes a set of improvement measures that does not include adding turn lanes to the Underhill/118 intersection, and concludes that with the smaller proposed improvement measures in place traffic associated with the Underhill Farms site will not cause significant impacts. We recommend that the applicant revise the traffic analysis as set forth in this report, which will provide the information needed to form a view of whether we concur.

In the EAF, the applicant offers \$450K to Yorktown towards the costs of improving the Underhill/118 intersection by adding turn lanes to some movements which currently use lanes that are shared with through traffic. Specifically, two improvement options have been presented:

- 1) Alternate 1 (cost estimate of \$800K prepared by the applicant): Adds left turn lanes eastbound and westbound and a right turn lane southbound.
- 2) Alternate 2 (cost estimate of \$1.5M prepared by the applicant): Same as Option #1, but also adds left turn lanes northbound and southbound.

As context, the complementary eastbound left and southbound right are the heaviest turning movements at this intersection (at 363 and 231 vehicles/hour, per the applicant's analysis of Existing Conditions). All other turning movements that would be provided additional turning lanes under these Alternates 1 or 2 are much lower (none exceeds 40 vehicles/hour in Existing Conditions).

The applicant argues that existing traffic congestion (LOS) at this intersection would be substantially improved by either of the Alternates. For illustrative purposes: if the applicant's traffic analyses were to be accepted by the Town as-is (notwithstanding the issues identified in this review), the improvement in traffic flow at this intersection would be noticeable (LOS 'B' after construction of the smaller 'Alternate 1' set of improvements vs LOS 'D' today, as claimed by the applicant). The detailed result will vary pending resolution of the technical issues, but this general conclusion appears unlikely to change.

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<sup>2</sup> This is consistent with the specification of separate PHFs for each turning movement in the analysis of the nearby "Triangle" intersection (Rt 118/202/Commerce St) performed in the traffic study for the "Roma Building", dated 10/24/2018.

We recommend the following with respect to this offer:

- 1) We recommend that the applicant provide documentation demonstrating its calculation of the \$450K offer towards improvements at the Underhill/118 intersection.
- 2) We recommend that any cost estimate for the Underhill/118 intersection that underpins the proposed \$450K contribution be revisited, in light of large unanticipated highway construction cost increases that have occurred post-pandemic. As context, USDOT's national highway construction cost index increased 37% from Q4 of 2020 to Q2 of 2022 (latest published data<sup>3</sup>).
- 3) We recommend that the applicant's revised traffic analysis form the basis for determining whether the proposed development would have traffic impacts, which may conclude that the Underhill Farms developer is required to add turn lanes as an appropriate improvement.

Finally, the applicant's traffic engineer has provided the detailed information (quantities and unit costs) that were used to develop the applicant's \$800K and \$1.5M cost estimates referenced above. Transpo is now reviewing this data and preparing updated cost estimates; we will provide this analysis via separate memorandum.

## **2.8 Traffic Signal Upgrades**

In the EAF the applicant proposes to purchase communications modems, camera actuation, and adaptive software for the traffic signals at Underhill Avenue/118 and 118/Kear/Allen. We recommend that the applicant provide the specifications for these proposed items.

## **2.9 Feedback from NYSDOT**

We understand that NYSDOT has been invited to provide comments on the applicant's traffic analysis and has indicated that it would do so, but this feedback has not yet been provided. NYSDOT's feedback will be an important input to the revised traffic analysis, given the site's adjacent to the state highway network.

## **2.10 Parking**

As noted in Section 2.1 above, the parking analysis uses 1,000 square feet as the size of the restaurant, rather than the 5,000 square feet restaurant size which is used in the Trip Generation analysis. This and any remaining discrepancies needs to be reconciled in order to reach a determination of the adequacy of the proposed parking provision.

The EAF proposes shared-parking between the residential and retail uses on Underhill Farms, as well as between the residential use on Underhill Farms and the Senior Center located immediately adjacent on the Beaver Ridge property.

We recommend that the applicant provide calculations to demonstrate that the amount of shared parking that is proposed is reasonable given the time-of-day/day-of-week parking profiles of the respective land uses.

We also recommend that a shared-parking plan be provided by the applicant which describes any signed parking restrictions on the Underhill Farms site, as well as management/enforcement mechanisms (including for parking that would be located on Underhill Farms property and shared by residents of Underhill Farms as well as users the senior center on the Beaver Ridge property).

The condominium building proposes tandem parking. It would be reasonable to expect that residents of the Condo building may seek to avoid using the 'inner' tandem parking spaces in which the parked

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<sup>3</sup> <https://explore.dot.gov/views/NHInflationDashboard/NHCCI>

vehicle will be 'blocked in', and instead to use the nearby surface parking which does not require moving one of their cars to access another. Another issue with the proposed tandem parking is that the average provision of parking is 1.5 parking spaces per unit in the condo-building, but it would be necessary for two tandem parking spaces to be controlled by the same household. Does this mean that some units will be marketed as having two private parking spaces and others will be marketed as only having one parking space? If so, would there be mechanisms to prevent condo residents allocated one parking space from parking in parking spaces intended for other uses on the site? **We recommend that the applicant clarify.**

### 3. General observations

#### 3.1 *Proximity of Underhill Farms' main building to the portions of the hamlet east of Rt 118*

The site layout as proposed shows a double-loaded parking aisle between the primary mixed-use building and Rt 118. Ideally in a hamlet environment, to support pedestrian connectivity the on-site parking would be provided to the rear of the buildings rather than along the street frontage. This would be consistent with Yorktown's Comprehensive Plan's vision<sup>4</sup> that the Town's hamlets "become more pedestrian friendly". Placing the main buildings closer to Rt 118 would enhance pedestrian connectivity between Underhill Farms and the portions of the hamlet to the east of Rt 118. It would, however, require that circulation and building placement be substantially modified.

The EAF states that sidewalks are proposed by the applicant along the site's frontage from Glenrock Street to Allan Avenue. This is consistent with the Town's Comprehensive Plan's vision that the Town's hamlets should become more pedestrian-friendly. We note that this proposed sidewalk network is not typical layout of sidewalks fronting close to the roadway; the proposed sidewalks are less direct and require crossing the internal streets. **We recommend that:**

- 1) **Consideration be given to including a sidewalk connection along the southern curblin of the internal roadway to the south of the main mixed use building (highlighted by purple arrow in Figure 2.) This would allow pedestrians walking along this segment to avoid two crossings of this southern internal roadway.**
- 2) **The sidewalk network appears to be proposed to be located on private property at distance from the public right-of-way. It should be confirmed that the sidewalks between Glenrock and Beaver Ridge/Allan will be made accessible to the public at all times (or any restrictions clarified).**

#### 3.2 *Access roadway near northwest corner of main building*

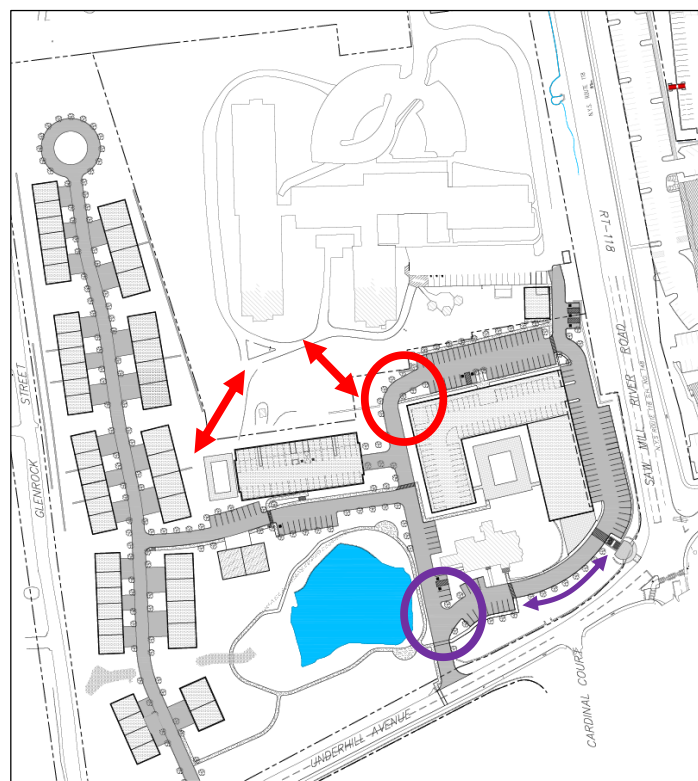
The red circle drawn in Figure 2 highlights the northwest corner of the main proposed building, where the main loop access roadway is near to this corner of the building. **We recommend that the applicant confirm that the line of sight for drivers using this roadway is adequate to safely avoid colliding with a person walking on the loop roadway, taking into account the obstruction to view from the building corner.** It appears that one speed table is proposed in this area along the north-south roadway segment at the end of this curve; it may be desirable to include another on the east-west segment at the beginning of this curve.

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<sup>4</sup> Page 3-1 of adopted 2010 Comprehensive Plan

It appears that sidewalks are not proposed along the red-circled section of the loop roadway. **We recommend that they be considered at this portion of the site** -- this would for instance enhance pedestrian connectivity between the senior center and the proposed recreation area around the lake.

Figure 2: Site Plan with selected locations highlighted (source: Submission by applicant dated 12/20/22)



### 3.3 Pedestrian connectivity to Beaver Ridge at northwest of Underhill Farms site

Policy 3-11 of Yorktown's Comprehensive Plan encourages cross-access arrangements.

A cross-access roadway is proposed by the applicant at the northeast of the site, connecting to the Beaver Ridge site. However, no connections from Underhill Farms to the north are proposed at other points.

Figure 2 above also shows two red arrows which depict possible locations for pedestrian/trailway access to Beaver Ridge. The western of these arrows is at the location of an existing disturbance dating to at



least 1990 (per the County's aerial photography) which appears to have previously provided cross-access between these two properties onwards to Underhill Avenue.

Cross-access arrangements, even if limited to pedestrians and possibly cyclists, can avoid long, inefficient routing that is undesirable in a hamlet context.

**We recommend that the Town discuss with the applicant whether cross-access concepts such as those indicated in Figure 2 are practical.**

### **3.4 Intersection of Cardinal Court and Underhill Avenue**

We understand from discussions with Yorktown's Planning Department that Cardinal Court was once a through-roadway which was converted into a cul-de-sac when the present-day Rt 118 was built in the mid-20th century. Cardinal Court has two single-family homes located along its west side, for which the access onto Underhill Avenue is the only means of access.

The distance between the Underhill Avenue/118 intersection and the Underhill Avenue/Cardinal Court intersections is ~140'. Per the Synchro analysis provided by the applicant (which is subject to revision, as noted above), their estimate is that in the Existing Conditions analysis the 50th-percentile queue length on Underhill Avenue approaching Rt 118 is 185' in the PM peak hour. Because this exceeds the 140' spacing to Cardinal Court, this means that during more than half of the cycles of the traffic light during the PM peak hour eastbound traffic is queued up past Cardinal Court. This condition then would become exacerbated by the additional traffic that would pass through this intersection when Underhill Farms is built.

In drawings included in the TIS, the applicant proposed "Do not block the box" striping (large white 'X' striped onto the pavement, along with new signage) at both points of access to Underhill Farms on Underhill Avenue. **We recommend that similar treatment be considered for Cardinal Court.**

The intersection of Cardinal Court and Underhill Avenue is a difficult location, due to the proximity to the traffic light at Rt. 118, it would remain difficult if a turning lane is added onto Underhill Avenue that would widen Underhill. Alternative options for improving access to Cardinal Court may include providing a connection from Cardinal Court onto Rt. 118 to the south of Underhill Avenue and converting the intersection of Cardinal/Underhill to right-in/right-out, however this would be a larger and more complex project. For instance, if an opening were provided from the southern end of Cardinal Court onto Route 118, it would be at a sharp angle, and a roughly 10' change in elevation down to Rt 118 would need to be traversed.

### **3.5 Internal intersection immediately east of the lake**

The site plan shows a proposed internal street intersection in close proximity to the intersection of the main site access with Underhill Avenue (highlighted in the purple circle in Figure 2).

