Traffic Impact Study

April 26, 2022

577 Route 208 LLC
Village of South Blooming Grove
Orange County, New York

Prepared for:

Classic Tile
495 Route 208
Monroe, NY 10950

Prepared by:

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Project No. 21006899A

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Appendices

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 office development ("the Project"), which is planned to be developed on the property located at 577 NYS Route 208 in the Village of South Blooming Grove, Orange County, New York. The site is proposed to consist of 3 buildings (1 existing). The new buildings will include approximately 73,920 square feet of office space and approximately 17,250 square feet of warehouse space. As shown on Figure No. 1, access to the development is proposed via a new access connection at the northerly end of the site from NYS Route 208 with the existing access to be closed.

A Design Year of 2025 has been utilized in completing the traffic analysis in order to evaluate future traffic conditions associated with this proposed development.

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. These data were also compared to count data obtained from the New York State Department of Transportation (NYSDOT). Together these data were utilized to establish the Year 2022 Existing Traffic Volumes representing existing traffic conditions in the vicinity of the site.

The Year 2022 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 Year 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-C for further discussion). The resulting site generated traffic volumes were then added to the roadway system and combined with the Year 2025 No-Build Traffic Volumes resulting in the Year 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 warehouse development will be accessed from NYS Route 208. 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. NYS Route 208

NYS Route 208 is a major north/south roadway that runs throughout Orange County. The roadway originates at a "T" type signalized intersection with NYS Route 17M in the Village of Monroe and continues in a northeasterly direction having an interchange connection with NYS Route 17. It continues northward and intersects with several area roadways, including Museum Village Road and Mountain Road and continues north into the Village of Washingtonville. NYS Route 208 generally consists of one lane in each direction with a double yellow center line and white edge line with narrow paved shoulders. In the immediate vicinity of the site, NYS Route 208 has a posted speed limit of 45 MPH.

2. Mountain Road (CR 44)

Mountain Road (CR 44) is a two-lane County road (CR 44) that originates at a "T" type intersection with NYS Route 208 and traverses generally eastbound providing access to the Village of Kiryas Joel and surrounding communities. The roadway consists of a double yellow centerline and white edge line with narrow paved shoulders. Mountain Road has a posted speed limit of 40 MPH. It should be noted that Mountain Road east of NYS Route 208 has a fairly steep grade approaching NYS Route 208.

B. 2022 Existing Traffic Volumes

(Figures No. 2 and 3)

Manual traffic counts were collected by representatives of Colliers Engineering & Design CT, P.C. on Tuesday, March 29, 2022 for the AM and PM Peak Hours to determine the existing traffic 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 208 corridor. Based on this information, the Year 2022 Existing Traffic Volumes were established for the Weekday Peak AM and Weekday Peak PM Hours at the following study area intersections.

- NYS Route 208 and Mountain Road (CR 44)
- NYS Route 208 and Existing Site Driveway

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 2022 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, Appendix E)

Accident data for the area roadways was requested from NYSDOT for the latest five-year period. Once received, the data will be summarized according to type, severity, and contributing factors and will be contained in Table A, Appendix "E".

III. Evaluation of Future Traffic Conditions

A. 2025 No-Build Traffic Volumes

(Figure No. 4 through 9)

The Year 2022 Existing Traffic Volumes were increased by a growth factor of 0.5% per year to account for general background growth resulting in the Year 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 potential or planned developments in the area were estimated including:

- Clovewood
- Mixed-Use South Blooming Grove
- Bald Hill Estates
- 815 Route 208 Development
- Smith Farms (Monroe)
- Monroe Professional Square, LLC
- Kiryas Joel Annexation
- Ara Bagels
- Stonegate Drive
- SBG Mixed-Use (Chess Builders)

The resulting traffic volumes associated with these other developments are shown on Figures No. 6 and 7 for each of the Peak Hours. These volumes were added to the 2025 Projected Traffic Volumes resulting in the Year 2025 No-Build Traffic Volumes, which are shown on Figures No. 8 and 9 for the Weekday AM and PM Peak Hours, respectively.

B. Site Generated Traffic Volumes

(Table No. 1)

Estimates of the amount of traffic to be generated by the proposed office 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 Categories – 710 – Office and 712 – Small Office. Table No. 1 summarizes the trip generation rates and corresponding site generated traffic volumes for the Weekday Peak AM and Weekday Peak PM Hours.

C. Arrival/Departure Distribution

(Figures No. 10 and 11)

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. The anticipated arrival and departure distributions are shown on Figures No. 10 and 11, respectively.

D. 2025 Build Conditions Traffic Volumes

(Figures No. 12 through 15)

The site generated traffic volumes were assigned to the roadway network based on the arrival and departure distributions referenced above. The resulting site generated traffic volumes for each of the study area intersections are shown on Figures No. 12 and 13 for each of the peak hours, respectively. The site generated traffic volumes were then added to the Year 2025 No-Build Traffic Volumes to obtain the Year 2025 Build Traffic Volumes. The resulting Year 2025 Build Traffic Volumes are shown on Figures No. 14 and 15 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)

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 summarizes the results of the capacity analysis for the 2022 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. **NYS Route 208 and Mountain Road (CR 44)**

   NYS Route 208 and Mountain Road (CR 44) intersect at an unsignalized "T" type intersection. All approaches to the intersection consist of one lane in each direction and is stop-sign controlled.

   Capacity analysis was conducted for this intersection utilizing the 2022 Existing Traffic Volumes. The analysis results indicate that the left turn from Mountain Road at the intersection is currently operating at a Level of Service "F" during the AM and PM Peak Hours. Additionally, left turn movements to and from NYS Route 208 onto Mountain Road are difficult during peak hours due to the significant through traffic volumes on NYS Route 208, which leads to vehicular conflicts and significantly impacts the operation of this intersection.

   Based upon a review of the traffic volumes for the Existing and No-Build conditions, due to the heavy through volumes along the corridor, the provision of a separate left turn lane on NYS Route 208 and a two-lane exit on the Mountain Road approach at this intersection are warranted based on NYSDOT design criteria. It should also be noted that NYSDOT, at the request of the Village, is currently evaluating the need for signalization or other improvements at this location.

   The capacity analysis was recomputed using the 2025 No-Build and Build Traffic volumes including signalization and turn lane improvements on all approaches. These results indicate that the intersection is expected to experience overall Levels of Service "C" or better during the AM and PM Peak Hours under future conditions. The results are shown in the Level of Service Summary Tables contained in Appendix "B".

2. **NYS Route 208 and Site Driveway**

   NYS Route 208 and the Site Driveway intersect at an uncontrolled "T" type intersection. All approaches consist of a single lane. This intersection currently operates as a right-turn-in/right-turn-out access.

   Capacity analysis was conducted for this intersection utilizing the 2022 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "C" during the AM and an overall "E" during the PM Peak Hours.

The capacity analysis was recomputed using the 2025 No-Build Traffic volumes. These results indicate that the intersection is expected to experience Levels of Service "D" during the AM Peak Hour and a Level of Service "F" during the PM Peak Hour.

Under the 2025 Build condition, the existing driveway will be closed, and a new driveway will be constructed at the northerly end of the site. A Level of Service "E" will be experienced during the AM Peak Hour and the PM Peak Hour will continue to operate at a Level of Service "F".

Based on a review of the future traffic volumes at this location, the provision of a separate left turn lane is warranted at this location primarily due to the significant through traffic along NYS Route 208. As part of the NYSDOT Highway Work Permit process, the separate left turn lane should be incorporated into the plans and should include a land dedication along the site frontage for this, as well as to accommodate additional improvements in the corridor. It should also be noted that with the provision of already planned signalization of the intersection of NYS Route 208 and Mountain Road, the driveway operation will also benefit from the increased gaps in traffic that are created as a result of the traffic signal.

IV. Summary and Conclusion

Based on the above analysis, similar Levels of Service and delays will be experienced at the area intersections under the future No-Build and future Build Conditions. Based on the significant through traffic along NYS Route 208, access related improvements including provision of a separate left turn lane on NYS Route 208 will be required. With this improvement and the NYSDOT planned signalization improvements at the NYS Route 208/Mountain Road intersection, the proposed office development traffic is not expected to cause any significant impact in overall operation.

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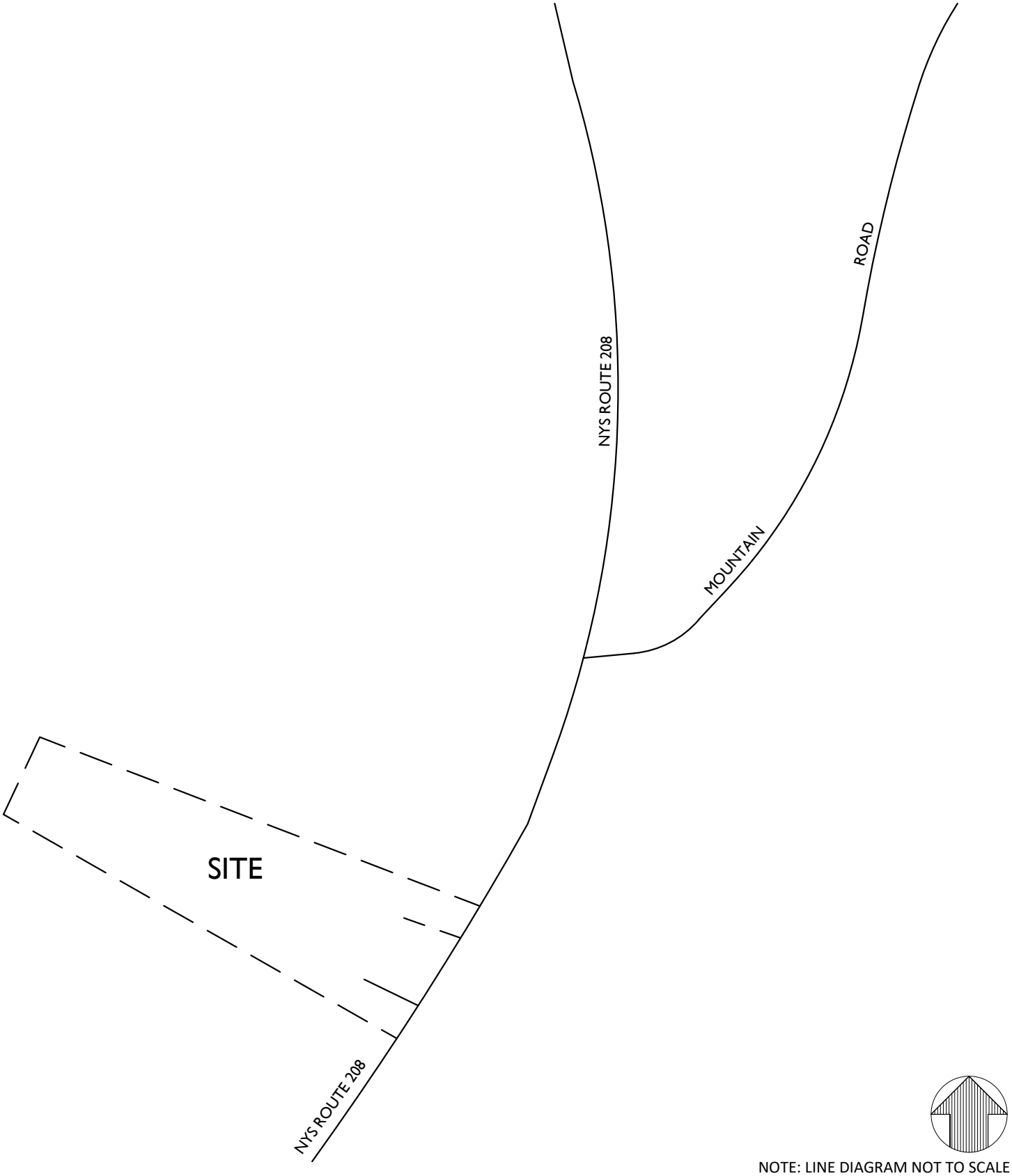
Appendix A | Traffic Figures



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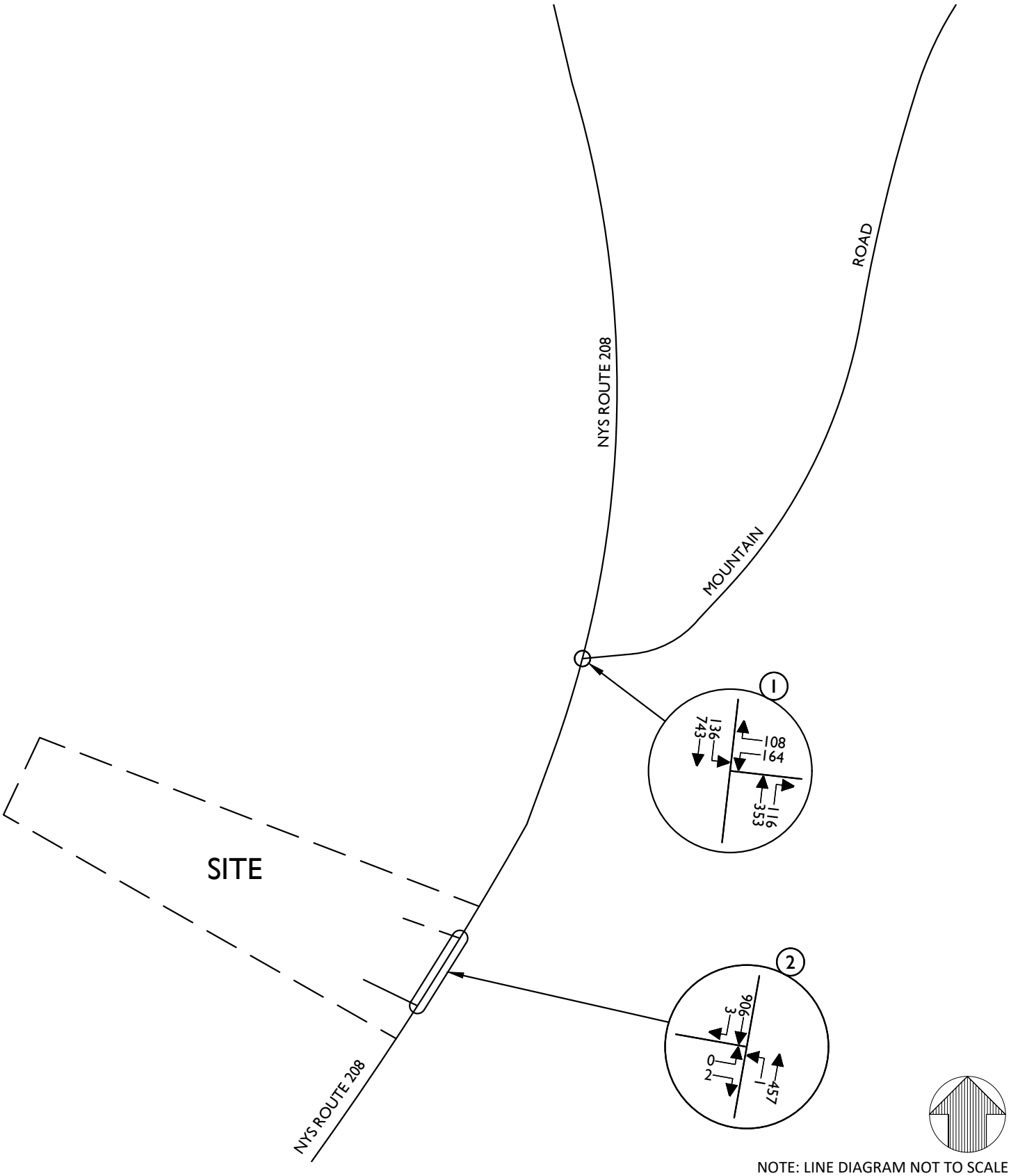

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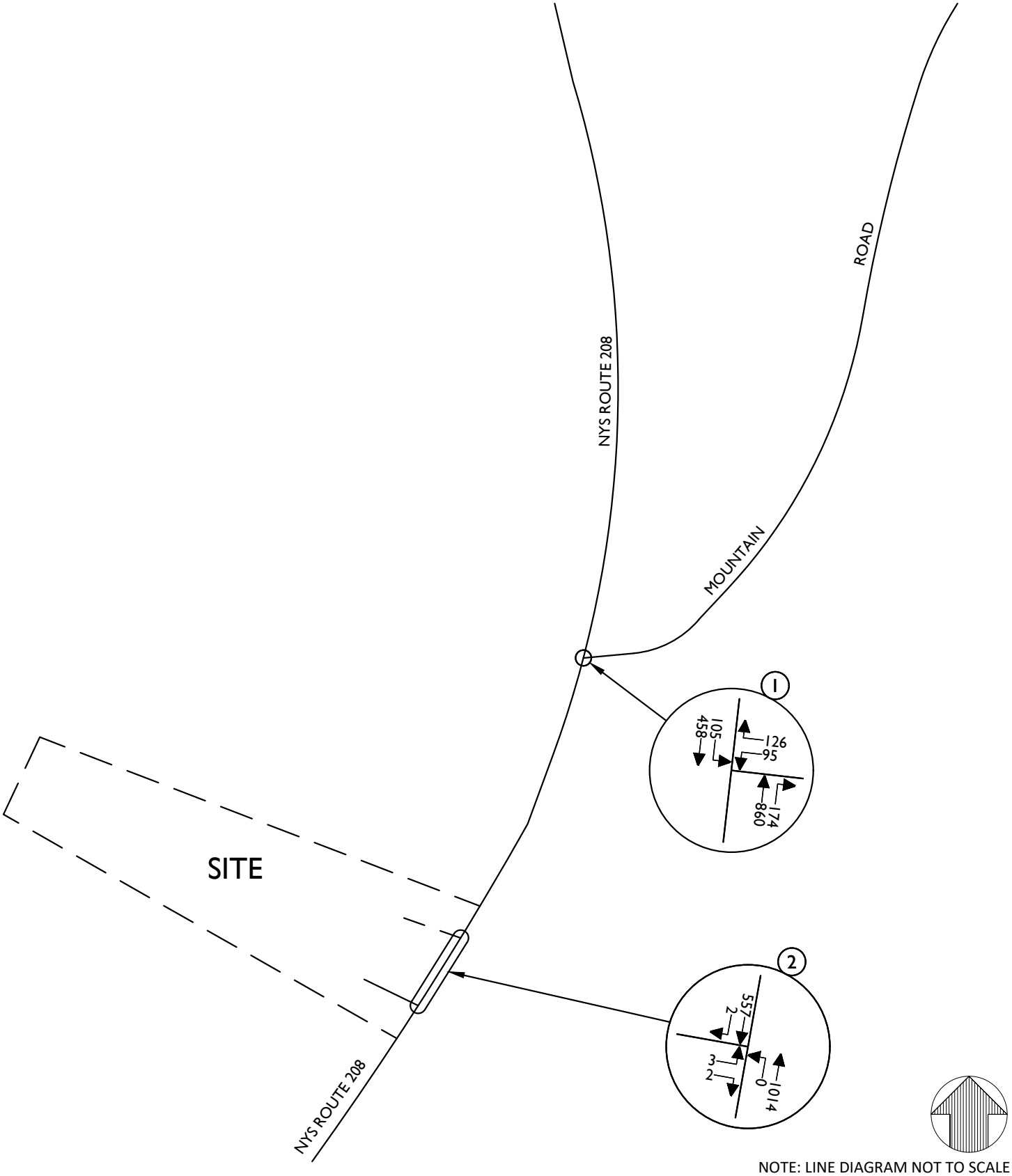

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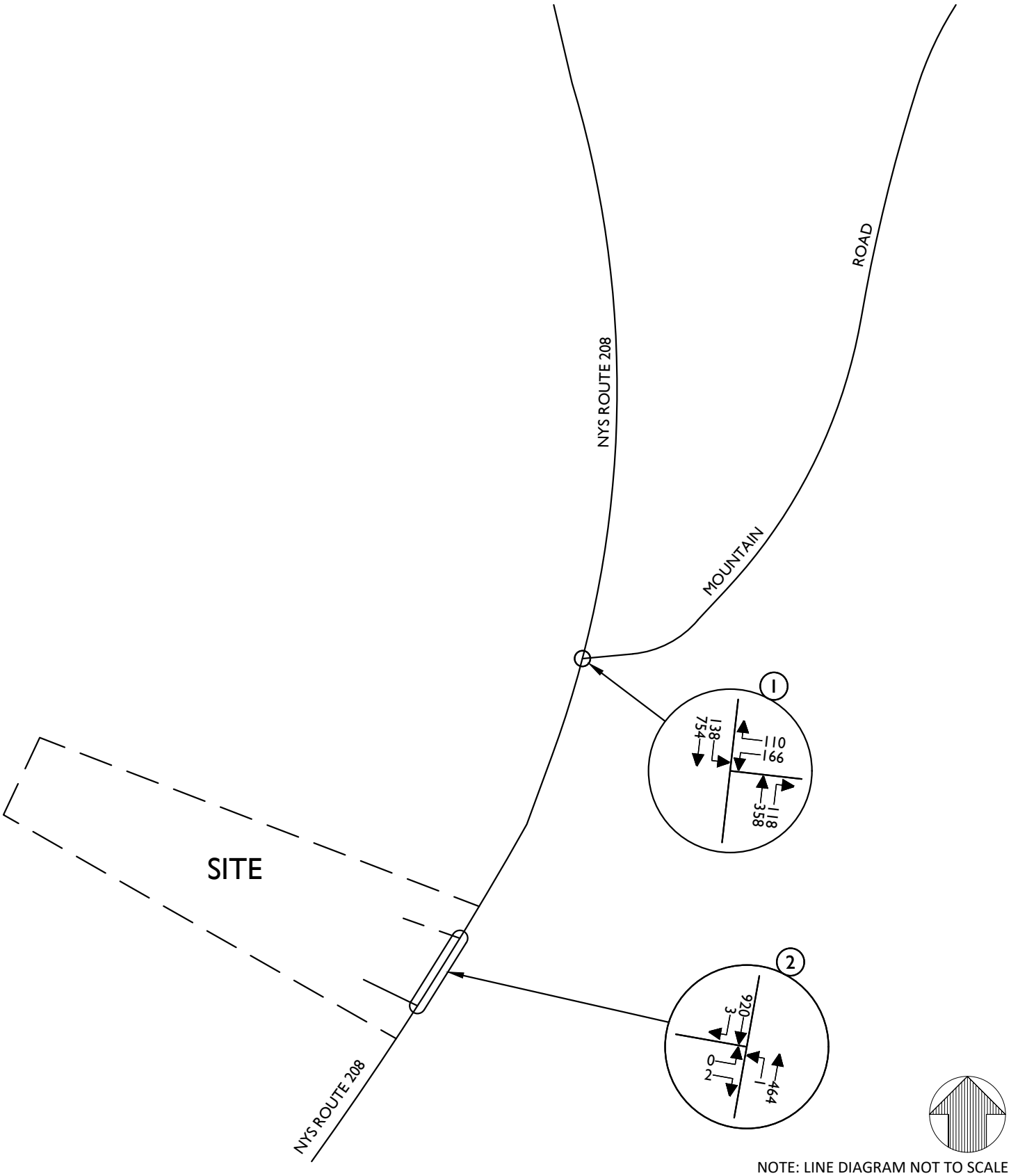

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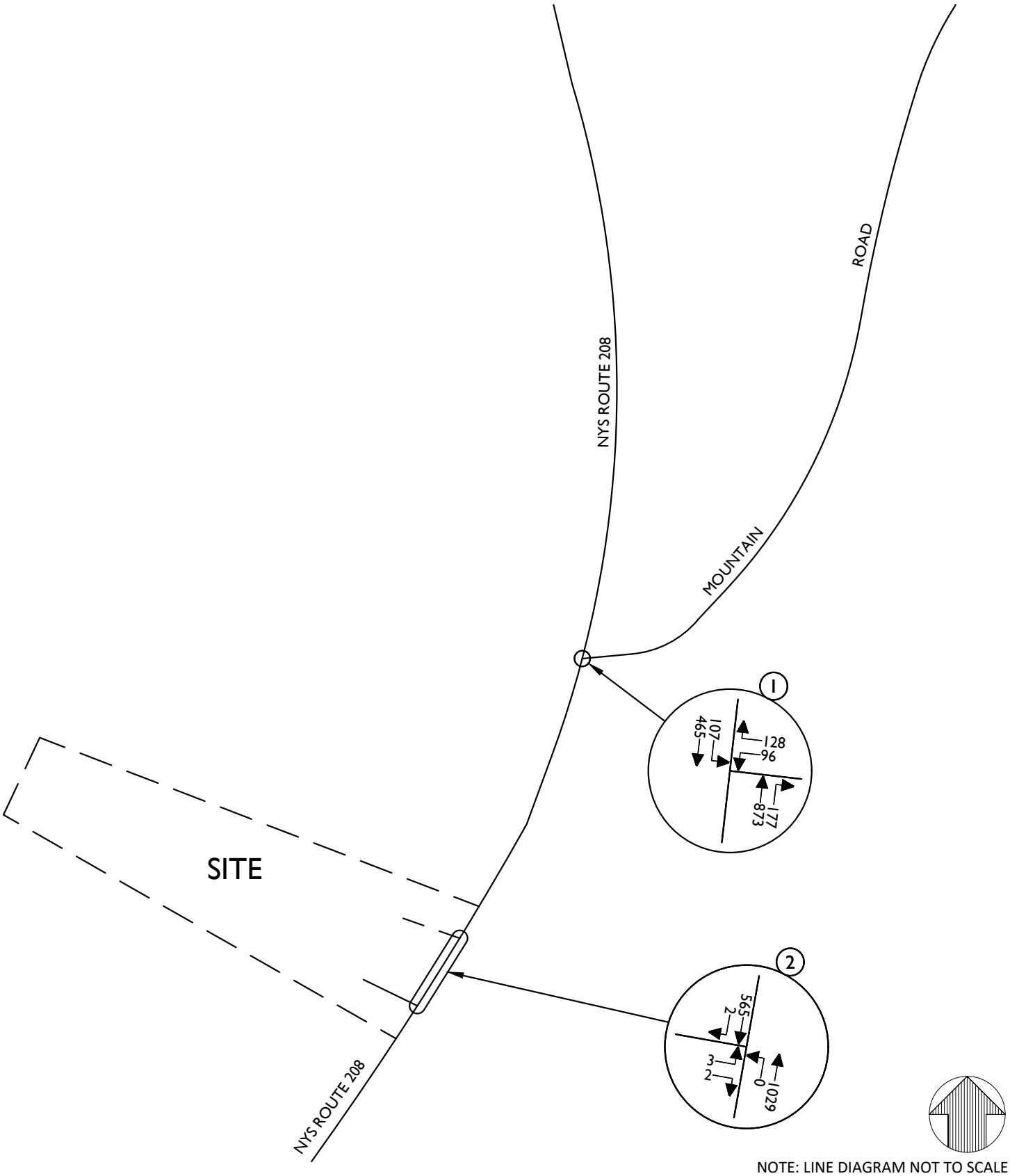