**We recommend consideration of aligning this intersection to be approximately a 90-degree intersection.**

In addition to avoiding introducing a skewed intersection and potentially reducing impervious coverage, this would also have the additional beneficial effect of moving it further away from the intersection with Underhill Avenue. This would, however, mean reconfiguring the parking spaces on this portion of the site. Alternatively, the main loop roadway which is currently proposed for two-way operation could have one-way operation which would eliminate turning movements from this intersection entirely.

### **3.6 Possibility of access onto Rt. 118**

Underhill Farms is a corner property, fronting both Underhill Avenue and Rt 118, with the latter under the jurisdiction of NYSDOT.

Pursuant to discussions with Yorktown's Planning Department, we understand that NYSDOT has acquired easements that would prevent properties fronting Rt 118 from providing access points onto Rt 118, including Underhill Farms.

An access point onto Rt 118 which could be as far as ~250' (and/or could be right-in/right-out) from the Underhill Avenue intersection appears unlikely to adversely affect the safety or efficiency of traffic flow on Rt 118, and would help reduce the amount of traffic traveling through the problematic Underhill/118 intersection. Rt 118 in this area is straight and level, with good sight lines in all directions. We recommend that the pros/cons of possible secondary access onto Rt 118 be revisited with NYSDOT, to ascertain whether NYSDOT agrees.

### **3.7 Provision for Deliveries**

We recommend that the provision for deliveries by truck (both to the retail/office/restaurant uses as well as parcel-deliveries to the residences) be clarified. This includes loading locations for both main buildings, anticipated number of truck movements per day, maximum size of delivery vehicles anticipated on-site, and ensuring that this vehicle can navigate the curve on the internal roadway at the northwest corner of the main building (see also section 3.2). It also includes a conceptual description of where the occasional moving truck for residents moving into/out of the apartment and condo buildings will load/unload without unreasonably affecting vehicle and pedestrian circulation.

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March 30, 2023

Chairman Richard Fon  
Town of Yorktown Planning Board  
Albert A. Capellini Community & Cultural Center  
1974 Commerce Street  
Yorktown Heights, NY 10595

Underhill Farm  
Town of Yorktown, Westchester County, New York  
Colliers Engineering & Design Project No. 20006297A

Dear Chairman Fon and Members of the Planning Board:

The following items are in response to comments contained in the review document prepared by Transpo Group dated March 2023. The items are numbered according to their review comments. A revised Traffic Impact Study (revised TIS) dated March 30, 2023 has also been prepared addressing these comments.

## 2. Review of Accuracy of Technical Analyses

### 2.1 Development Program

The amount of proposed development is the core input used to calculate the amount of travel to and from the site (see next section), as well as the parking demand.

The EAF's Trip Generation analyses (see next section) account for a total of 20,000 square feet of non-residential development (9,500 sq. ft. Office; 5,500 sq. ft. Retail; 5,000 sq. ft. Restaurant).

The EAF's Parking adequacy analysis accounts for a total of 19,000 square feet of non-residential development (11,000 sq. ft. Retail; 7,000 sq. ft. Office/Retail; 1,000 sq. ft. Restaurant).

We recommend that the Applicant revise the analyses of Trip Generation and/or Parking Demand inputs to reflect consistency with one another as well as the proposed development program.

***Response: The trip generation and parking adequacy portions of the EAF related to the non-residential portion of the development have been updated for consistency. The Traffic Impact Study is also now consistent with the proposed sizes for the non-residential portion of the development.***

## 2.2 Trip Generation

The determination of the increase/decrease of trips on the road system uses an approach known as “trip generation”. This is a standard technique that draws on established relationships between amounts of development and number-of-trips, using the Institute of Transportation Engineers’ Trip Generation Manual (11th edition). The number of new trips generated by the proposed development is then used to determine the possibility of impacts on the roadway network and need for possible improvement measures.

AM and PM peak hour weekday trip generation rates are published by ITE for both the hour with the highest number of trips into/out of the development site, as well as the hour with the highest amount of traffic on the adjacent roadway. In general, the former of these two rates is the higher one. We recommend that the applicant provide both of these trip generation calculations.

**Response:** *Table No. 1 in the revised Traffic Study provides the traffic generation rates and estimated traffic volumes for the “Peak Hour of Adjacent Street Traffic” (peak highway hour) for all land uses. Table No. 1A also contained in the revised Traffic Impact Study provides the trip generation rates and estimated traffic volumes for “Peak Hour of Generator”. While it is our opinion that the traffic volumes provided in Table No. 1 associated with the “Peak Hour of Adjacent Street Traffic” are those that should be analyzed for the Project, since those are the volumes that will coincide with the peak traffic volumes experienced along the area roadways, the revised Traffic Impact Study now utilizes the somewhat higher traffic generation volumes associated with the Peak Hour of Generator rates provided by ITE. Note that for the residential portion of the development, the higher peak hour of generation rates were already utilized in the original analysis to be conservative. It should also be noted that the peak hour of generation for a restaurant typically occurs after the Weekday Peak PM Highway Hour. Therefore, it is our opinion that the analyses provided in the revised TIS are somewhat conservative.*

The applicant’s trip generation analysis uses a 40% credit for “pass-by” trips for the Retail and Restaurant uses. This refers to an estimate of how many of the trips entering/exiting the site to access these uses represent a stop as part of a longer trip, as opposed to a ‘new’ trip. A larger ‘pass-by’ credit has the effect of reducing the number of trips passing through nearby intersections, for which the applicant is responsible for possible improvement measures. NYSDOT typically permits a pass-by credit of 25%<sup>1</sup>. We recommend that the applicant reduce the pass-by credit for the Retail and Restaurant land-uses from 40% to 25%.

**Response:** *The 40% pass-by credit for the retail use was developed based on ITE data, which as indicated by ITE for this size retail development can be even higher. Also, while NYSDOT typically limit this to 25% for “stand alone” retail developments, in a mixed-use development like this where the retail use is typically ancillary to provide convenience for the residents, an interplay credit is also typically applied as was done in this case. Thus, the remaining 15% credit (40% – 25% = 15%) was used to account for internal trips between proposed uses on the Site. Also, all residential generated trips were considered*

*new, and no credit was taken for them staying “on site” and using the non-residential uses on the site, which is conservative.*

*Regardless of the above, Tables No. 1 and 1A contained in the revised TIS now reflect only the reduction of the “pass-by” trip credit at 25%. However, as noted in Section III.B of the revised TIS, the traffic analysis now analyzes the full traffic generation identified in Table No. 1A with no pass-by or internal credit assumed in the traffic analysis.*

Finally, the applicant proposes to use the “Fine Dining” land use category (ITE code 931) for purposes of generating vehicle-trips to/from the proposed Restaurant on the site. The Trip Generation Manual contains published trip generation rates for various types of restaurants, with the Fine Dining trip generation on the lower end of the rates. We recommend that the applicant either provide documentation of enforceable mechanisms to ensure that the restaurant that ultimately occupies this space is consistent with the definition of the Fine Dining category, or revise the trip generation analysis to use a Restaurant category that reflects the reasonable worst-case scenario (i.e. higher trip generation rates) if the type of Restaurant that can occupy this site is as yet undetermined.

***Response:*** *The restaurant use to be located in the existing Mansion building would be for a quality type restaurant and the Land Use Category – 931 “Fine Dining - Quality Restaurant” was used for these estimates. Appropriate restrictions could be placed as part of the site plan approvals to restrict this use accordingly.*

### 2.3 Analysis of Impact of “Potential Other Development”

The TIS presents traffic volumes which are asserted to account for potential other development in the Yorktown Heights hamlet, specifically: Roma Redevelopment, the redevelopment of the vacant former K- Mart and Food Emporium buildings, as well as the Commerce Street Hotel.

The documents reviewed do not contain the parameters of this analysis, specifically the assumed amount of development on each of these sites, the trip generation calculations, and the trip distribution approach.

We recommend that the Applicant provide this information documenting the trip generation and distribution analyses for “Potential other Development” so that it can be reviewed. This is important because it relates to the extent to which the Underhill Farms applicant or the developers of other sites are liable for making improvements to the road network (e.g. the improvement at the 118/Underhill Avenue intersection), which appears to be a part of the applicant’s proposal to contribute funds to cover only part of the costs of installing turn lanes at the Underhill Avenue/118 intersection.

***Response:*** *Specific figures identifying the traffic volumes through the study area intersections associated with each of the approved and potential other developments considered are now provided in the revised TIS. A detailed summary of each of the other developments is also provided in the revised TIS as well as backup information from prior studies prepared for those projects or based on trip generation estimates prepared by our office.*

## 2.4 Trip Distribution

Trip Distribution refers to the directions (to/from roadway X to the east, to/from roadway Y to the north, etc.) that the generated trips will take to and from the development site.

We recommend that the applicant clarify which uses of the site (townhomes, condominiums, restaurant, etc.) are proposed to be accessed by vehicles turning into/out of the western (narrower) vs. the eastern (wider) proposed access points. It appears to us that a very large proportion of vehicles accessing the site are likely to use the eastern driveway, with the main (possibly only) users of the western driveway being the townhomes. There is also a discrepancy between the arrival/departure figures; for instance Figure 11 of the EAF claims that 10% of traffic leaving the site will turn left from the western driveway and 10% will turn right from this same driveway, whereas Figure 13 shows more than twice the number turning right versus left (15 vehicles vs. 7). Increasing the proportion of right-turning vs. left-turning movements at this intersection has the effect of both making the level of service at this access point calculated to be better, and reducing the calculation of this applicant's impact on Level of Service at the 118/Underhill Ave intersection. We recommend that the applicant confirm this apparent discrepancy and if necessary revise the analysis.

**Response:** *For ease of review, the revised TIS now includes separate distributions for the Townhouses and the Apartments/Condos/Commercial portion of the development. The capacity analyses have been revised accordingly.*

The EAF assumes that 15% of the site-generated vehicular traffic will access Underhill Farms through the proposed cross-access to Beaver Ridge, with 5% coming from Beaver Ridge itself, 5% from Allan Avenue, and the remaining 5% from Rt 118. In our opinion this 15% is a high estimate given the indirect routing through the Beaver Ridge property, and that it is particularly unlikely that 5% of the *vehicle*-trips will originate from the neighboring Beaver Ridge property. The effect of selecting a higher value for this item is to reduce the amount of site-generated traffic that is modeled as passing through the 118/Underhill Avenue intersection, and hence reducing this applicant's calculation of impact on this intersection. We recommend that the applicant substantiate the selection of 15% for this value.

**Response:** *The connection to Beaver Ridge has been designed to NOT be attractive for use by other potential "cut-through" external traffic and includes traffic calming measures throughout the development to ensure it is not used by external traffic. The 15% that was analyzed in the TIS equates to less than 25 vehicles during the highest hour, which would be representative of localized trips and trips between the two developments. Although unlikely to occur, a separate sensitivity analysis with no site traffic using this connection was completed to show all volumes accessing the site to and from Underhill Avenue and the potential impacts of such a condition.*

## 2.5 Intersection Capacity Analysis

“Capacity Analysis” refers to the calculation of the Level of Service (classified in letter grades A through F) at the site access points and potentially impacted intersections in the vicinity of the proposed development. Capacity analysis was performed by the applicant using industry-standard Synchro software. We recommend that the capacity analyses should be revised by the applicant to reflect the recommended changes to the Trip Generation analysis (see Section 2.2).

**Response:** *The capacity analysis was updated to reflect the trip generation changes suggested. They were also completed for the above referenced sensitivity analysis with the results summarized in the corresponding tables contained in the revised TIS.*

The eastbound approach of the Rt 118/Underhill Avenue intersection is modeled by the Applicant as having a single lane that accommodates through traffic as well as both left-turning and right-turning traffic. This is inaccurate: the right-turning movement is yield-controlled and currently is allocated a short dedicated turn lane. Based on aerial photography, it appears that eastbound right-turning vehicles can pass up to approximately three eastbound through/left-turning vehicles stopped at this approach’s stop line; see Figure 1. We recommend that the analysis be revised to reflect this channelized yield- controlled right turn. Using the applicant’s Synchro input files, this revision by itself appears to result in the calculated existing-conditions PM Level of Service at this intersection going from ‘D’ (40 seconds of delay) to ‘C’ (33 seconds of delay).