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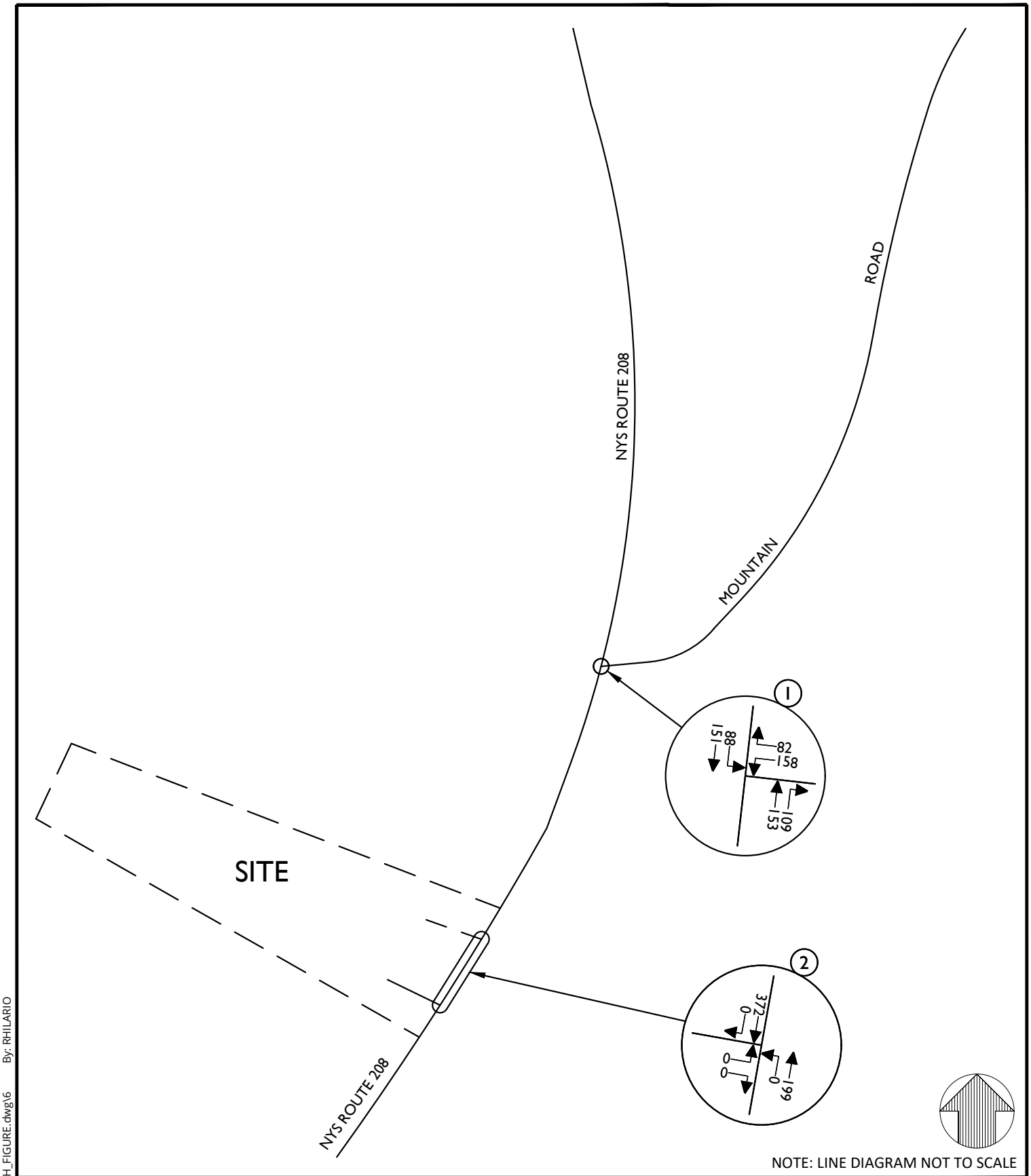

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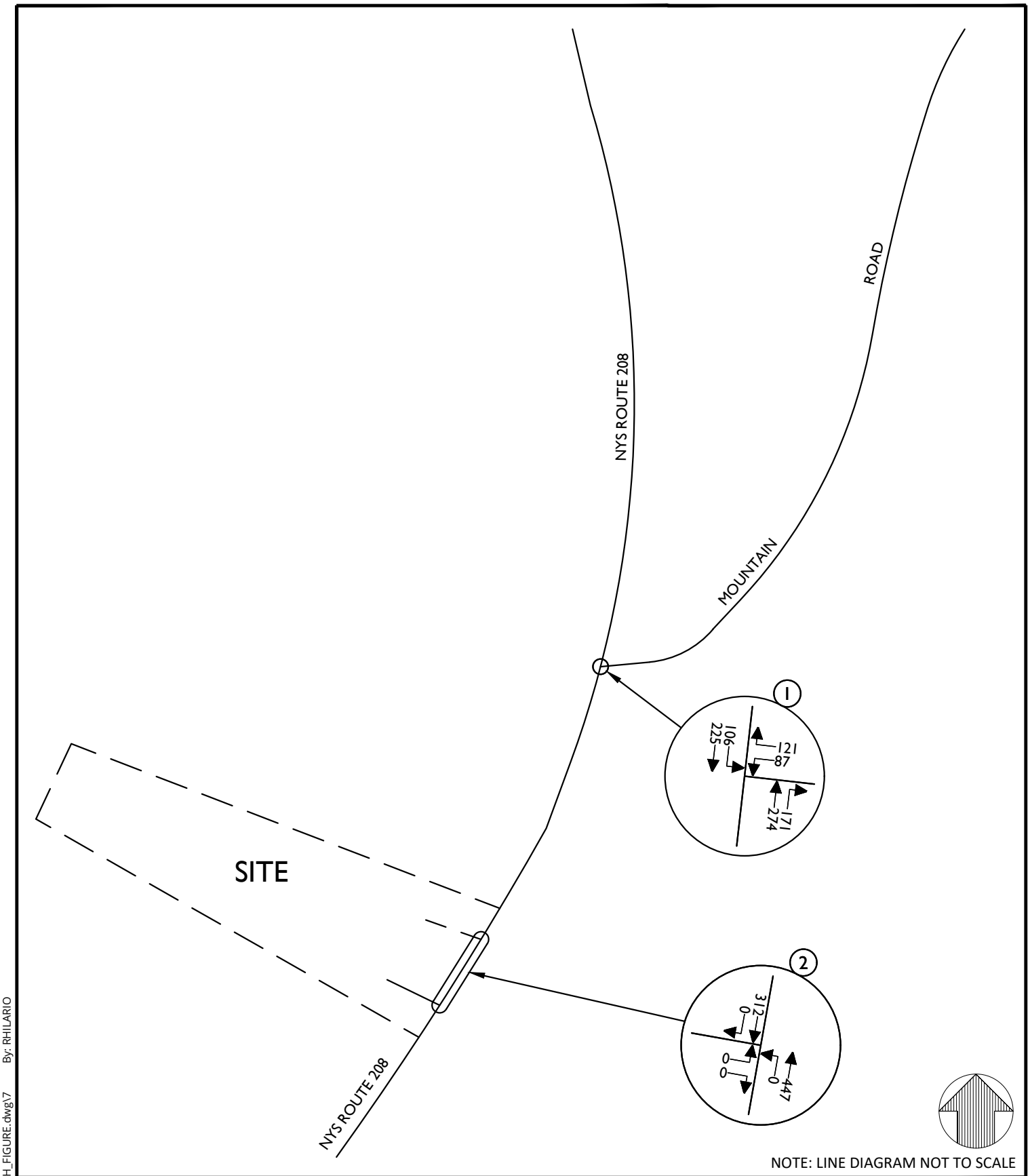

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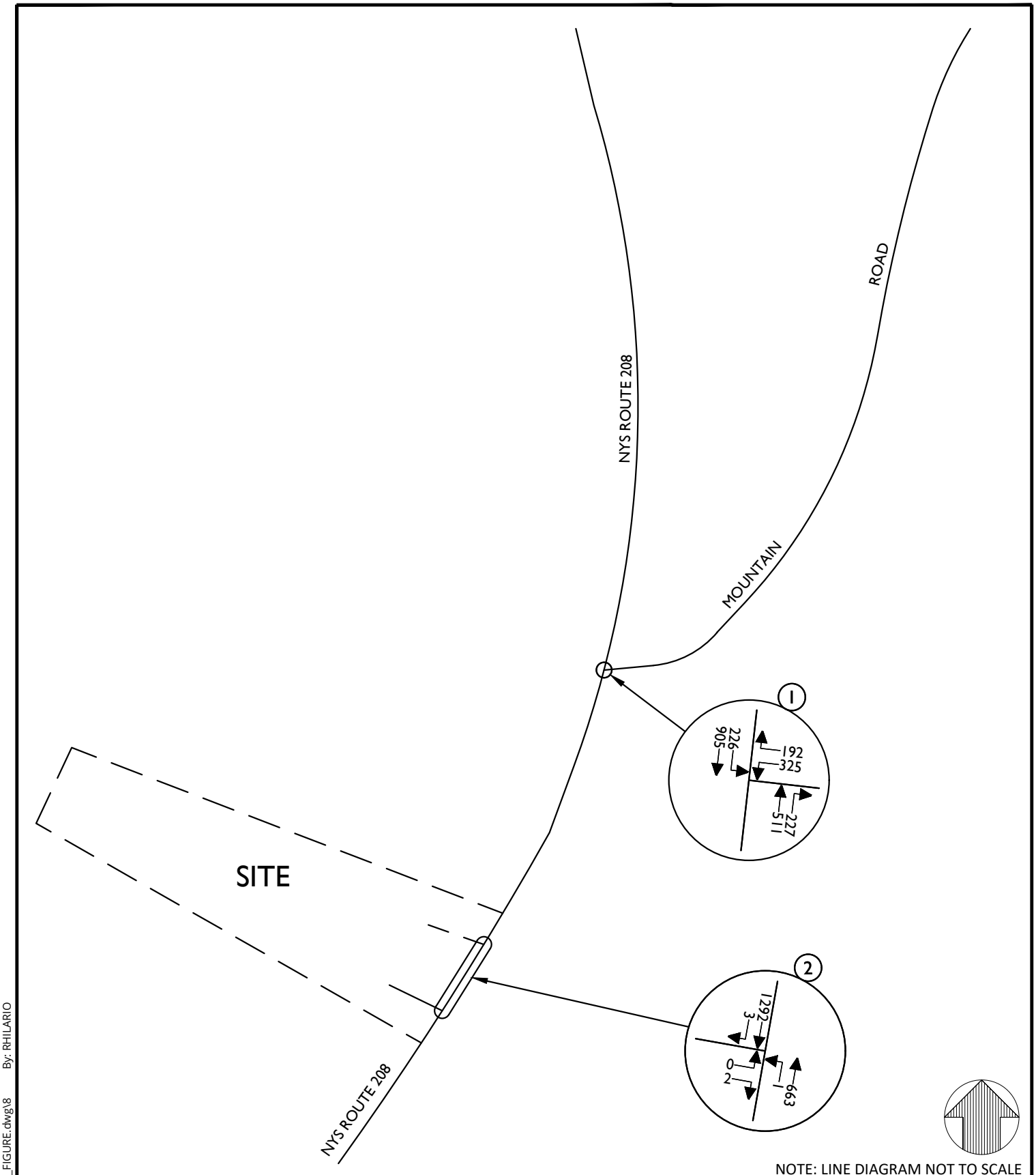