**Response:** *The eastbound approach has a short dedicated channelized right turn lane as noted; however, due to the limited length of this lane and the existing observed queues from the predominate through and left turn vehicle movements that occur on this approach during the PM Peak Hour, the ability and efficiency of this functioning as a dedicated right turn for vehicles is limited. Based on observations of existing peak hour operations, this short lane does not provide any noticeable capacity benefit. The traffic analysis contained in the revised TIS now accounts for the channelized right turn lane on the eastbound Underhill Avenue approach and the capacity analysis indicates that this channelized right turn does not provide a significant capacity benefit to the intersection due to queuing resulting from left turn and through movement vehicles.*

The applicant’s capacity analysis uses a value of 0.95 for the “Peak Hour Factor” (PHF) for all turning movements in the analysis. Values closer to 1.0 have the effect of resulting in calculations of better LOS, and lower values have the effect of resulting in calculations of worse LOS (note that the default PHF value in Synchro is 0.92, rather than 0.95). We recommend that the analysis be revised to include separate calculations of PHF for each turning-movement based on traffic count data, consistent with best practices as well as recent practice within Yorktown<sup>2</sup>.

**Response:** *The PHF factors utilized in the traffic analysis have been reviewed and revised based on those identified by the collected traffic volume data for the study area intersection. However, we maintain that the use of the overall intersection PHF is appropriate based on guidance provided in the Highway Capacity Manual 6<sup>th</sup> Edition, which specifically indicates in both Chapters 19 & 20 for signalized and two-way stop control intersections that “If*

*peak hour factors are used, a single peak hour factor for the entire intersection is generally preferred because it will decrease the likelihood of creating demand scenarios with conflicting volumes that are disproportionate to the actual volumes during the 15-minute analysis period”.*

## 2.6 Scope of Traffic Analysis

The applicant’s traffic study for Underhill Farms does not analyze possible impacts to traffic flow at the “Triangle” intersection, which is the main bottleneck within the Yorktown Heights road system and is located approximately ½ mile to the north of the project site. It also does not consider the potential for possible impacts at the 118/Downing Drive intersection located between Underhill Farms and the Triangle intersection. The applicant’s offer of \$450K (see Section 2.7 below) towards traffic improvements appears to be focused on the Underhill/118 intersection and does not contribute to the cost of potential improvements at those other nearby intersections.

However, the applicant’s analysis does consider traffic from other potential development sites in the vicinity of the Triangle intersection, including sites on the other side of it (specifically the Roma Building located immediately north of it), making the argument that this traffic contributes to the need for improvements at the Underhill/118 intersection. The Roma Building’s 2018 traffic study likewise did not analyze the intersection of Underhill/118.

**Response:** *It was requested by the Town, the analysis of the Underhill Avenue/Route 118 and Route 118/Kear Street intersections consider the effects of traffic from other approved or potential projects in the area. The amount of the peak hour project generated traffic at the Triangle intersection is projected at approximately 30 to 40 vehicles during the highest peak hour, which represents less than 2% of the volumes at that intersection and would not require a separate analysis.*

*It is also note that the number of vehicles projected to traffic through the Triangle intersection is less than the NYSDOT and ITE threshold of 100 site generated trips on any one intersection approach for needing off-site intersection analysis. This guidance was developed as a tool to identify locations where the magnitude of traffic generated has the potential to impact operations at offsite intersections and screen out locations from requiring detailed analysis that do not reach the 100-vehicle threshold indicating that additional detailed intersection analysis is not needed and that the site generated traffic will be accommodated by the existing roadway network.*



## 2.7 Applicant's Offer of \$450K Towards Improving Underhill/118 Intersection

The EAF proposes a set of improvement measures that does not include adding turn lanes to the Underhill/118 intersection and concludes that with the smaller proposed improvement measures in place traffic associated with the Underhill Farms site will not cause significant impacts. We recommend that the applicant revise the traffic analysis as set forth in this report, which will provide the information needed to form a view of whether we concur.

In the EAF, the applicant offers \$450K to Yorktown towards the costs of improving the Underhill/118 intersection by adding turn lanes to some movements which currently use lanes that are shared with through traffic. Specifically, two improvement options have been presented:

- 1) Alternate 1 (cost estimate of \$800K prepared by the applicant): Adds left turn lanes eastbound and westbound and a right turn lane southbound.
- 2) Alternate 2 (cost estimate of \$1.5M prepared by the applicant): Same as Option #1, but also adds left turn lanes northbound and southbound.

As context, the complementary eastbound left and southbound right are the heaviest turning movements at this intersection (at 363 and 231 vehicles/hour, per the applicant's analysis of Existing Conditions). All other turning movements that would be provided additional turning lanes under these Alternates 1 or 2 are much lower (none exceeds 40 vehicles/hour in Existing Conditions).

The applicant argues that existing traffic congestion (LOS) at this intersection would be substantially improved by either of the Alternates. For illustrative purposes: if the applicant's traffic analyses were to be accepted by the Town as-is (notwithstanding the issues identified in this review), the improvement in traffic flow at this intersection would be noticeable (LOS 'B' after construction of the smaller 'Alternate 1' set of improvements vs LOS 'D' today, as claimed by the applicant). The detailed result will vary pending resolution of the technical issues, but this general conclusion appears unlikely to change.

We recommend the following with respect to this offer:

- 1) We recommend that the applicant provide documentation demonstrating its calculation of the \$450K offer towards improvements at the Underhill/118 intersection.
- 2) We recommend that any cost estimate for the Underhill/118 intersection that underpins the proposed \$450K contribution be revisited, in light of large unanticipated highway construction cost increases that have occurred post-pandemic. As context, USDOT's national highway construction cost index increased 37% from Q4 of 2020 to Q2 of 2022 (latest published data<sup>3</sup>).
- 3) We recommend that the applicant's revised traffic analysis form the basis for determining whether the proposed development would have traffic impacts, which may conclude that the Underhill Farms developer is required to add turn lanes as an appropriate improvement.

**Response:** *The analysis has been revised as requested to reflect the changes in trip generation, etc. The Underhill project peak hour traffic represents less than 5% of the Route 118/Underhill Avenue intersection volume.*

*We note that TranspoGroup has prepared a separate detailed analysis of the cost estimates prepared by our office for the offsite traffic improvements as contained in their memorandum dated March 21, 2023. A detailed response to the comments contained in that memorandum will be provided by our office under separate cover.*

Finally, the applicant's traffic engineer has provided the detailed information (quantities and unit costs) that were used to develop the applicant's \$800K and \$1.5M cost estimates referenced above. Transpo is now reviewing this data and preparing updated cost estimates; we will provide this analysis via separate memorandum.

*Response: We note that TranspoGroup has prepared a separate detailed analysis of the cost estimates prepared by our office for the offsite traffic improvements as contained in their memorandum dated March 21, 2023. A detailed response to the comments contained in that memorandum will be provided by our office under separate cover.*

## 2.8 Traffic Signal Upgrades

In the EAF the applicant proposes to purchase communications modems, camera actuation, and adaptive software for the traffic signals at Underhill Avenue/118 and 118/Kear/Allan. We recommend that the applicant provide the specifications for these proposed items.

*Response: The specific traffic signal equipment proposed to be provided includes the following listed NYSDOT Item Numbers*

- *Item No. 680.08110008 – Install Internet Service for Traffic Signal - Modem Only*
- *Item No. 680.05010007 – 360 Degree Camera Video Detection System*
- *Item No. 680.94997008 – Furnish and Install Electrical Disconnect Generator Transfer Switch*

*Note there is no specific NYSDOT item number for Adaptive Traffic Signal Software. If required by NYSDOT the Synchro Green Adaptive Traffic Signal Software license will be purchase and installed at the signal in coordination with NYSDOT.*

## 2.9 Feedback from NYSDOT

We understand that NYSDOT has been invited to provide comments on the applicant's traffic analysis and has indicated that it would do so, but this feedback has not yet been provided. NYSDOT's feedback will be an important input to the revised traffic analysis, given the site's adjacent to the state highway network.

*Response: Discussions have been held with NYSDOT residency engineers as well as Region 8 representatives, together with the Town, to discuss the Project and the procedures for implementation of the traffic improvements. The Applicant will continue to coordinate with NYSDOT and the Town in order to advance the offsite improvement plans.*

## 2.10 Parking

As noted in Section 2.1 above, the parking analysis uses 1,000 square feet as the size of the restaurant, rather than the 5,000 square foot restaurant size which is used in the Trip Generation analysis. This and any remaining discrepancies needs to be reconciled in order to reach a determination of the adequacy of the proposed parking provision.

**Response:** *The traffic study and parking analysis are now consistent and reflect the current Project proposal.*

The EAF proposes shared-parking between the residential and retail uses on Underhill Farms, as well as between the residential use on Underhill Farms and the Senior Center located immediately adjacent on the Beaver Ridge property.

We recommend that the applicant provide calculations to demonstrate that the amount of shared parking that is proposed is reasonable given the time-of-day/day-of-week parking profiles of the respective land uses.

We also recommend that a shared-parking plan be provided by the applicant which describes any signed parking restrictions on the Underhill Farms site, as well as management/enforcement mechanisms (including for parking that would be located on Underhill Farms property and shared by residents of Underhill Farms as well as users the senior center on the Beaver Ridge property).

**Response:** *The Project is fully parking compliant per the Town Code. The use of shared parking for the proposed senior center on the Beaver Ridge property is no longer proposed.*

The condominium building proposes tandem parking. It would be reasonable to expect that residents of the Condo building may seek to avoid using the 'inner' tandem parking spaces in which the parked vehicle will be 'blocked in', and instead to use the nearby surface parking which does not require moving one of their cars to access another. Another issue with the proposed tandem parking is that the average provision of parking is 1.5 parking spaces per unit in the condo-building, but it would be necessary for two tandem parking spaces to be controlled by the same household. Does this mean that some units will be marketed as having two private parking spaces and others will be marketed as only having one parking space? If so, would there be mechanisms to prevent condo residents allocated one parking space from parking in parking spaces intended for other uses on the site? We recommend that the applicant clarify.

**Response:** *Tandem parking is regularly implemented for multi-family developments. It is noted that ITE Parking Generation data indicates that the average parking demand ratio for multi family housing is 1.2 to 1.3 spaces per dwelling unit, which will be less than the 1.5 spaces per dwelling unit provided. It is also possible that some of the condo units will be designated as senior housing units which ITE data indicates a much lower parking ratio of 0.61 spaces per dwelling unit.*

### 3. General Observations

#### 3.1 Proximity of Underhill Farms' Main Building to the Portions of the Hamlet East of Rt 118

The site layout as proposed shows a double-loaded parking aisle between the primary mixed-use building and Rt 118. Ideally in a hamlet environment, to support pedestrian connectivity the on-site parking would be provided to the rear of the buildings rather than along the street frontage. This would be consistent with Yorktown's Comprehensive Plan's vision<sup>4</sup> that the Town's hamlets "become more pedestrian friendly". Placing the main buildings closer to Rt 118 would enhance pedestrian connectivity between Underhill Farms and the portions of the hamlet to the east of Rt 118. It would, however, require that circulation and building placement be substantially modified.

The EAF states that sidewalks are proposed by the applicant along the site's frontage from Glenrock Street to Allan Avenue. This is consistent with the Town's Comprehensive Plan's vision that the Town's hamlets should become more pedestrian-friendly. We note that this proposed sidewalk network is not typical layout of sidewalks fronting close to the roadway; the proposed sidewalks are less direct and require crossing the internal streets. We recommend that:

- 1) Consideration be given to including a sidewalk connection along the southern curblineline of the internal roadway to the south of the main mixed use building (highlighted by purple arrow in Figure 2.) This would allow pedestrians walking along this segment to avoid two crossings of this southern internal roadway.
- 2) The sidewalk network appears to be proposed to be located on private property at distance from the public right-of-way. It should be confirmed that the sidewalks between Glenrock and Beaver Ridge/Allan will be made accessible to the public at all times (or any restrictions clarified).