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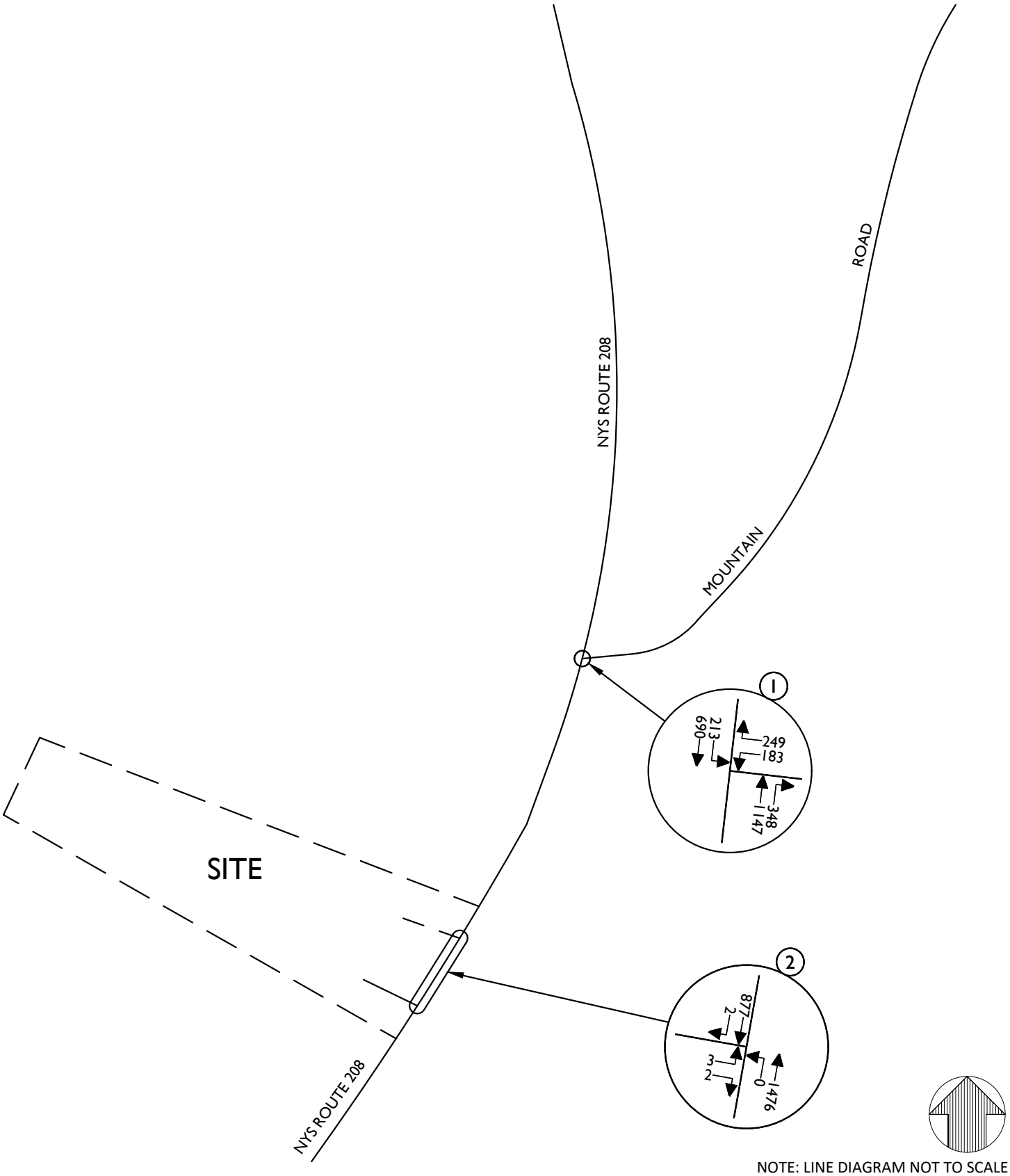

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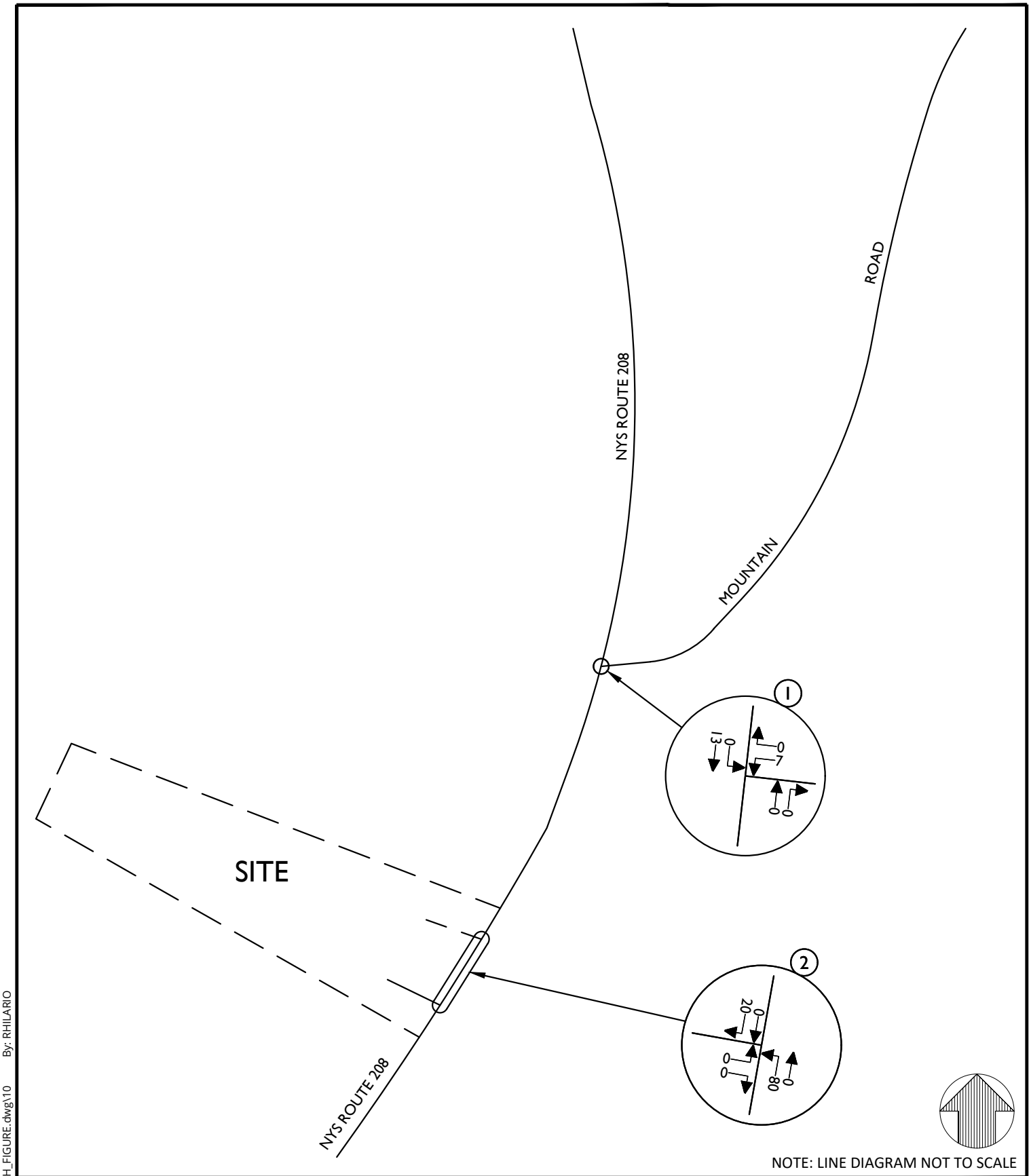

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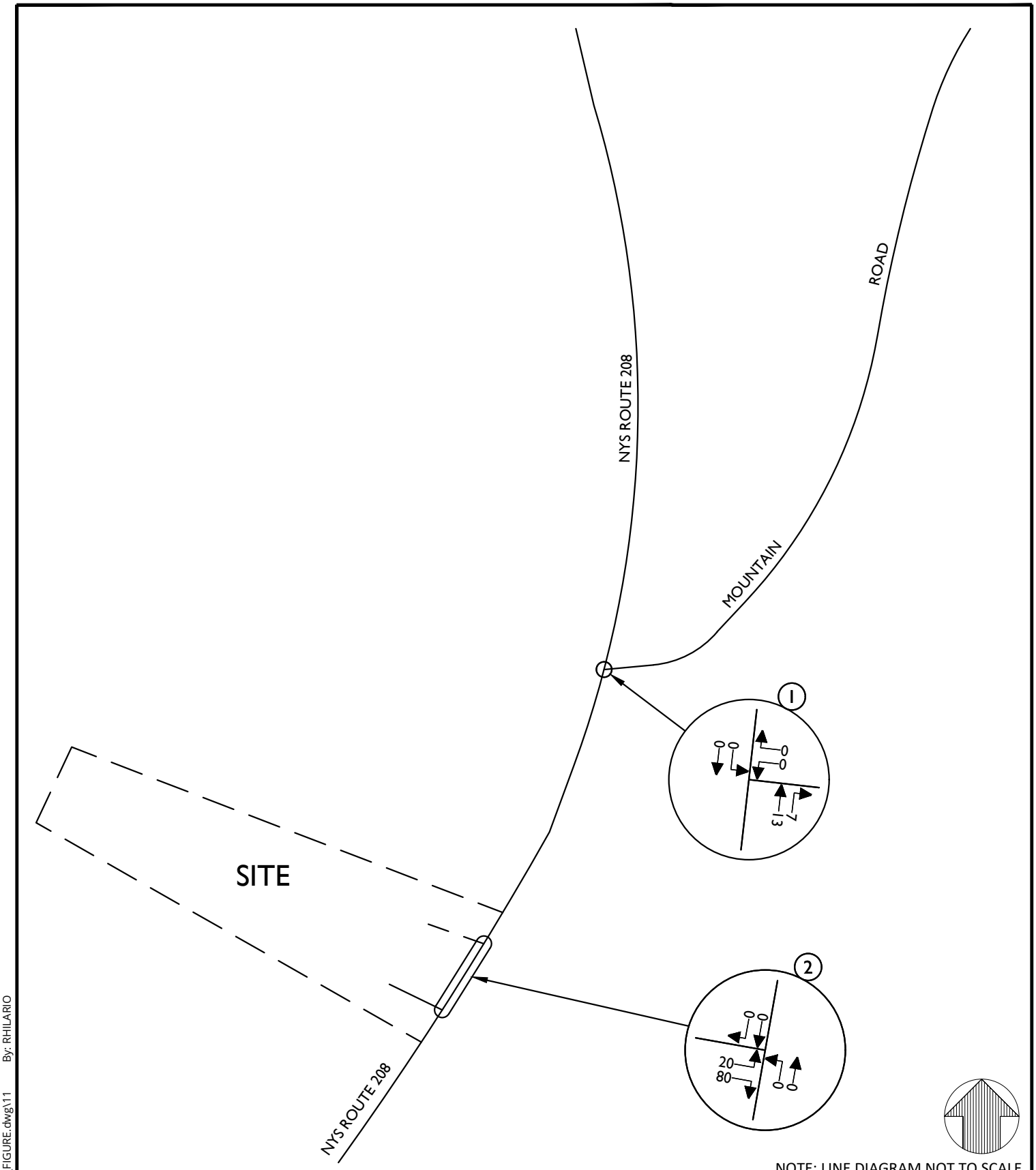