#### **Response:**

1. *A sidewalk connection between the southern curb line and the internal roadway to the south of the main mixed-use building will be added to the final site plan as requested.*
2. *Appropriate easements on the Underhill property will be provided relative to the sidewalks connecting to Beaver Ridge and Glenrock so that they can be accessible by the public at all times.*

#### 3.2 Access Roadway Near Northwest Corner of Main Building

The red circle drawn in Figure 2 highlights the northwest corner of the main proposed building, where the main loop access roadway is near to this corner of the building. We recommend that the applicant confirm that the line of sight for drivers using this roadway is adequate to safely avoid colliding with a person walking on the loop roadway, taking into account the obstruction to view from the building corner. It appears that one speed table is proposed in this area along the north-south roadway segment at the end of this curve; it may be desirable to include another on the east-west segment at the beginning of this curve. It appears that sidewalks are not proposed along the red-circled section of the loop roadway. We recommend that they be considered at this portion of the site -- this would for instance enhance pedestrian connectivity between the senior center and the proposed recreation area around the lake.

**Response:** *The line of sight for drivers to see pedestrians will be detailed on the final site plan to ensure that there are no obstructions and that adequate sight lines are provided. Additional traffic calming measures will be incorporated into the final plan to address this comment. Additional sidewalks will be provided along the loop roadway as per the input and direction of the Town.*

### 3.3 Pedestrian Connectivity to Beaver Ridge at Northwest of Underhill Farms Site

Policy 3-11 of Yorktown's Comprehensive Plan encourages cross-access arrangements.

A cross-access roadway is proposed by the applicant at the northeast of the site, connecting to the Beaver Ridge site. However, no connections from Underhill Farms to the north are proposed at other points.

Figure 2 above also shows two red arrows which depict possible locations for pedestrian/trailway access to Beaver Ridge. The western of these arrows is at the location of an existing disturbance dating to at least 1990 (per the County's aerial photography) which appears to have previously provided cross-access between these two properties onwards to Underhill Avenue.

Cross-access arrangements, even if limited to pedestrians and possibly cyclists, can avoid long, inefficient routing that is undesirable in a hamlet context.

We recommend that the Town discuss with the applicant whether cross-access concepts such as those indicated in Figure 2 are practical.

**Response:** *Additional cross access connections would be at the discretion of Beaver Ridge.*

### 3.4 Intersection of Cardinal Court and Underhill Avenue

We understand from discussions with Yorktown's Planning Department that Cardinal Court was once a through-roadway which was converted into a cul-de-sac when the present-day Rt 118 was built in the mid-20th century. Cardinal Court has two single-family homes located along its west side, for which the access onto Underhill Avenue is the only means of access.

The distance between the Underhill Avenue/118 intersection and the Underhill Avenue/Cardinal Court intersections is ~140'. Per the Synchro analysis provided by the applicant (which is subject to revision, as noted above), their estimate is that in the Existing Conditions analysis the 50th-percentile queue length on Underhill Avenue approaching Rt 118 is 185' in the PM peak hour. Because this exceeds the 140' spacing to Cardinal Court, this means that during more than half of the cycles of the traffic light during the PM peak hour eastbound traffic is queued up past Cardinal Court. This condition then would become exacerbated by the additional traffic that would pass through this intersection when Underhill Farms is built.

In drawings included in the TIS, the applicant proposed "Do not block the box" striping (large white 'X' striped onto the pavement, along with new signage) at both points of access to Underhill Farms on Underhill Avenue. We recommend that similar treatment be considered for Cardinal Court.

The intersection of Cardinal Court and Underhill Avenue is a difficult location, due to the proximity to the traffic light at Rt. 118, it would remain difficult if a turning lane is added onto Underhill Avenue that would widen Underhill. Alternative options for improving access to Cardinal Court may include providing a connection from Cardinal Court onto Rt. 118 to the south of Underhill Avenue and converting the intersection of Cardinal/Underhill to right-in/right-out, however this would be a larger and more complex project. For instance, if an opening were provided from the southern end of Cardinal Court onto Route 118, it would be at a sharp angle, and a roughly 10' change in elevation down to Rt 118 would need to be traversed.

**Response:** *The positioning of Cardinal Court is fixed. A potential connection to Route 118 may not be practical since NYSDOT eliminated any connections when that section of Route 118 was constructed. See enclosed NYSDOT Record Plans. This would be a NYSDOT decision. The number of trips associated with Cardinal Court are limited. The plans now include the "Do Not Block the Box" striping, as requested. The proposed improvements are expected to help conditions at Cardinal Court during certain times of the day by reducing some of the queues; however, the left turn movements in and out would still be difficult with or without the improvements. Any other changes, including a connection from Cardinal Court to Route 118, would be subject to Town and NYSDOT approvals.*

### 3.5 Internal Intersection Immediately East of the Lake

The site plan shows a proposed internal street intersection in close proximity to the intersection of the main site access with Underhill Avenue (highlighted in the purple circle in Figure 2).

We recommend consideration of aligning this intersection to be approximately a 90-degree intersection. In addition to avoiding introducing a skewed intersection and potentially reducing impervious coverage, this would also have the additional beneficial effect of moving it further away from the intersection with Underhill Avenue. This would, however, mean reconfiguring the parking spaces on this portion of the site. Alternatively, the main loop roadway which is currently proposed for two-way operation could have one-way operation which would eliminate turning movements from this intersection entirely.

**Response:** *The two-way operation of the circulation road is proposed to provide efficient traffic flow and will not create undue travel distances for vehicles, which would occur with a one-way operation. The alignment of the internal intersection will be adjusted slightly as part of the final site plan to address this comment.*

### 3.6 Possibility of Access onto Rt. 118

Underhill Farms is a corner property, fronting both Underhill Avenue and Rt 118, with the latter under the jurisdiction of NYSDOT. Pursuant to discussions with Yorktown's Planning Department, we understand that NYSDOT has acquired easements that would prevent properties fronting Rt 118 from providing access points onto Rt 118, including Underhill Farms.

An access point onto Rt 118 which could be as far as ~250' (and/or could be right-in/right-out) from the Underhill Avenue intersection appears unlikely to adversely affect the safety or efficiency of

traffic flow on Rt 118 and would help reduce the amount of traffic traveling through the problematic Underhill/118 intersection. Rt 118 in this area is straight and level, with good sight lines in all directions. We recommend that the pros/cons of possible secondary access onto Rt 118 be revisited with NYSDOT, to ascertain whether NYSDOT agrees.

**Response:** *Route 118 is a controlled access highway. The intersections that are currently along this stretch were determined by NYSDOT when the roadway was constructed. Additional points of access are not permitted because of the "without access" designations. See enclosed NYSDOT Record Plans. Any connection to Route 118 would require a break in access to be approved by NYSDOT. In addition to this, it should also be noted that NYSDOT general policy is to limit the number of curb cuts when possible. The proposed improvements at Route 118 and Underhill Avenue would accommodate the traffic and introducing additional vehicular movements on Route 118 would not seem to provide any benefit even if there was no access restriction.*

### 3.7 Provision for Deliveries

We recommend that the provision for deliveries by truck (both to the retail/office/restaurant uses as well as parcel-deliveries to the residences) be clarified. This includes loading locations for both main buildings, anticipated number of truck movements per day, maximum size of delivery vehicles anticipated on-site, and ensuring that this vehicle can navigate the curve on the internal roadway at the northwest corner of the main building (see also section 3.2). It also includes a conceptual description of where the occasional moving truck for residents moving into/out of the apartment and condo buildings will load/unload without unreasonably affecting vehicle and pedestrian circulation.

**Response:** *Based on the limited size of the retail and restaurant space on the site it is anticipated that deliveries will be very limited and utilize smaller delivery vehicles. In addition, office space related deliveries are not anticipated other than typical parcel deliveries, i.e. UPS, FedEx, Amazon, etc. which typically do not require a separate loading space. Based on this it is the Applicant's opinion that loading spaces are not required for the Project.*

Sincerely,

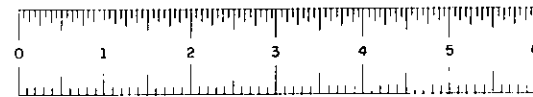
Colliers Engineering & Design CT, P.C.



Philip J. Grealy, Ph.D., P.E.  
Geographic Discipline Leader

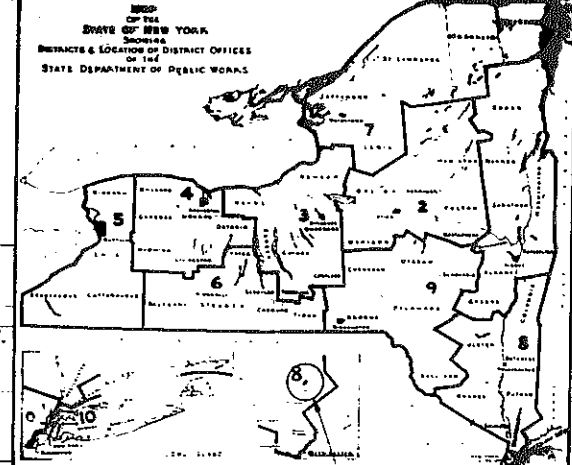
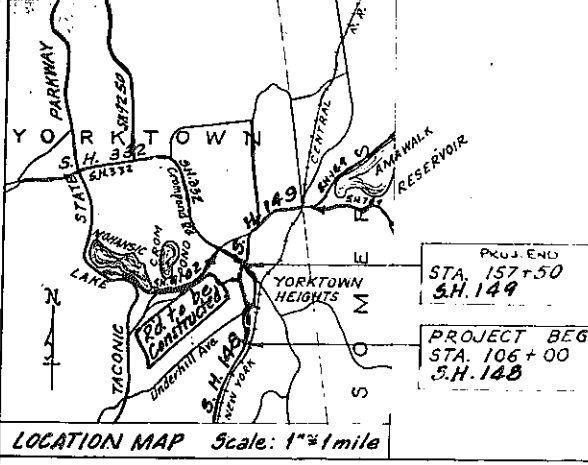


Richard G. D'Andrea, P.E., PTOE  
Asst. Department Manager




F.A.R.C. 58-97

F.A.R.C. 58-97



PROJ. END  
STA. 157+50  
S.H. 149

PROJECT BEG.  
STA. 106+00  
S.H. 148

  
**STATE OF NEW YORK**  
**DEPARTMENT OF PUBLIC WORKS**  
**DIVISION OF CONSTRUCTION**  
 PLANS FOR RECONSTRUCTING WITH FEDERAL AID PORTIONS OF THE  
**PINES BRIDGE - YORKTOWN HEIGHTS, STATE HIGHWAY NO. 148**  
 Between Station 106+00 and Station 137+00, a length of 0.59 mile in the Town of Yorktown  
 AND  
**YORKTOWN HEIGHTS - PUTNAM COUNTY LINE, STATE HIGHWAY NO. 149**  
 Between Station 137+00 and Station 157+50, a length of 0.38 mile in the Town of Yorktown  
**A TOTAL LENGTH OF 0.97 MILES**  
 (SEQUENCE NO. 118-1-9)  
 F.A. PROJECT NO. DS-150(2) CONTRACT No. F.A.R.C. 58-97  
**WESTCHESTER COUNTY**

FED. RD. REG. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.Y.	DS-150(2)		10	10

PINES BRIDGE - YORKTOWN HEIGHTS - S.H. 148  
YORKTOWN HEIGHTS - PUTNAM COUNTY LINE - S.H. 149

**TYPE OF CONSTRUCTION**

Cement Concrete Pavement 0.92 Miles  
Miscellaneous Work 0.05 Miles

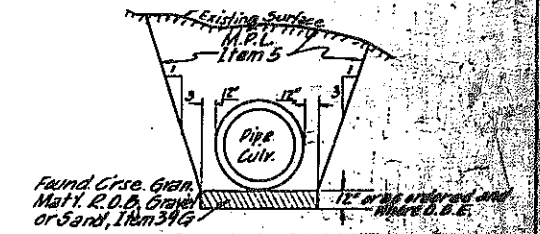
**STANDARD STRUCTURE SHEETS**

46-4, 50-3A, 54-1B, 56-1, 56-6, 56-8, 56-20  
57-7, 57-19, 58-3E, 58-11B, 58-11N, 58-11W  
58-1, 58-17R, 58-48A, 58-48B, 58-48C, 58-48D  
58-45A, 58-45, 58-60, 58-61

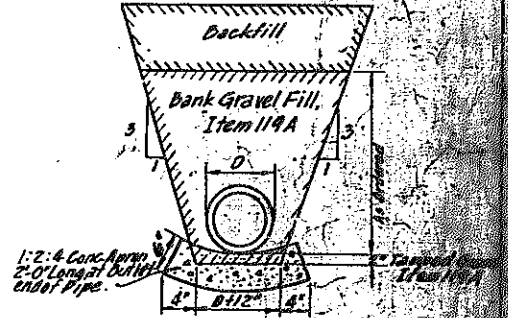
All work contemplated under this contract to be governed by and in conformity with the specifications adopted January 2, 1957, except as modified on Notes placed in the Homized Proposal.