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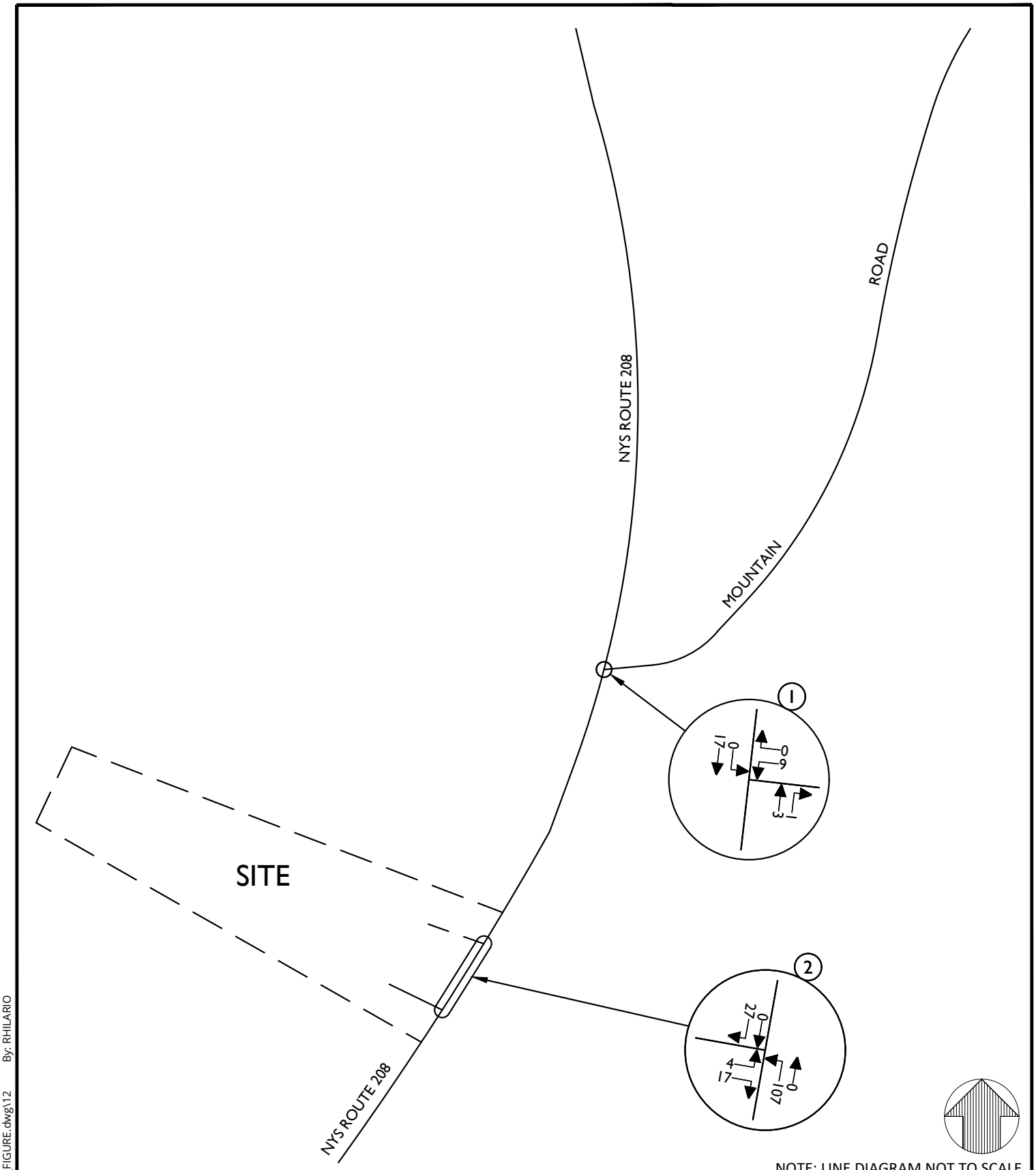

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PROJECT NUMBER:	DRAWING NAME:
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SHEET TITLE:
SITE GENERATED TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

SHEET NUMBER:
12

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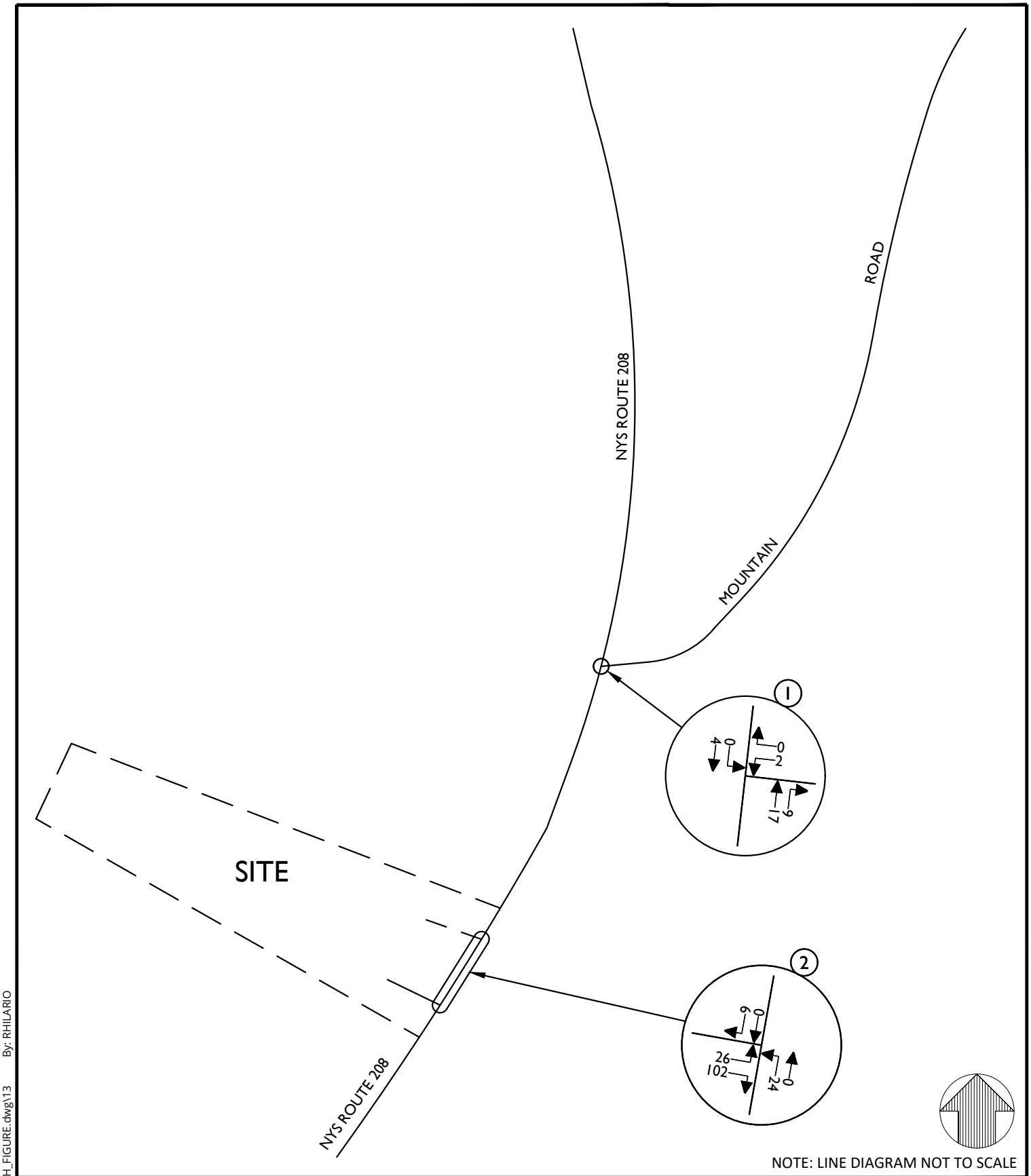

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SHEET TITLE:
SITE GENERATED TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

SHEET NUMBER:
13

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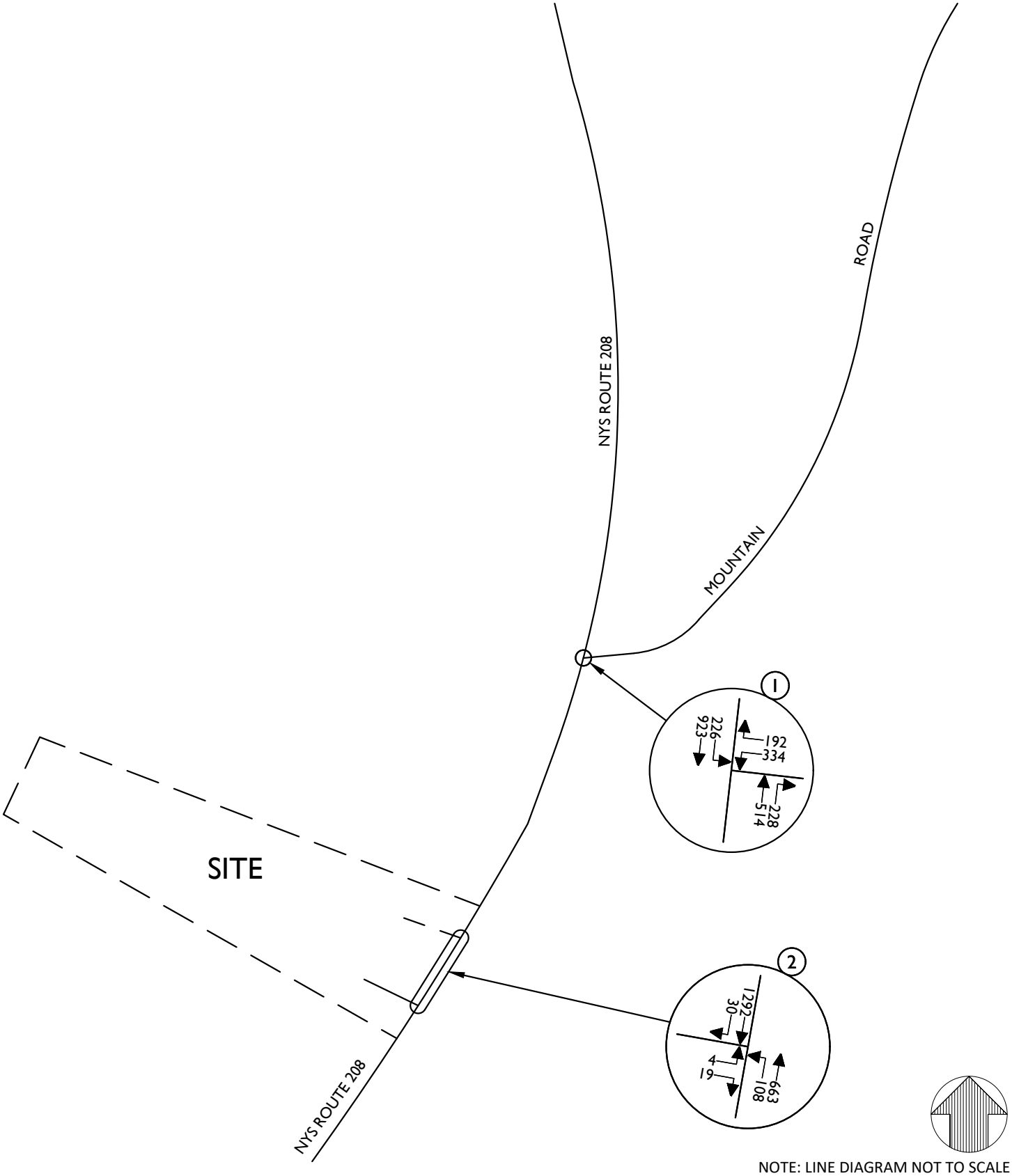

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PROJECT NUMBER:	DRAWING NAME:
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SHEET TITLE:
2025 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

SHEET NUMBER:
14

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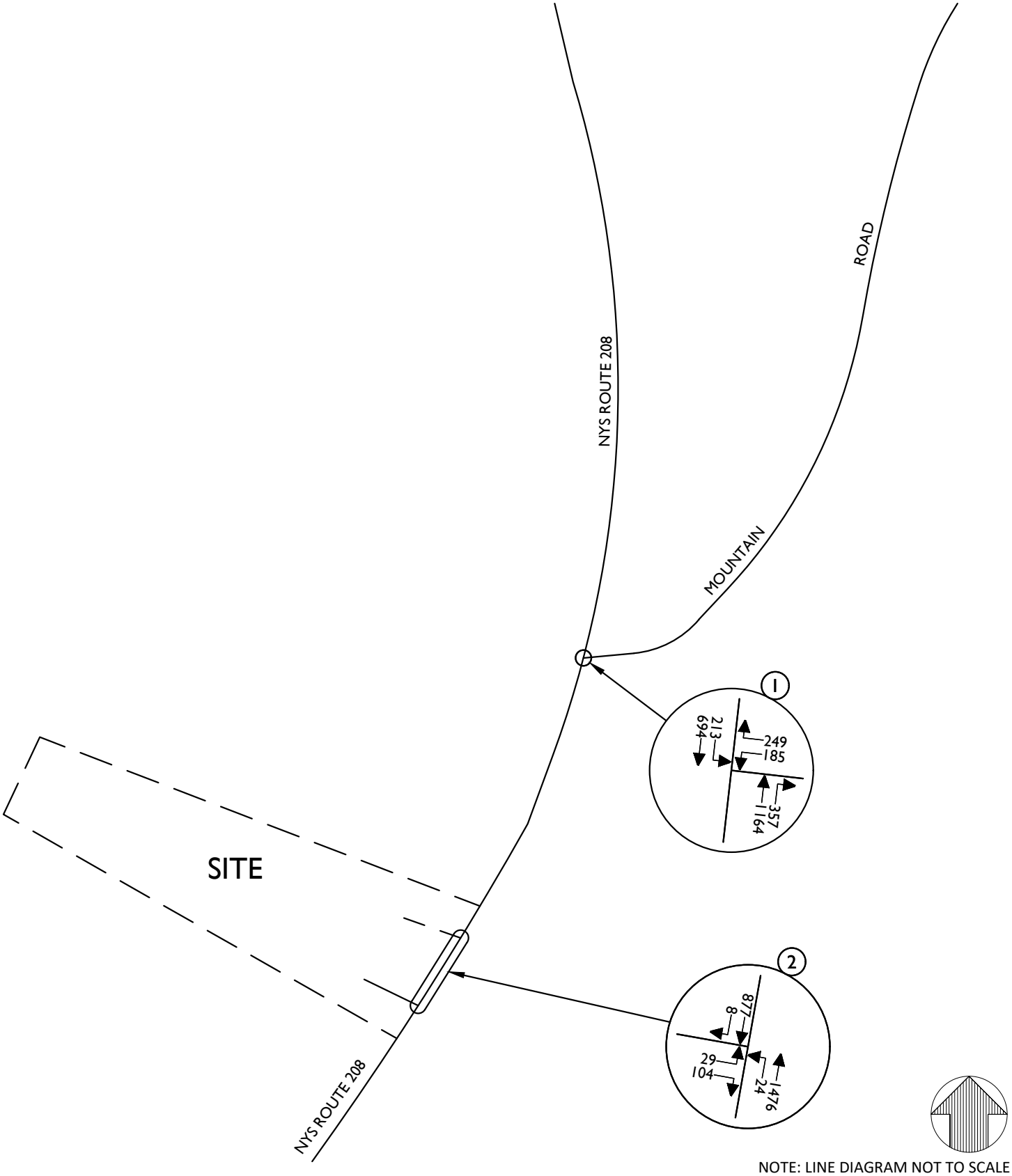

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PROJECT NUMBER:	DRAWING NAME:
21006899A	220404RH_FIGURE

SHEET TITLE:
2025 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

SHEET NUMBER:
15

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Traffic Impact Study

Appendix B | Tables

Table No. 1
Hourly Trip Generation Rates (HTGR) and
Anticipated Site Generated Traffic Volumes

577 Route 208 LLC Village of S. Blooming Grove, NY	Entry		Exit	
	HTGR[1]	Volume	HTGR[1]	Volume
New Office (73,920 Sq. Ft.)				
Peak AM Hour	1.54	114	0.21	15
Peak PM Hour	0.30	22	1.45	107
New Warehouse (17,250 s.f.)				
Peak AM Hour	1.15	20	0.34	6
Peak PM Hour	0.46	8	1.19	21
TOTAL				
Peak AM Hour		134		21
Peak PM Hour		30		128

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. BASED ON REVIEW OF ITE LAND USE CODE - 710 - GENERAL OFFICE BUILDING AND ITE LAND USE CODE - 150 - WAREHOUSE.

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

				2022 Existing			2025 No-Build			2025 Build			Change in Delay
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	No-Build to Build
1	**NYS Route 208 & Mountain Road**	**Unsignalized**											
	Mountain Road	WB	LR	0.94	F	74.1	5.79	F	N/A	6.36	F	N/A	-
	NYS Route 208	SB	LT	0.14	A	9.2	0.31	B	11.6	0.31	B	11.7	-
	W/ Geometric Improvements & Signalization												
	Mountain Road	WB	L	-	-	-	0.87	D	52.6	0.87	D	53.1	0.5
			R	-	-	-	0.41	D	36.0	0.40	D	35.5	-0.5
	NYS Route 208	NB	T	-	-	-	0.58	C	23.9	0.59	C	24.0	0.1
			R	-	-	-	0.25	A	7.6	0.25	A	7.4	-0.2
	NYS Route 208	SB	L	-	-	-	0.63	B	18.5	0.63	B	18.6	0.1
			T	-	-	-	0.82	C	24.2	0.84	C	25.2	1.0
		Overall		-	-	-	-	C	26.8	-	C	27.3	0.5
2	**NYS Route 208 & Existing Site Driveway**	**Unsignalized**											
	Existing Site Driveway	EB	LR	0.01	C	20.6	0.02	D	34.5	0.42	F	103.8	69.3
	NYS Route 208	NB	LT	0.00	B	10.1	0.00	B	12.2	0.24	B	14.7	2.5
	W/ Separate Left Turn Lane on NYS Route 208												
	Existing Site Driveway	EB	LR	-	-	-	-	-	-	0.22	E	45.9	-
	NYS Route 208	NB	LT	-	-	-	-	-	-	0.24	B	14.7	-

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.
2) THE N/A DELAY REPRESENTS RESULTS OVER 200 SECOND DELAY.

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

				2022 Existing			2025 No-Build			2025 Build			Change in Delay
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	No-Build to Build
1	**NYS Route 208 & Mountain Road**	**Unsignalized**											
	Mountain Road	WB	LR	0.87	F	66.3	28.42	F	N/A	50.76	F	N/A	-
	NYS Route 208	SB	LT	0.18	B	12.1	0.56	C	24.9	0.58	D	26.0	-
	W/ Geometric Improvements & Signalization												
	Mountain Road	WB	L	-	-	-	0.62	D	49.6	0.62	D	49.8	0.2
			R	-	-	-	0.60	D	42.7	0.60	D	42.6	-0.1
	NYS Route 208	NB	T	-	-	-	0.93	C	31.4	0.94	C	33.7	2.3
			R	-	-	-	0.27	A	3.8	0.28	A	3.9	0.1
	NYS Route 208	SB	L	-	-	-	0.90	E	68.2	0.92	E	77.1	8.9
			T	-	-	-	0.48	A	6.0	0.48	A	6.0	0.0
		Overall		-	-	-	-	C	26.8	-	C	28.3	1.5
2	**NYS Route 208 & Existing Site Driveway**	**Unsignalized**											
	Existing Site Driveway	EB	LR	0.04	E	35.6	0.15	F	125.3	2.41	F	N/A	-
	NYS Route 208	NB	LT	0.00	A	0.0	0.00	A	0.0	0.03	B	10.1	10.1
	W/ Separate Left Turn Lane on NYS Route 208												
	Existing Site Driveway	EB	LR	-	-	-	-	-	-	0.65	E	48.9	-
	NYS Route 208	NB	LT	-	-	-	-	-	-	0.03	A	9.9	-

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.
2) THE N/A DELAY REPRESENTS RESULTS OVER 200 SECOND DELAY.

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Appendix C | Level of Service Standards

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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, 6th Edition* published by the Transportation Research Board.

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

Control Delay (s/veh)	v/c ≤ 1.0	v/c ≥ 1.0
≤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 ≤ 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

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, 6th 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.

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Appendix D | Capacity Analysis

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	164	108	353	116	136	743
Future Volume (vph)	164	108	353	116	136	743
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Grade (%)	-10%		-2%			-1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946		0.967			
Flt Protected	0.971					0.992
Satd. Flow (prot)	1631	0	1657	0	0	1761
Flt Permitted	0.971					0.992
Satd. Flow (perm)	1631	0	1657	0	0	1761
Link Speed (mph)	40		55			55
Link Distance (ft)	628		503			2244
Travel Time (s)	10.7		6.2			27.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	11%	9%	21%	16%	6%
Adj. Flow (vph)	173	114	372	122	143	782
Shared Lane Traffic (%)						
Lane Group Flow (vph)	287	0	494	0	0	925
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.94	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	13.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	164	108	353	116	136	743
Future Vol, veh/h	164	108	353	116	136	743
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-10	-	-2	-	-	-1
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	11	9	21	16	6
Mvmt Flow	173	114	372	122	143	782

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1501	433	0	0	494	0
Stage 1	433	-	-	-	-	-
Stage 2	1068	-	-	-	-	-
Critical Hdwy	4.47	5.31	-	-	4.26	-
Critical Hdwy Stg 1	3.47	-	-	-	-	-
Critical Hdwy Stg 2	3.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.399	-	-	2.344	-
Pot Cap-1 Maneuver	301	681	-	-	1001	-
Stage 1	818	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	225	681	-	-	1001	-
Mov Cap-2 Maneuver	225	-	-	-	-	-
Stage 1	818	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	74.1	0	1.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	306	1001	-
HCM Lane V/C Ratio	-	-	0.936	0.143	-
HCM Control Delay (s)	-	-	74.1	9.2	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	9.2	0.5	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	2	1	457	906	3
Future Volume (vph)	0	2	1	457	906	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	11	12
Grade (%)	3%			-5%	6%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						
Satd. Flow (prot)	1043	0	0	1712	1664	0
Flt Permitted						
Satd. Flow (perm)	1043	0	0	1712	1664	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	123			414	503	
Travel Time (s)	2.8			6.3	7.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	50%	2%	10%	7%	33%
Adj. Flow (vph)	0	2	1	486	964	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	0	0	487	967	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	11			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	0.97	1.01	1.09	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	1	457	906	3
Future Vol, veh/h	0	2	1	457	906	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	6	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	50	2	10	7	33
Mvmt Flow	0	2	1	486	964	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1454	966	967	0	-	0
Stage 1	966	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Critical Hdwy	7.02	7	4.12	-	-	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-
Follow-up Hdwy	3.518	3.75	2.218	-	-	-
Pot Cap-1 Maneuver	113	233	712	-	-	-
Stage 1	314	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	113	233	712	-	-	-
Mov Cap-2 Maneuver	113	-	-	-	-	-
Stage 1	313	-	-	-	-	-
Stage 2	569	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	712	-	233	-	-
HCM Lane V/C Ratio	0.001	-	0.009	-	-
HCM Control Delay (s)	10.1	0	20.6	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	95	126	860	174	105	458
Future Volume (vph)	95	126	860	174	105	458
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Grade (%)	-10%		-2%			-1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.923		0.977			
Flt Protected	0.979					0.991
Satd. Flow (prot)	1642	0	1838	0	0	1832
Flt Permitted	0.979					0.991
Satd. Flow (perm)	1642	0	1838	0	0	1832
Link Speed (mph)	40		55			55
Link Distance (ft)	628		503			2244
Travel Time (s)	10.7		6.2			27.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	7%	2%	2%	9%	2%
Adj. Flow (vph)	100	133	905	183	111	482
Shared Lane Traffic (%)						
Lane Group Flow (vph)	233	0	1088	0	0	593
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.94	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	8.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	95	126	860	174	105	458
Future Vol, veh/h	95	126	860	174	105	458
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-10	-	-2	-	-	-1
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	7	2	2	9	2
Mvmt Flow	100	133	905	183	111	482

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1701	997	0	0	1088	0
Stage 1	997	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Critical Hdwy	4.45	5.27	-	-	4.19	-
Critical Hdwy Stg 1	3.45	-	-	-	-	-
Critical Hdwy Stg 2	3.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.363	-	-	2.281	-
Pot Cap-1 Maneuver	256	382	-	-	616	-
Stage 1	613	-	-	-	-	-
Stage 2	717	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	193	382	-	-	616	-
Mov Cap-2 Maneuver	193	-	-	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	541	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	66.3	0	2.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	269	616	-
HCM Lane V/C Ratio	-	-	0.865	0.179	-
HCM Control Delay (s)	-	-	66.3	12.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	7.3	0.6	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	2	0	1014	557	2
Future Volume (vph)	3	2	0	1014	557	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	11	12
Grade (%)	3%			-5%	6%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946					
Flt Protected	0.971					
Satd. Flow (prot)	1629	0	0	1828	1747	0
Flt Permitted	0.971					
Satd. Flow (perm)	1629	0	0	1828	1747	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	158			414	503	
Travel Time (s)	3.6			6.3	7.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%
Adj. Flow (vph)	3	2	0	1067	586	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	0	0	1067	588	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	11			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.02	0.97	1.01	1.09	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	2	0	1014	557	2
Future Vol, veh/h	3	2	0	1014	557	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	6	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	3	2	2
Mvmt Flow	3	2	0	1067	586	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1654	587	588	0	-	0
Stage 1	587	-	-	-	-	-
Stage 2	1067	-	-	-	-	-
Critical Hdwy	7.02	6.52	4.12	-	-	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	82	485	987	-	-	-
Stage 1	504	-	-	-	-	-
Stage 2	277	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	82	485	987	-	-	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	504	-	-	-	-	-
Stage 2	277	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	35.6	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	987	-	123	-	-
HCM Lane V/C Ratio	-	-	0.043	-	-
HCM Control Delay (s)	0	-	35.6	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	325	192	511	227	226	905
Future Volume (vph)	325	192	511	227	226	905
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Grade (%)	-10%		-2%			-1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.950		0.958			
Flt Protected	0.970					0.990
Satd. Flow (prot)	1638	0	1631	0	0	1750
Flt Permitted	0.970					0.990
Satd. Flow (perm)	1638	0	1631	0	0	1750
Link Speed (mph)	40		55			55
Link Distance (ft)	628		503			2244
Travel Time (s)	10.7		6.2			27.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	11%	9%	21%	16%	6%
Adj. Flow (vph)	342	202	538	239	238	953
Shared Lane Traffic (%)						
Lane Group Flow (vph)	544	0	777	0	0	1191
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.94	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	487.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	325	192	511	227	226	905
Future Vol, veh/h	325	192	511	227	226	905
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-10	-	-2	-	-	-1
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	11	9	21	16	6
Mvmt Flow	342	202	538	239	238	953