DATE OF CONTRACT Jan 28, 1959	TYPE	MEASURED LENGTH LF	LENGTH IN MILES	THICKNESS OF TOP	WIDTH		50 FT PAVEMENT	CU YDS OF TOP	MATERIALS		
					METAL	ROADWAY			SAND	STONE	CEMENT
DATE OF STARTING Feb 9, 1959	CONCRETE 1-13-3 1/2 MIX	4951	0.94	8"	2A		118,824	3,300	West. M.D.B. NYTRAP	Long-Stear	
DATE OF COMPLETION Feb 9, 1960	ASPHALT CONCRETE	169	0.03	2 1/2"				1796 1025	TEST NO. 59-F-99	TEST NO. 59-F-88	TEST NO. 40-C-226
<b>TOTALS</b>		<b>5116</b>	<b>0.97</b>								

CONTRACTOR  
A.E. OTTAVIANO, INC.  
ENGR. IN CHARGE  
S.R. MCKEE  
DISTRICT ENGINEER  
S. G. ROYER

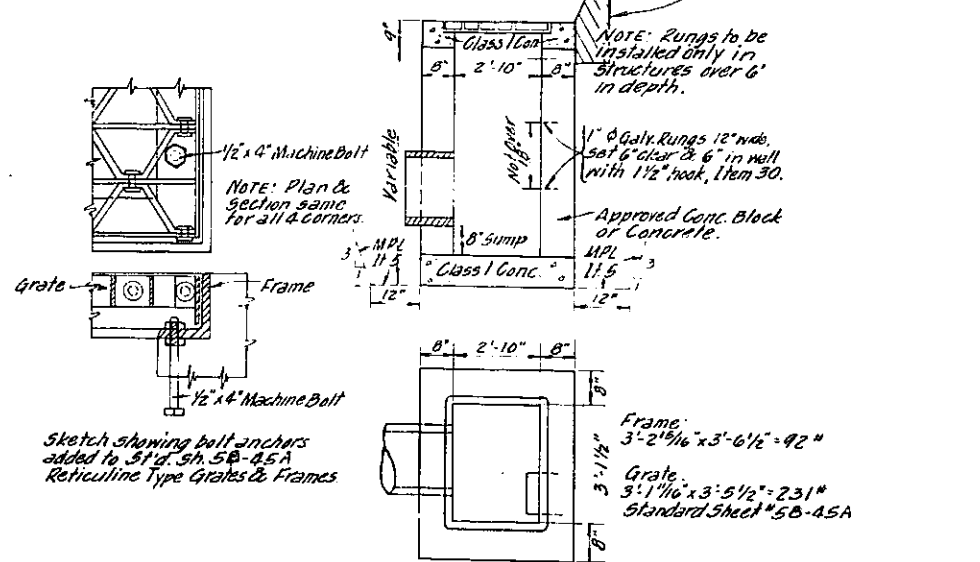


Sketch showing PIPE CULVERT INSTALLATION



Sketch for PIPE UNDERDRAIN ITEM 10R

**"CLASS 5 RURAL (MODIFIED)"**



DROP INLET, ITEM 102 DI (Not in Pavt.)  
or CATCH BASIN TYPE A ITEM 102A (IN Pavt.)

MADE BY original tracings TRACED BY CHECKED BY  
F.S. PUCCIO M. ALTIERI P. CARR

Revised tracings Made by Traced by Checked by  
C.J. Baker Carl Pignatelli Owen & Curtis  
Revised By C.J. Baker  
Baker & Thomas

DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS  
APPROVED  
DIVISION ENGINEER DATE

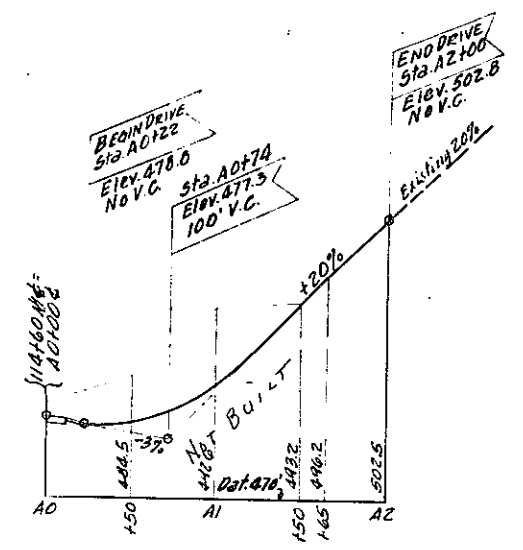
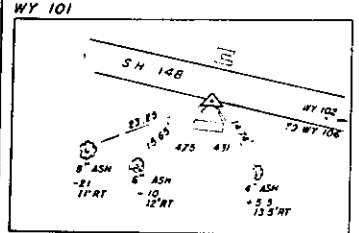
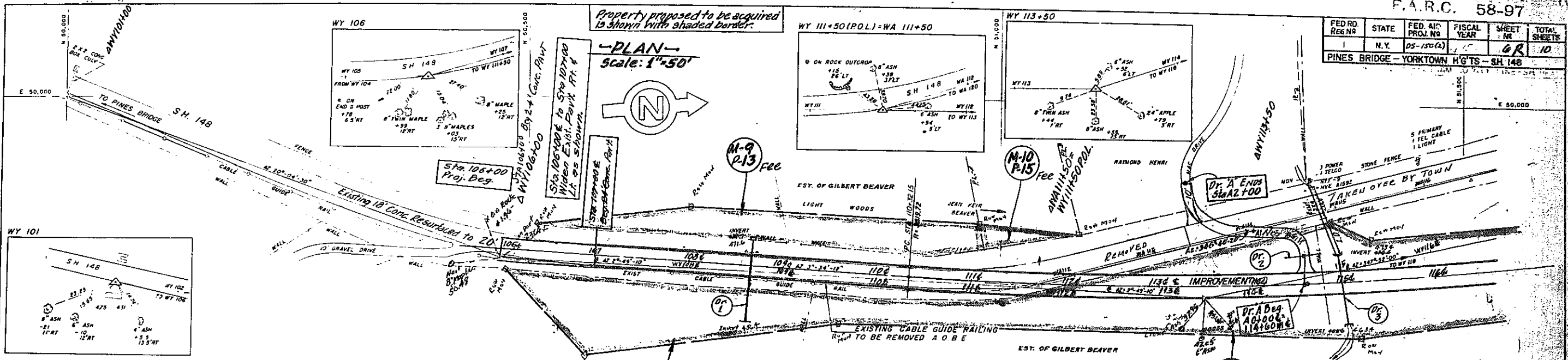
NEW YORK STATE DEPARTMENT OF PUBLIC WORKS  
DIVISION OF CONSTRUCTION  
APPROVED June 30 1959  
THOMAS F. FITZGERALD CHIEF ENGINEER  
APPROVED June 14 1959  
B.A. LEFEVE DEPUTY CHIEF ENGINEER

PREPARED PURSUANT TO HIGHWAY LAW AND REGULATIONS BY



FED. RD. REG. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.Y.	DS-150(2)		GR 10	

PINES BRIDGE - YORKTOWN H'GTS - SH 148

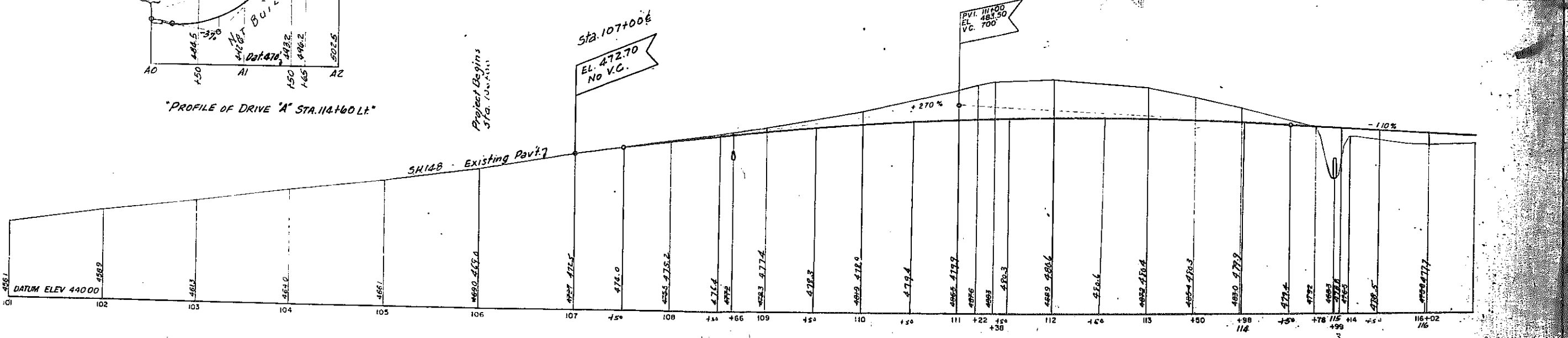
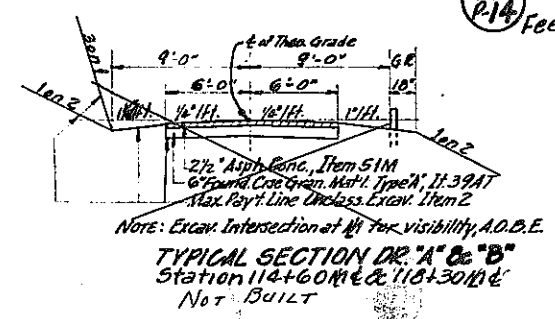


**Dr. 1 Sta. 108+60 & Pres. Curb. 2x2 Conc. Lay 88-24" R.C.C.P. D.I. Lt. (Est. 1 Collar)**

**Sta. 111+30' to Sta. 125+24' Remove Existing Conc. Now. Grade A.O.B.E. & Seed.**

**Dr. 2 Sta. 114+60 Lt. Lay 48-12" C.I.P. Heavy 14 Gauge Ditch King.**

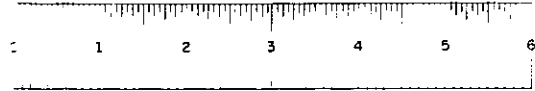
**Sta. 114+60 Lt. Grade Drive as shown on Plan, Profile & Typ. Sect.**



Plan Revised by C.S. Baker Traced by Carl Rizzuto Checked by Queen & Curtis  
Profile C.S. Baker Carl Rizzuto Queen & Curtis

Original Tracings Made by Puccio  
Traced by Verlazzo  
Checked by Calkins

Prepared pursuant to the Highway Law and Regulations by  
W.M. [Signature]  
Engineer, District No. 2  
5/16 1958

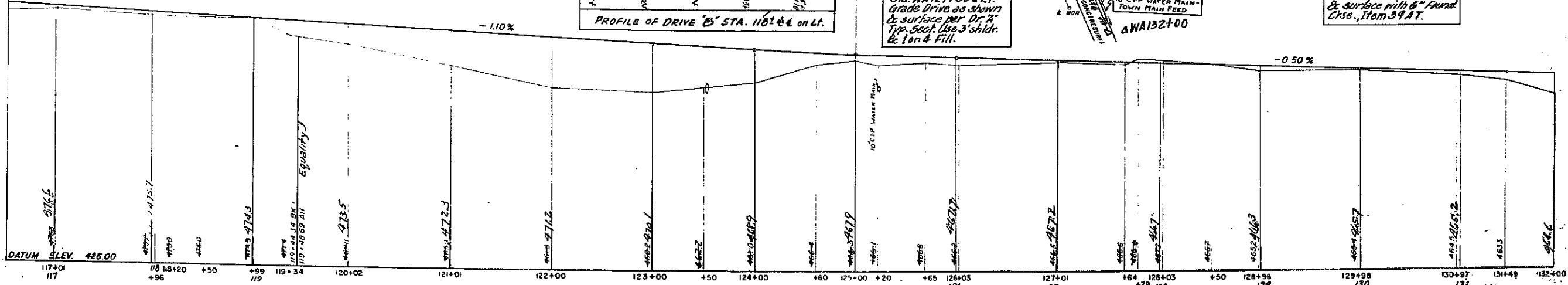
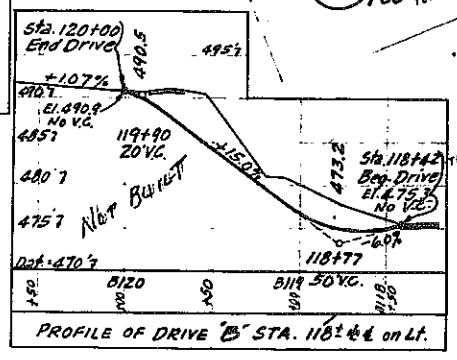
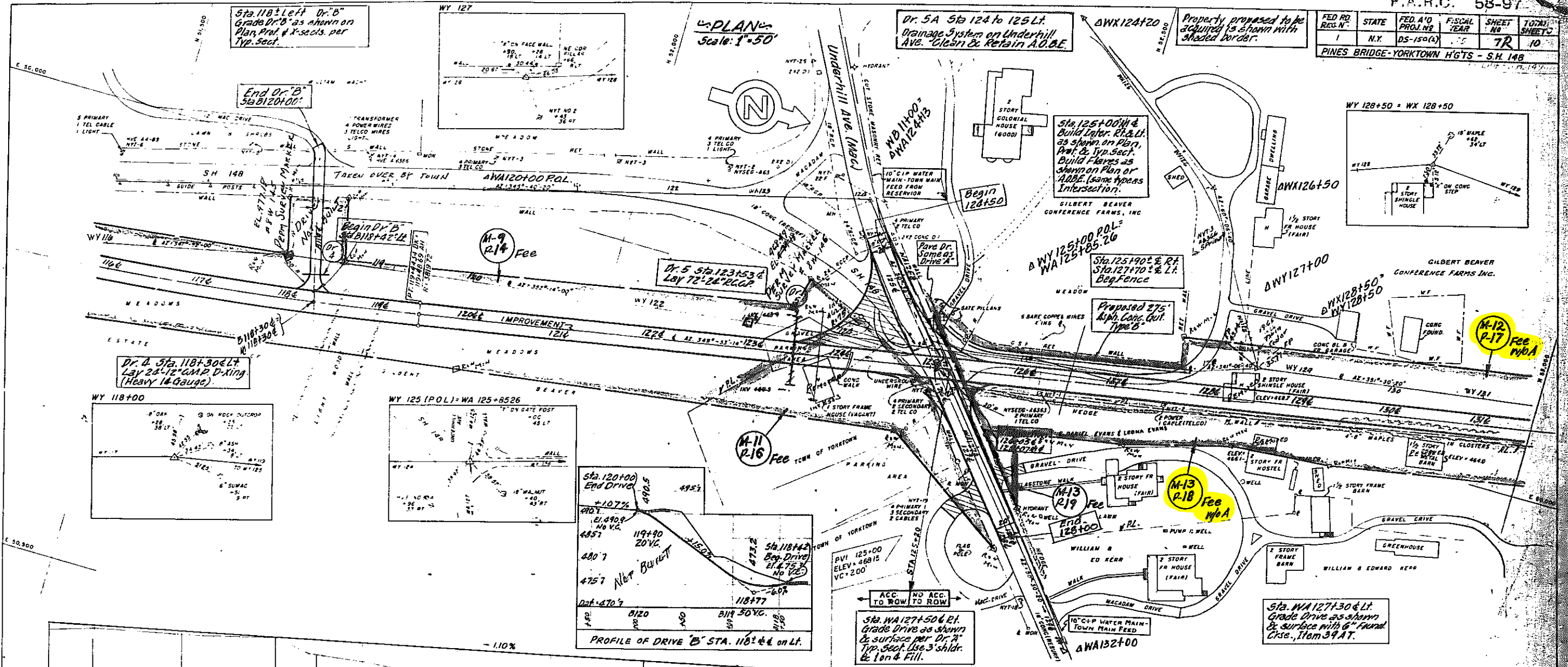


FARC 58-97

F.A.R.C. 58-97

FED. RD. REG. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.Y.	DS-150(A)	55	7R	10

PINES BRIDGE-YORKTOWN HGTS - S.H. 148



Revised by C.J. Baker Traced by Carl Puccio Checked by Queen & Curtis  
 Profile C.J. Baker Carl Puccio Queen & Curtis  
 Original Tracings Made by Puccio Traced by Verlezza Checked by Calkins

Prepared pursuant to the Highway Law and regulations by  
W.M. Puccio  
 Engineer, District No. 1  
 5/6 1955

# Underhill Farm

## Response to Planning Board and Consultant Comments

April 12, 2023

### On-Site Items

1. Internal intersection moved and aligned with stop-sign control, provides an excess of 100 feet of stacking from Underhill Avenue.
2. Parking spaces removed in immediate proximity and reconfigured accordingly.
3. A separate loading area has been provided on the revised site plan. Other areas for loading would be temporary as small deliveries and would be accommodated appropriately.
4. Pedestrian connections between the site and Beaver Ridge, including in the vicinity of the new senior center, provides a continuous sidewalk connection between the developments.
5. The parking on the site is code compliant for the various uses. For the condominium building, within the structure, there is one space per dwelling unit plus 16 of the units would have a second space in this covered area. The site plan also provides other areas for parking for this and other uses.
6. Note that if any of the units are occupied by seniors, published data indicates that the parking requirement tends to be lower for those units.
7. Exterior parking on the site will be available for all uses. There will be no areas specifically designated for specific tenants. These spaces will be available for residents, tenants, and visitors.
8. The new senior center will include 4,000 square feet. Approximately 2,000 square feet will be used by the Parks and Recreation Department with a typical employee count of approximately 5 people. The remaining 2,000 square feet for the senior center use would be available weekdays during daytime hours. Based on this square footage and typical parking requirements, there would be adequate parking available during daytime hours when Underhill Farm residents are either at work or away from the site. It should also be noted that the site plan provides some additional land banked parking, which would not be built at this time; however, if it was determined that additional spaces were needed in the future, a portion or all of these land banked spaces, could be constructed at that time.

## Off-Site Improvements

1. The traffic study had identified various improvements including the primary pedestrian upgrades and reconstruction of the Underhill Avenue/NYS Route 118 intersection to provide separate left turning lanes to alleviate current queuing and operational difficulties. The plan also provides a fully functional traffic signal controlled right turn lane southbound on NYS Route 118. Due to concerns by residents on Cardinal Court, additional striping and signing including “Do Not Block the Box” striping has been added on the Underhill Avenue approach to assist the ability of these residents to exit. Also, note that the traffic signal control and revised geometry will provide an improved control of the southbound right turn movement from NYS Route 118.
2. The New York State Department of Transportation (NYSDOT) has recently attended a meeting with the Town and Applicant representatives to discuss these improvements with the Town and they indicated their support for the idea of advancing the permits for the improvements as conceptually identified. NYSDOT will review under the normal Highway Work Permit process, the design details for the implementation of these improvements.

## Glenrock Street Traffic

1. Traffic counts were collected on Glenrock Street at Underhill Avenue. The trips utilizing this road are typical of the residential area. With the improvements at Underhill Avenue and NYS Route 118, there is not expected to be any significant utilization of Glenrock Street and/or Giordano Drive for access to and from the site.
2. The primary access to the Taconic State Parkway is to and from the south via Underhill Avenue and there is no time savings utilizing Glenrock Street, Giordano Drive, to and from Baldwin Road.

## Funding and Implementation

1. Unicorn will be paying directly for the design plans for the intersection improvements and will oversee the construction process working together with the Town to process the permit with NYSDOT.
2. The Applicant also will provide \$450,000.00 towards the construction with the remaining funds to be outlaid by the Applicant and reimbursed through tax rebates coordinated with the County and tied to the commercial portion of the development.

400 Columbus Avenue  
Suite 180E  
Valhalla New York 10595  
Main: 877 627 3772  
colliersengineering.com



May 2, 2023

Mr. Jason Brenner  
Traffic & Safety Group  
New York State Department of Transportation  
4 Burnett Boulevard  
Poughkeepsie, NY 12603

SEQRA # 22-092 Underhill Farm  
Town of Yorktown, Westchester County, New York  
Colliers Engineering & Design Project No. 20006297A

Dear Mr. Brenner:

The following items are in response to comments contained in your email dated May 1, 2023. The items are numbered according to your review comments.

1. To determine the future cost of the signal the NYSDOT will like to see the cost estimate that your group came up with and compare to our Preliminary Cost Estimating Tool. This tool can be found in Chapter 21 of the HDM, under References. Chapter 21 (ny.gov) Training is also available. PCET Training - Signals - YouTube Additional the NYSDOT would like to know of the cost if the left turn lanes were built on Route 118.

***Response: The turn lanes and traffic signal improvements are being advanced by the Applicant together with the Town. As per the agreement with the Town, the Applicant will be reimbursed for a portion of the cost that they will incur due to the financing and implementation of the intersection the improvements. This reimbursement will be in the form of a tax abatement once the work is completed. This agreement is being finalized with the Town Board.***

***Note, that the future left turn lanes on NYS Route 118 are not part of the currently proposed work for the Route 118/Underhill Avenue intersection. The estimated cost for the same will be included as a separate item in the final cost estimate to be submitted as part of the final Highway Work Permit submission.***

2. The proposed mitigation of the right turn lane off Route 118 and left turn lanes on Underhill Ave. have shown to improve level of service of the intersection. NYSDOT recommends this proposed mitigation to be completed before the full operation of Underhill Farms project. Additionally, the intersection needs to be built so that when a future left turn lanes are constructed on Route 118 that the poles can handle the new weight and do not need to be relocated.

**Response:** *Comment noted. The construction of the separate right turn lane on NYS Route 118 southbound, left turn lanes on the Underhill Avenue approaches, and traffic signal and pedestrian improvements will be completed before full operation of the Underhill Farm development. The positioning of the signal poles and other details will take into account the potential future addition of the left turn lanes on NYS Route 118. The signal pole placement will be designed as part of the final design plans and will be designed to accommodate the additional loadings from any additional overhead signs and/or additional signal heads.*

3. NYSDOT will need to see the written agreement between the Town and Underhill Farms for the cost sharing.

**Response:** *A copy of the written agreement between the Town and Underhill Farm, once it is executed by the Town Board, will be provided to NYSDOT prior to the Highway Work Permit issuance.*

4. Provided the NYSDOT truck turning movements at the intersection of Route 118/Underhill Ave. In particular show the typical deliver truck and fire truck for the site.

**Response:** *The truck turning movements, including fire vehicles and delivery trucks, have been completed and are attached as Sheets TT-1 and TT-2. The final details and any adjustments will be included as part of the final construction drawings. Note that due to the location of the main fire station, it is likely that the responding vehicle to this site will likely occur as a through movement on the Underhill Avenue westbound approach across the intersection.*

5. Regarding the trip generation, since the size of the quality restaurant is smaller than most study areas in the ITE we would like to see the trips based on the number of seats at the restaurant.