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2087	658	0	0	777	0
Stage 1	658	-	-	-	-	-
Stage 2	1429	-	-	-	-	-
Critical Hdwy	4.47	5.31	-	-	4.26	-
Critical Hdwy Stg 1	3.47	-	-	-	-	-
Critical Hdwy Stg 2	3.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.399	-	-	2.344	-
Pot Cap-1 Maneuver	~ 179	539	-	-	780	-
Stage 1	729	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 63	539	-	-	780	-
Mov Cap-2 Maneuver	~ 63	-	-	-	-	-
Stage 1	729	-	-	-	-	-
Stage 2	~ 168	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 2243.9	0	2.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	94	780	-
HCM Lane V/C Ratio	-	-	5.789	0.305	-
HCM Control Delay (s)	-	-	$ 2243.9	11.6	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	59.7	1.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	2	1	663	1292	3
Future Volume (vph)	0	2	1	663	1292	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	11	12
Grade (%)	3%			-5%	6%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						
Satd. Flow (prot)	1043	0	0	1712	1664	0
Flt Permitted						
Satd. Flow (perm)	1043	0	0	1712	1664	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	123			414	503	
Travel Time (s)	2.8			6.3	7.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	50%	2%	10%	7%	33%
Adj. Flow (vph)	0	2	1	705	1374	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	0	0	706	1377	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	11			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	0.97	1.01	1.09	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	1	663	1292	3
Future Vol, veh/h	0	2	1	663	1292	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	6	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	50	2	10	7	33
Mvmt Flow	0	2	1	705	1374	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2083	1376	1377	0	-	0
Stage 1	1376	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Critical Hdwy	7.02	7	4.12	-	-	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-
Follow-up Hdwy	3.518	3.75	2.218	-	-	-
Pot Cap-1 Maneuver	41	124	498	-	-	-
Stage 1	186	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	41	124	498	-	-	-
Mov Cap-2 Maneuver	41	-	-	-	-	-
Stage 1	185	-	-	-	-	-
Stage 2	434	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	34.5	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	498	-	124	-	-
HCM Lane V/C Ratio	0.002	-	0.017	-	-
HCM Control Delay (s)	12.2	0	34.5	-	-
HCM Lane LOS	B	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	183	249	1147	348	213	690
Future Volume (vph)	183	249	1147	348	213	690
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Grade (%)	-10%		-2%			-1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.922		0.969			
Flt Protected	0.979					0.988
Satd. Flow (prot)	1640	0	1823	0	0	1820
Flt Permitted	0.979					0.988
Satd. Flow (perm)	1640	0	1823	0	0	1820
Link Speed (mph)	40		55			55
Link Distance (ft)	628		503			2244
Travel Time (s)	10.7		6.2			27.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	7%	2%	2%	9%	2%
Adj. Flow (vph)	193	262	1207	366	224	726
Shared Lane Traffic (%)						
Lane Group Flow (vph)	455	0	1573	0	0	950
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.94	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1955.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	183	249	1147	348	213	690
Future Vol, veh/h	183	249	1147	348	213	690
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-10	-	-2	-	-	-1
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	7	2	2	9	2
Mvmt Flow	193	262	1207	366	224	726

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2564	1390	0	0	1573	0
Stage 1	1390	-	-	-	-	-
Stage 2	1174	-	-	-	-	-
Critical Hdwy	4.45	5.27	-	-	4.19	-
Critical Hdwy Stg 1	3.45	-	-	-	-	-
Critical Hdwy Stg 2	3.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.363	-	-	2.281	-
Pot Cap-1 Maneuver	~ 117	~ 250	-	-	400	-
Stage 1	492	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 7	~ 250	-	-	400	-
Mov Cap-2 Maneuver	~ 7	-	-	-	-	-
Stage 1	492	-	-	-	-	-
Stage 2	~ 34	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 12798.4	0	5.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	16	400	-
HCM Lane V/C Ratio	-	-	-28.421	0.561	-
HCM Control Delay (s)	-	-	$ 12798.4	24.9	0
HCM Lane LOS	-	-	F	C	A
HCM 95th %tile Q(veh)	-	-	57.8	3.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	2	0	1476	877	2
Future Volume (vph)	3	2	0	1476	877	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	11	12
Grade (%)	3%			-5%	6%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946					
Flt Protected	0.971					
Satd. Flow (prot)	1629	0	0	1828	1747	0
Flt Permitted	0.971					
Satd. Flow (perm)	1629	0	0	1828	1747	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	158			414	503	
Travel Time (s)	3.6			6.3	7.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%
Adj. Flow (vph)	3	2	0	1554	923	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	0	0	1554	925	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	11			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.02	0.97	1.01	1.09	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	2	0	1476	877	2
Future Vol, veh/h	3	2	0	1476	877	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	6	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	3	2	2
Mvmt Flow	3	2	0	1554	923	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2478	924	925	0	-	0
Stage 1	924	-	-	-	-	-
Stage 2	1554	-	-	-	-	-
Critical Hdwy	7.02	6.52	4.12	-	-	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	22	302	739	-	-	-
Stage 1	331	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	22	302	739	-	-	-
Mov Cap-2 Maneuver	22	-	-	-	-	-
Stage 1	331	-	-	-	-	-
Stage 2	148	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	125.3	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	739	-	35	-	-
HCM Lane V/C Ratio	-	-	0.15	-	-
HCM Control Delay (s)	0	-	125.3	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	334	192	514	228	226	923
Future Volume (vph)	334	192	514	228	226	923
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Grade (%)	-10%		-2%			-1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.951		0.959			
Flt Protected	0.969					0.990
Satd. Flow (prot)	1639	0	1633	0	0	1751
Flt Permitted	0.969					0.990
Satd. Flow (perm)	1639	0	1633	0	0	1751
Link Speed (mph)	40		55			55
Link Distance (ft)	628		503			2244
Travel Time (s)	10.7		6.2			27.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	11%	9%	21%	16%	6%
Adj. Flow (vph)	352	202	541	240	238	972
Shared Lane Traffic (%)						
Lane Group Flow (vph)	554	0	781	0	0	1210
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.94	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	547

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	334	192	514	228	226	923
Future Vol, veh/h	334	192	514	228	226	923
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-10	-	-2	-	-	-1
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	11	9	21	16	6
Mvmt Flow	352	202	541	240	238	972

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2109	661	0	0	781	0
Stage 1	661	-	-	-	-	-
Stage 2	1448	-	-	-	-	-
Critical Hdwy	4.47	5.31	-	-	4.26	-
Critical Hdwy Stg 1	3.47	-	-	-	-	-
Critical Hdwy Stg 2	3.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.399	-	-	2.344	-
Pot Cap-1 Maneuver	~ 176	537	-	-	778	-
Stage 1	728	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 59	537	-	-	778	-
Mov Cap-2 Maneuver	~ 59	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	~ 158	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 2508.4	0	2.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	87	778	-
HCM Lane V/C Ratio	-	-	6.364	0.306	-
HCM Control Delay (s)	-	-	$ 2508.4	11.7	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	61.7	1.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	19	108	663	1292	30
Future Volume (vph)	4	19	108	663	1292	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	11	12
Grade (%)	3%			-5%	6%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.887				0.997	
Flt Protected	0.992			0.993		
Satd. Flow (prot)	1121	0	0	1717	1651	0
Flt Permitted	0.992			0.993		
Satd. Flow (perm)	1121	0	0	1717	1651	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	123			414	503	
Travel Time (s)	2.8			6.3	7.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	50%	2%	10%	7%	33%
Adj. Flow (vph)	4	20	115	705	1374	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	0	820	1406	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	11			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	0.97	1.01	1.09	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	19	108	663	1292	30
Future Vol, veh/h	4	19	108	663	1292	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	6	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	50	2	10	7	33
Mvmt Flow	4	20	115	705	1374	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2325	1390	1406	0	-	0
Stage 1	1390	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Critical Hdwy	7.02	7	4.12	-	-	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-
Follow-up Hdwy	3.518	3.75	2.218	-	-	-
Pot Cap-1 Maneuver	28	122	485	-	-	-
Stage 1	183	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	17	122	485	-	-	-
Mov Cap-2 Maneuver	17	-	-	-	-	-
Stage 1	112	-	-	-	-	-
Stage 2	327	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	103.8	2.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	485	-	59	-	-
HCM Lane V/C Ratio	0.237	-	0.415	-	-
HCM Control Delay (s)	14.7	0	103.8	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.9	-	1.6	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	185	249	1164	357	213	694
Future Volume (vph)	185	249	1164	357	213	694
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Grade (%)	-10%		-2%			-1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.923		0.968			
Flt Protected	0.979					0.988
Satd. Flow (prot)	1642	0	1821	0	0	1820
Flt Permitted	0.979					0.988
Satd. Flow (perm)	1642	0	1821	0	0	1820
Link Speed (mph)	40		55			55
Link Distance (ft)	628		503			2244
Travel Time (s)	10.7		6.2			27.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	7%	2%	2%	9%	2%
Adj. Flow (vph)	195	262	1225	376	224	731
Shared Lane Traffic (%)						
Lane Group Flow (vph)	457	0	1601	0	0	955
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.94	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	3519.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	185	249	1164	357	213	694
Future Vol, veh/h	185	249	1164	357	213	694
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-10	-	-2	-	-	-1
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	7	2	2	9	2
Mvmt Flow	195	262	1225	376	224	731

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2592	1413	0	0	1601	0
Stage 1	1413	-	-	-	-	-
Stage 2	1179	-	-	-	-	-
Critical Hdwy	4.45	5.27	-	-	4.19	-
Critical Hdwy Stg 1	3.45	-	-	-	-	-
Critical Hdwy Stg 2	3.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.363	-	-	2.281	-
Pot Cap-1 Maneuver	~ 114	~ 244	-	-	390	-
Stage 1	486	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 4	~ 244	-	-	390	-
Mov Cap-2 Maneuver	~ 4	-	-	-	-	-
Stage 1	486	-	-	-	-	-
Stage 2	~ 18	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 23198	0	6.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	9	390	-
HCM Lane V/C Ratio	-	-	50.76	0.575	-
HCM Control Delay (s)	-	-	$ 23198	26	0
HCM Lane LOS	-	-	F	D	A
HCM 95th %tile Q(veh)	-	-	58.9	3.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	29	104	24	1476	877	8
Future Volume (vph)	29	104	24	1476	877	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	11	12
Grade (%)	3%			-5%	6%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.895				0.999	
Flt Protected	0.989			0.999		
Satd. Flow (prot)	1570	0	0	1826	1745	0
Flt Permitted	0.989			0.999		
Satd. Flow (perm)	1570	0	0	1826	1745	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	158			414	503	
Travel Time (s)	3.6			6.3	7.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%
Adj. Flow (vph)	31	109	25	1554	923	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	140	0	0	1579	931	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	11			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.02	0.97	1.01	1.09	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	42.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	104	24	1476	877	8
Future Vol, veh/h	29	104	24	1476	877	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	6	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	3	2	2
Mvmt Flow	31	109	25	1554	923	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2531	927	931	0	-	0
Stage 1	927	-	-	-	-	-
Stage 2	1604	-	-	-	-	-
Critical Hdwy	7.02	6.52	4.12	-	-	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 20	301	735	-	-	-
Stage 1	330	-	-	-	-	-
Stage 2	139	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 15	301	735	-	-	-
Mov Cap-2 Maneuver	~ 15	-	-	-	-	-
Stage 1	248	-	-	-	-	-
Stage 2	139	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 795.8	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	735	-	58	-	-
HCM Lane V/C Ratio	0.034	-	2.414	-	-
HCM Control Delay (s)	10.1	0	$ 795.8	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	14	-	-

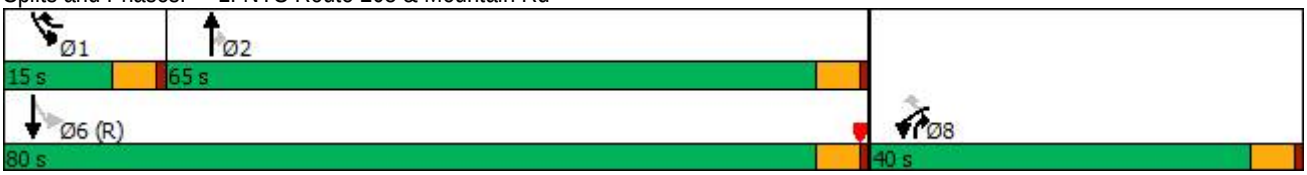
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	325	192	511	227	226	905
Future Volume (vph)	325	192	511	227	226	905
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Grade (%)	-10%		-2%			-1%
Storage Length (ft)	0	100		50	100	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1712	1528	1761	1348	1564	1801
Flt Permitted	0.950				0.317	
Satd. Flow (perm)	1712	1528	1761	1348	522	1801
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		152		239		
Link Speed (mph)	40		55			55
Link Distance (ft)	628		503			2244
Travel Time (s)	10.7		6.2			27.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	11%	9%	21%	16%	6%
Adj. Flow (vph)	342	202	538	239	238	953
Shared Lane Traffic (%)						
Lane Group Flow (vph)	342	202	538	239	238	953
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.94	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	83	83	83	83	83	83
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	40	40	40	40	40
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(ft)	43	43	43	43	43	43
Detector 2 Size(ft)	40	40	40	40	40	40
Detector 2 Type	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
Turn Type	Prot	pm+ov	NA	pm+ov	pm+pt	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2	6	
Detector Phase	8	1	2	8	1	6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	10.0	10.0	15.0	10.0	10.0	15.0
Total Split (s)	40.0	15.0	65.0	40.0	15.0	80.0
Total Split (%)	33.3%	12.5%	54.2%	33.3%	12.5%	66.7%
Maximum Green (s)	35.0	10.0	60.0	35.0	10.0	75.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	Max	None	None	C-Max
v/c Ratio	0.86	0.31	0.55	0.21	0.53	0.77
Control Delay	64.0	8.1	20.3	2.1	12.9	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.0	8.1	20.3	2.1	12.9	19.8
Queue Length 50th (ft)	254	25	311	6	63	457
Queue Length 95th (ft)	343	72	451	41	117	781
Internal Link Dist (ft)	548		423			2164
Turn Bay Length (ft)		100		50	100	
Base Capacity (vph)	499	655	980	1226	451	1230
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.31	0.55	0.19	0.53	0.77