**Response:** *Note that in the revised traffic study, at the suggestion of the Planning Board, a larger size restaurant (4,000 s.f.) was also evaluated and the trips can be accommodated by the proposed improvements (see Appendix I of the Revised Traffic Impact Study dated April 20, 2023).*

6. To determine the max number of trips for the site the NYSDOT would prefer the use of peak hour traffic for the residential section of the study.

**Response:** *The traffic analysis contained in the Traffic Impact Study is based on the higher peak hour of generator volumes for both the residential and commercial portions of the project as shown in Table 1A and described in Section III.B of the Traffic Impact Study.*

7. Regarding additional access points along Route 118 for the project site. Currently the Right of Way boundary is designated a fee without access based on our record plans. This means the NYSDOT restricts all access to the state highway from the property acquired from which included pedestrian access. If there is a particular reservation in the map's language it could be different. The ROW Mapping Procedure Manual is a good resource, section 5.16 includes several examples. Below are links to be able to review our record plans and determine if there is additional language.

***Response: Comment noted. The Right-of-Way maps have been reviewed and the NYS Route 118 frontage is "without access" for both vehicles and pedestrians.***

At this time, detailed survey information is being compiled for the intersection and any additional design details will be incorporated as part of the Highway Work Permit more detailed design documents.

Sincerely,

Colliers Engineering & Design CT, P.C.



Philip J. Grealy, Ph.D., P.E.  
Geographic Discipline Leader



Richard G. D'Andrea, P.E., PTOE  
Assistant Department Manager

cc: S. Le Vine, Ph.D., AICP  
J. Tegeger, RA

## Philip Grealy

---

**From:** Brenner, Jason (DOT) <Jason.Brenner@dot.ny.gov>  
**Sent:** Monday, May 1, 2023 10:57 AM  
**To:** Richard D'Andrea  
**Cc:** Philip Grealy; Darelius, Anne D (DOT); Gorney, Lance (DOT); Scott Le Vine  
**Subject:** RE: SEQR 22-092 - Underhill Farm

This message originated from outside your organization

---

Richard,

NYSDOT has reviewed the updated TIS and Synchro models for the Underhill Farms project.

1. To determine the future cost of the signal the NYSDOT will like to see the cost estimate that your group came up with and compare to our Preliminary Cost Estimating Tool. This tool can be found in Chapter 21 of the HDM, under References. [Chapter 21 \(ny.gov\)](#) Training is also available. [PCET Training - Signals - YouTube](#) Additional the NYSDOT would like to know of the cost if the left turn lanes were built on Route 118.
2. The proposed mitigation of the right turn lane off Route 118 and left turn lanes on Underhill Ave. have shown to improve level of service of the intersection. NYSDOT recommends this proposed mitigation to be completed before the full operation of Underhill Farms project. Additionally the intersection needs to be built so that when a future left turn lanes are constructed on Route 118 that the poles can handle the new weight and do not need to be relocated.
3. NYSDOT will need to see the written agreement between the Town and Underhill Farms for the cost sharing.
4. Provided the NYSDOT truck turning movements at the intersection of Route 118/Underhill Ave. In particular show the typical deliver truck and fire truck for the site.
5. Regarding the trip generation, since the size of the quality restaurant is smaller than most study areas in the ITE we would like to see the trips based on the number of seats at the restaurant.
6. To determine the max number of trips for the site the NYSDOT would prefer the use of peak hour traffic for the residential section of the study.
7. Regarding additional access points along Route 118 for the project site. Currently the Right of Way boundary is designated a fee without access based on our record plans. This means the NYSDOT restricts all access to the state highway from the property acquired from which included pedestrian access. If there is a particular reservation in the map's language it could be different. The ROW Mapping Procedure Manual is a good resource, section 5.16 includes several examples. Below are links to be able to review our record plans and determine if there is additional language.

Record Plans can be accessed at <https://www.dot.ny.gov/main/recordplans> . There are several training videos to watch on how to navigate the site.

There is also a ROW Public Access site at <https://www.dot.ny.gov/main/ROWAcquisitionMaps> . These are listed by County and SH #.

**Jason Brenner**

Assistant Engineer  
New York State Department of Transportation, Hudson Valley







## Memorandum

To: John Tegeder, Director of Planning

Cc: Paul F. Guillaro  
Michael Guillaro

From: Philip J. Grealy, Ph.D., P.E.  
Richard D'Andrea, P.E., PTOE

Date: May 4, 2023

Subject: Underhill Farm Redevelopment

Project No.: 20006297A

---

As summarized in the original Traffic Impact Study prepared for the Project dated April 11, 2022, certain improvements were initially identified in order to mitigate any potential traffic impacts associated with the Underhill Farm Project. These included pedestrian improvements along Underhill Avenue in the vicinity of the Project site access, traffic signal upgrades at the NYS Route 118/Underhill Avenue intersection to improve the efficiency of the signal operation and sight distance improvements along Underhill Avenue. The total cost for these items was estimated to be approximately \$175,468. In addition, the Applicant committed to provide a \$450,000 contribution towards future intersection improvements at the NYS Route 118/ Underhill Avenue intersection to be completed by the Town of Yorktown. The resulting total contribution by the Applicant was proposed to be **\$625,468** as summarized on the attached Original Traffic Mitigation Plan summary dated April 14, 2022, attached.

As a result of review and comments from the public, the Town of Yorktown Planning Department, Planning Board, Town Board and Police Department, as well as the Town Traffic Consultant and the New York State Department of Transportation (NSDOT) and as discussed at the April 10<sup>th</sup> and 12<sup>th</sup>, 2023 Planning Board meetings, it is now proposed that the Underhill Farm project will advance the improvements to the intersection of Underhill Avenue and NYS Route 118. The improvements will include the construction of separate left turn lanes on the Underhill Avenue approaches, a full traffic signal controlled southbound right turn lane on NYS Route 118, traffic signal replacement with new video detection, installation of additional signal-controlled pedestrian crossings and upgrades to the existing pedestrian signals, as well as construction of new sidewalk segments with ADA compliant ramps. These improvements are detailed on the Alternate 1 Plan attached and will be completed by the Applicant in coordination with the Town. It should be noted that the proposed pedestrian improvements at the Underhill Avenue/NYS Route 118 intersection will provide fully signal controlled pedestrian crossings of all four intersection approaches and therefore the previously proposed pedestrian crossing of Underhill Avenue at the easterly site driveway location is no longer needed and has been removed for the plans.

The total intersection improvement cost, including all construction and implementation costs is estimated to be approximately **\$1,238,000**. This includes approximately \$177,900 of work to be completed by the Applicant to facilitate the intersection improvements, reconstruction of a portion of the retaining wall along Underhill Avenue, new stairs and pedestrian plaza as well as Land Dedication to the Town of Yorktown to accommodate the proposed widening of Underhill Avenue. See the attached Unreimbursed Developer Work summary for a detailed breakdown of the Applicants cost for these items.

Together with the previously proposed \$450,000 contribution towards the NYS Route 118/Underhill Avenue intersection improvements, the total Applicant contribution will be approximately **\$627,900**. The Applicant will then fund the remaining approximately **\$610,000** for completion of the NYS Route 118/Underhill Avenue intersection improvements which will be reimbursed to the Applicant through a tax abatement agreement with the Town. This is further summarized on the attached New Traffic Mitigation Plan summary dated April 21, 2023.

The intersection improvements will be completed prior to issuance of a final Certificate of Occupancy for the project and will not only offset the traffic increases from the Underhill Farm project but will also improve overall conditions at the intersection, specifically during the PM Peak Hour, by reducing the long delays and associated queues experienced on the Underhill Avenue eastbound approach. These delays, which are expected to increase to well over 65 seconds delay in the future without the Underhill project traffic would be reduced to less than 20 seconds with the Underhill project traffic and the completed improvements.

# Original Traffic Mitigation Plan

April 14, 2022

All work required to mitigate impact of Underhill Farms Traffic (See E-I Approved)	\$175,468.00
Developer contribution to future Rt 118 / Underhill Road improvements	<u>\$450,000.00</u>
Total Developer contribution	\$625,468.00

# New Traffic Mitigation Plan

April 21, 2023

Total costs by Town consultant includes 20% contingency		\$1,238,067.69
Total deduct for work by Developer	\$177,918.88	
Developer contribution	<u>\$450,000.00</u> \$627,918.88	<u>(\$627,918.88)</u>
Additional funding by Developer to be reimbursed with future tax abatements		\$610,148.81
3-Year Tax Abatement on Commercial Section Only		\$854,723.00

### Unreimbursed Developer Work

Retaining Wall	\$	69,960.00
Unclass. Material	\$	55,936.50
Stairs	\$	11,200.00
Subtotal	\$	137,096.50
20% Contingency	\$	27,419.30
Subtotal	\$	164,515.80
Land contribution	\$	13,403.08
Total	\$	177,918.88





APR 11 2023

TOWN OF YORKTOWN

**From:** Scott Le Vine <[scott.levine@transpogroup.com](mailto:scott.levine@transpogroup.com)>  
**Sent:** Tuesday, April 11, 2023 2:38 PM  
**To:** Robyn Steinberg <[rsteinberg@yorktownny.org](mailto:rsteinberg@yorktownny.org)>; John Tegeder <[jtegeder@yorktownny.org](mailto:jtegeder@yorktownny.org)>  
**Subject:** Glenrock Street/Underhill Farms

**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Robyn/John –

Chairman Fon asked at last night's PB meeting about the potential for cut-through traffic to use Glenrock Street; I said I hadn't studied it, would do so and get back with thoughts.

Glenrock Street is narrow and is identified in the Town's Comprehensive Plan as a local street, intended to primarily provide access to residences (i.e. not a "collector" or higher street-type, which are designed to carry more traffic). However, like many places in Yorktown, the street network developed piecemeal over time and in some circumstances local streets can be attractive for drivers seeking a shortcut.

In looking at the local street network, it looks to me that the concern is likely to be travel between the vicinity of UH Farms and points on Route 202 to the north (beyond the Police Station). When I asked Google Maps to route between the UH farms site and the Police Station now (midday), it shows a travel time of 4 mins via 118/202 and 5 mins via the alternate of Glenrock/Giordano/Baldwin. When I asked it to do the same at 5:00 PM this afternoon, when the main roads are busier, it shows "4-6 mins" on 118/202 and 6 mins on the "back roads". The travel times from points north on the Taconic using Baldwin/Mohansic/Glenrock rather than the Route 202 or Underhill Ave exits are also competitive, so I can understand the residents' concern.

However, I also just queried "Replica" data ([www.replicahq.com](http://www.replicahq.com)), which provides an estimate of the amount of traffic using each street. Replica estimates that 214 vehicles/day drive on Glenrock immediately north of Underhill Ave. Replica also provides an estimate of where this traffic is coming from and destined to, and is not showing any current use of Glenrock as a cut-through (see Slide #3 in the attachment) for traffic to/from Route 202 or the Taconic. The data are small-sample (because Glenrock is a local street), but this is not indicative of a current problem on Glenrock.

The question then becomes whether Underhill Farms would lead to cut-through traffic destined to/from the residences or commercial portions of Underhill Farms. I don't believe it would, for two reasons.

First, there doesn't appear to be existing cut-through traffic using Glenrock to/from the residences on Rochambeau Drive, which is situated similarly to Underhill Farms, or from say Town Hall or the new CareMount development on the opposite side of 118.

Second, assuming that the additional turn lanes contemplated for the Underhill/118 intersection are in place when Underhill Farms comes into use, the net effect will be to reduce delays at this intersection, which would tend to reduce the attractiveness of leaving the main road network to use local streets as a cut-through.




For these reasons, my view based on the available data is that the Underhill Farms project is unlikely to lead to Glenrock being used as a cut-through. If there are other aspects of this issue that you'd like me to consider, please let me know.

However, there is precedent in Yorktown for local streets to have treatments to discourage cut-through traffic, and I would have no objections to treatments such as 1-2 speed humps on Glenrock/Giordano. I believe the process would start with the residents of this neighborhood formally petitioning the Town, and I think you're able to share with them the process for doing that. I see no harm in further discouraging cut-through traffic from using Glenrock, and it is a question for the neighborhood's residents whether they are OK with navigating speed humps on their local street. The Police Department or Highway Superintendent may be able to perform a count of current traffic volumes/speeds on Glenrock, if it is thought that the Replica data don't match current traffic conditions on Glenrock.

I'm happy to discuss if it'd be helpful to talk through the attached slides, and to clarify if any questions/concerns – thank you--

--Scott

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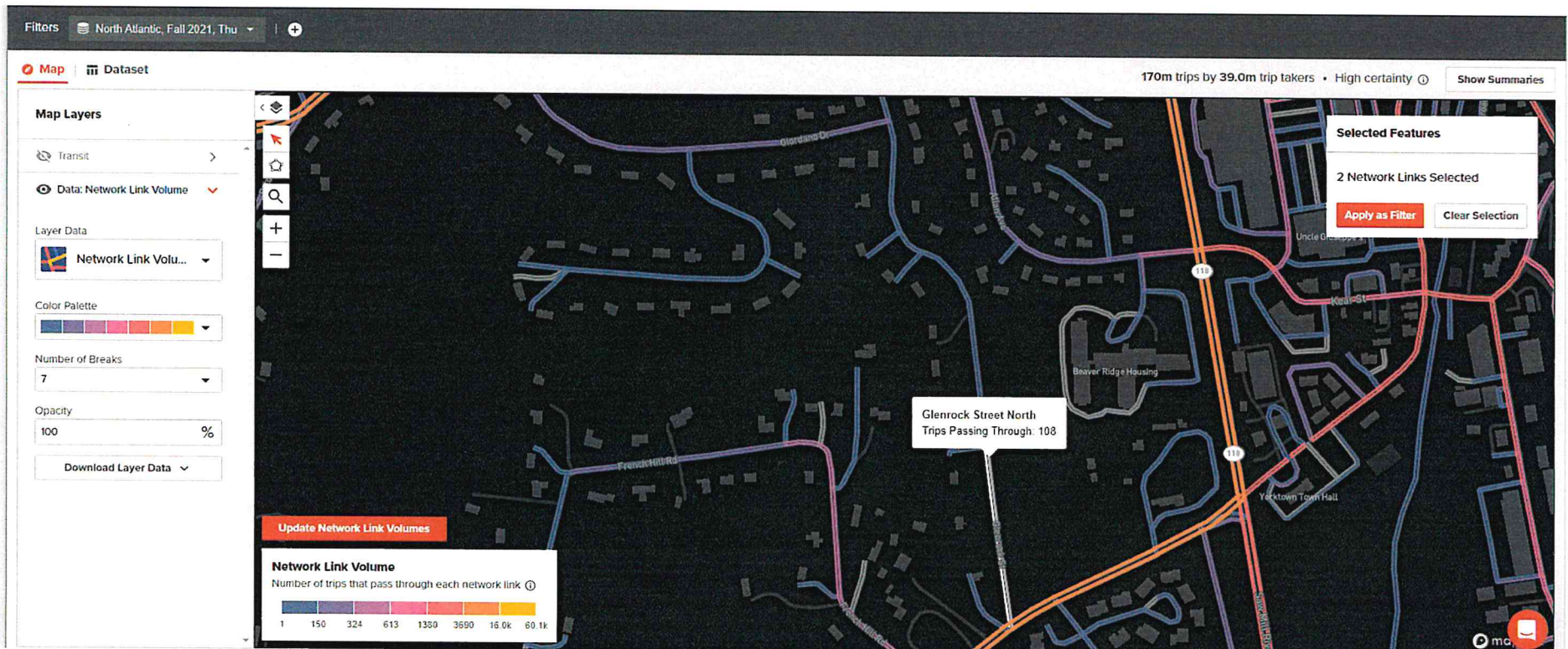
 [scott.levine@transpogroup.com](mailto:scott.levine@transpogroup.com)

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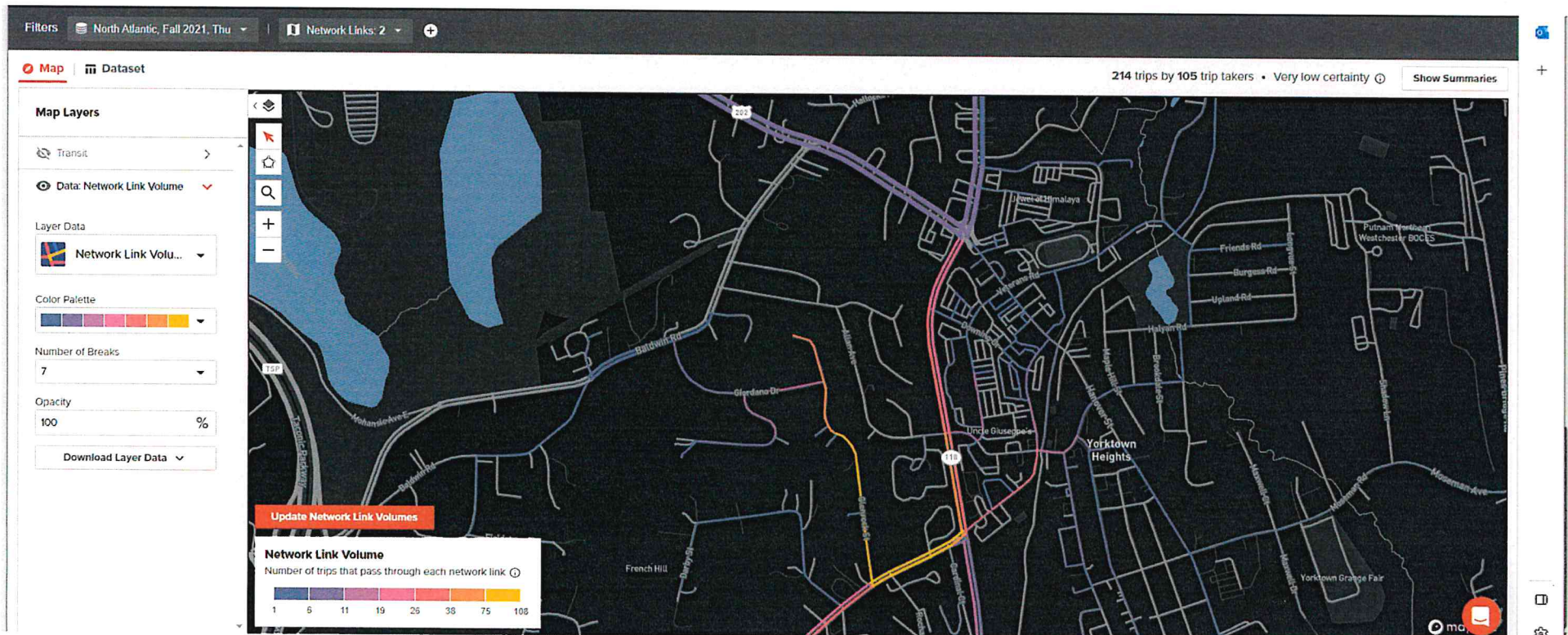
# Replica data showing 108 vehicles/day on Glenrock southbound



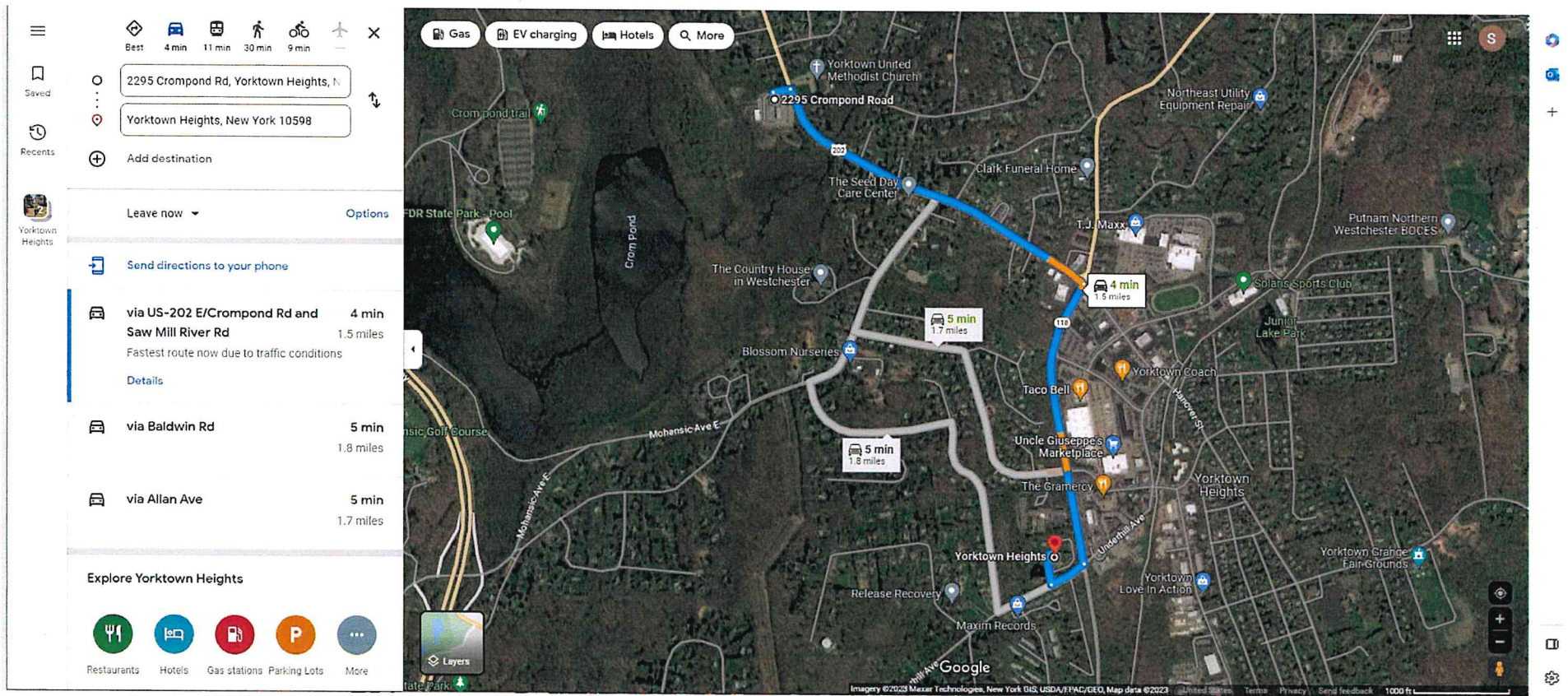
# Replica data showing 106 vehicles/day on Glenrock northbound



“Spider” diagram of Replica data showing other roads used by traffic using Glenrock. No cut-through traffic to/from Route 202 or Taconic is identified



# Google Maps showing estimated travel time from Police Station to UH Farms site at midday



# Google Maps showing estimated travel time from Police Station to UH Farms site at 5:00 PM

The screenshot displays Google Maps with a route from 2295 Crompond Rd, Yorktown Heights, NY to Yorktown Heights, NY. The route is highlighted in blue and orange, with an estimated travel time of 4-6 minutes. The map shows various landmarks and businesses in the area, including Yorktown United Methodist Church, Freyer's Florist and Greenhouses, Clark Funeral Home, T.J. Maxx, Himalaya, Solans Sports Club, Junior Lake Park, Starbucks, Yorktown Coach, Taco Bell, Uncle Giuseppe's Marketplace, The Gramercy, Yorktown Heights, Yorktown Love In Action, St. Patrick's Church, Yorktown Grange Fair Grounds, and Yorktown United Methodist Church. The map also shows the location of the Police Station and UH Farms site.

**Route Options:**

Route	Typical Travel Time	Distance
via US-202 E/Crompond Rd and Saw Mill River Rd	typically 4-6 min	1.5 miles
via Baldwin Rd	typically 6 min	1.8 miles
via Allan Ave	typically 6 min	1.7 miles

**Depart at:** 5:00 PM, Tue, Apr 11

**Explore Yorktown Heights:** Restaurants, Hotels, Gas stations, Parking Lots, More