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Red	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 1: NYS Route 208 & Mountain Rd



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	325	192	511	227	226	905
Future Volume (veh/h)	325	192	511	227	226	905
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	2188	2128	1844	1663	1699	1849
Adj Flow Rate, veh/h	342	202	538	239	238	953
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	11	9	21	16	6
Cap, veh/h	394	491	922	971	380	1156
Arrive On Green	0.19	0.19	0.50	0.50	0.08	0.63
Sat Flow, veh/h	2084	1804	1844	1410	1618	1849
Grp Volume(v), veh/h	342	202	538	239	238	953
Grp Sat Flow(s),veh/h/ln	2084	1804	1844	1410	1618	1849
Q Serve(g_s), s	19.1	11.0	24.7	7.6	8.3	47.8
Cycle Q Clear(g_c), s	19.1	11.0	24.7	7.6	8.3	47.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	394	491	922	971	380	1156
V/C Ratio(X)	0.87	0.41	0.58	0.25	0.63	0.82
Avail Cap(c_a), veh/h	608	676	922	971	380	1156
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	35.8	21.2	7.0	16.0	17.4
Incr Delay (d2), s/veh	5.4	0.2	2.7	0.6	2.4	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	4.8	10.3	3.8	2.8	18.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.6	36.0	23.9	7.6	18.5	24.2
LnGrp LOS	D	D	C	A	B	C
Approach Vol, veh/h	544		777			1191
Approach Delay, s/veh	46.4		18.9			23.0
Approach LOS	D		B			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	15.0	65.0			80.0	27.7
Change Period (Y+Rc), s	5.0	5.0			5.0	5.0
Max Green Setting (Gmax), s	10.0	60.0			75.0	35.0
Max Q Clear Time (g_c+I1), s	10.3	26.7			49.8	21.1
Green Ext Time (p_c), s	0.0	2.3			3.4	1.6

Intersection Summary		
HCM 6th Ctrl Delay		26.8
HCM 6th LOS		C

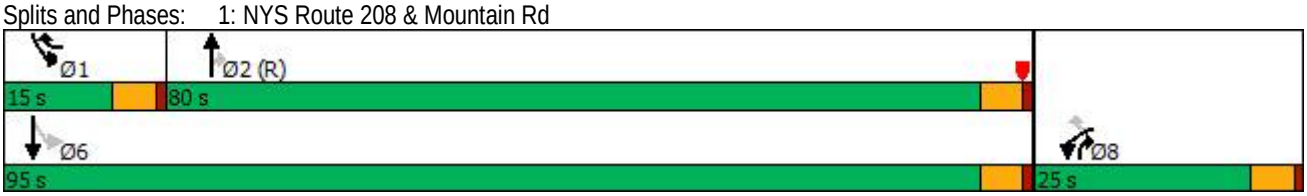
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	183	249	1147	348	213	690
Future Volume (vph)	183	249	1147	348	213	690
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Grade (%)	-10%		-2%			-1%
Storage Length (ft)	0	100		50	100	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1585	1881	1599	1664	1872
Flt Permitted	0.950				0.050	
Satd. Flow (perm)	1745	1585	1881	1599	88	1872
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		91		96		
Link Speed (mph)	40		55			55
Link Distance (ft)	628		503			2244
Travel Time (s)	10.7		6.2			27.8
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	7%	2%	2%	9%	2%
Adj. Flow (vph)	187	254	1170	355	217	704
Shared Lane Traffic (%)						
Lane Group Flow (vph)	187	254	1170	355	217	704
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.98	0.94	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	83	83	83	83	83	83
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	40	40	40	40	40
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(ft)	43	43	43	43	43	43
Detector 2 Size(ft)	40	40	40	40	40	40
Detector 2 Type	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
Turn Type	Prot	pm+ov	NA	pm+ov	pm+pt	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2	6	
Detector Phase	8	1	2	8	1	6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	10.0	10.0	15.0	10.0	10.0	15.0
Total Split (s)	25.0	15.0	80.0	25.0	15.0	95.0
Total Split (%)	20.8%	12.5%	66.7%	20.8%	12.5%	79.2%
Maximum Green (s)	20.0	10.0	75.0	20.0	10.0	90.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	C-Max	None	None	Max
v/c Ratio	0.78	0.48	1.00	0.27	0.88	0.48
Control Delay	71.8	25.5	25.9	0.9	67.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.8	25.5	25.9	0.9	67.5	6.4
Queue Length 50th (ft)	141	102	775	12	119	166
Queue Length 95th (ft)	217	184	m612	m10	#303	259
Internal Link Dist (ft)	548		423			2164
Turn Bay Length (ft)		100		50	100	
Base Capacity (vph)	290	526	1175	1348	246	1459
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.48	1.00	0.26	0.88	0.48

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Red
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: NYS Route 208 & Mountain Rd



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	183	249	1147	348	213	690
Future Volume (veh/h)	183	249	1147	348	213	690
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	2218	2188	1949	1949	1804	1909
Adj Flow Rate, veh/h	187	254	1170	355	217	704
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	5	7	2	2	9	2
Cap, veh/h	304	420	1263	1308	242	1476
Arrive On Green	0.14	0.14	0.65	0.65	0.08	0.77
Sat Flow, veh/h	2113	1854	1949	1651	1718	1909
Grp Volume(v), veh/h	187	254	1170	355	217	704
Grp Sat Flow(s),veh/h/ln	2113	1854	1949	1651	1718	1909
Q Serve(g_s), s	10.0	14.7	63.4	6.8	7.9	15.9
Cycle Q Clear(g_c), s	10.0	14.7	63.4	6.8	7.9	15.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	304	420	1263	1308	242	1476
V/C Ratio(X)	0.62	0.60	0.93	0.27	0.90	0.48
Avail Cap(c_a), veh/h	352	463	1263	1308	243	1476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	41.6	18.6	3.3	37.1	4.9
Incr Delay (d2), s/veh	1.3	1.1	12.9	0.5	31.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	6.7	27.1	3.7	8.2	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.6	42.7	31.4	3.8	68.2	6.0
LnGrp LOS	D	D	C	A	E	A
Approach Vol, veh/h	441		1525			921
Approach Delay, s/veh	45.6		25.0			20.7
Approach LOS	D		C			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.9	82.8			97.8	22.2
Change Period (Y+Rc), s	5.0	5.0			5.0	5.0
Max Green Setting (Gmax), s	10.0	75.0			90.0	20.0
Max Q Clear Time (g_c+I1), s	9.9	65.4			17.9	16.7
Green Ext Time (p_c), s	0.0	4.3			2.1	0.5

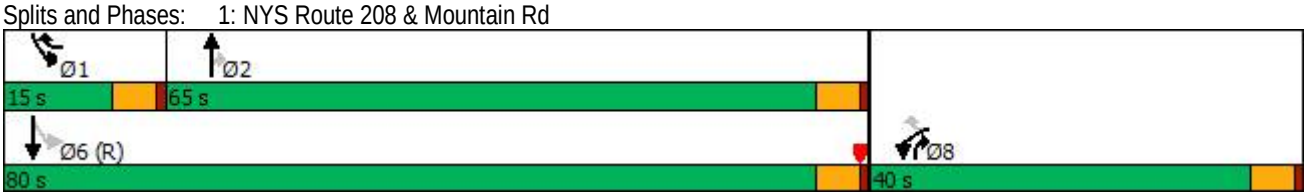
Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	334	192	514	228	226	923
Future Volume (vph)	334	192	514	228	226	923
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Grade (%)	-10%		-2%			-1%
Storage Length (ft)	0	100		50	100	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1712	1528	1761	1348	1564	1801
Flt Permitted	0.950				0.313	
Satd. Flow (perm)	1712	1528	1761	1348	515	1801
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		148		240		
Link Speed (mph)	40		55			55
Link Distance (ft)	628		503			2244
Travel Time (s)	10.7		6.2			27.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	11%	9%	21%	16%	6%
Adj. Flow (vph)	352	202	541	240	238	972
Shared Lane Traffic (%)						
Lane Group Flow (vph)	352	202	541	240	238	972
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	0.98	0.94	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	83	83	83	83	83	83
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	40	40	40	40	40
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(ft)	43	43	43	43	43	43
Detector 2 Size(ft)	40	40	40	40	40	40
Detector 2 Type	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
Turn Type	Prot	pm+ov	NA	pm+ov	pm+pt	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2	6	
Detector Phase	8	1	2	8	1	6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	10.0	10.0	15.0	10.0	10.0	15.0
Total Split (s)	40.0	15.0	65.0	40.0	15.0	80.0
Total Split (%)	33.3%	12.5%	54.2%	33.3%	12.5%	66.7%
Maximum Green (s)	35.0	10.0	60.0	35.0	10.0	75.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	Max	None	None	C-Max
v/c Ratio	0.87	0.31	0.56	0.21	0.54	0.79
Control Delay	64.8	8.4	20.8	1.9	13.2	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	8.4	20.8	1.9	13.2	21.1
Queue Length 50th (ft)	261	27	311	5	65	488
Queue Length 95th (ft)	355	75	450	36	117	#823
Internal Link Dist (ft)	548		423			2164
Turn Bay Length (ft)		100		50	100	
Base Capacity (vph)	499	657	973	1222	444	1223
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.31	0.56	0.20	0.54	0.79

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 6:SBTL, Start of Red	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: NYS Route 208 & Mountain Rd



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	334	192	514	228	226	923
Future Volume (veh/h)	334	192	514	228	226	923
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	2188	2128	1844	1663	1699	1849
Adj Flow Rate, veh/h	352	202	541	240	238	972
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	11	9	21	16	6
Cap, veh/h	404	500	922	978	379	1156
Arrive On Green	0.19	0.19	0.50	0.50	0.08	0.63
Sat Flow, veh/h	2084	1804	1844	1410	1618	1849
Grp Volume(v), veh/h	352	202	541	240	238	972
Grp Sat Flow(s),veh/h/ln	2084	1804	1844	1410	1618	1849
Q Serve(g_s), s	19.7	10.9	24.9	7.5	8.3	49.9
Cycle Q Clear(g_c), s	19.7	10.9	24.9	7.5	8.3	49.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	404	500	922	978	379	1156
V/C Ratio(X)	0.87	0.40	0.59	0.25	0.63	0.84
Avail Cap(c_a), veh/h	608	676	922	978	379	1156
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	35.3	21.2	6.8	16.1	17.8
Incr Delay (d2), s/veh	6.2	0.2	2.7	0.6	2.5	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	4.7	10.4	3.8	2.8	19.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.1	35.5	24.0	7.4	18.6	25.2
LnGrp LOS	D	D	C	A	B	C
Approach Vol, veh/h	554		781			1210
Approach Delay, s/veh	46.7		18.9			23.9
Approach LOS	D		B			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	15.0	65.0			80.0	28.2
Change Period (Y+Rc), s	5.0	5.0			5.0	5.0
Max Green Setting (Gmax), s	10.0	60.0			75.0	35.0
Max Q Clear Time (g_c+I1), s	10.3	26.9			51.9	21.7
Green Ext Time (p_c), s	0.0	2.3			3.4	1.6

Intersection Summary	
HCM 6th Ctrl Delay	27.3
HCM 6th LOS	C

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	19	108	663	1292	30
Future Volume (vph)	4	19	108	663	1292	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	11	12
Grade (%)	3%			-5%	6%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.887				0.997	
Flt Protected	0.992			0.993		
Satd. Flow (prot)	1121	0	0	1717	1651	0
Flt Permitted	0.992			0.993		
Satd. Flow (perm)	1121	0	0	1717	1651	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	167			414	503	
Travel Time (s)	3.8			6.3	7.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	50%	2%	10%	7%	33%
Adj. Flow (vph)	4	20	115	705	1374	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	0	820	1406	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	11			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.07	1.07	0.97	1.01	1.09	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	19	108	663	1292	30
Future Vol, veh/h	4	19	108	663	1292	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-5	6	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	50	2	10	7	33
Mvmt Flow	4	20	115	705	1374	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2325	1390	1406	0	-	0
Stage 1	1390	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Critical Hdwy	7.02	7	4.12	-	-	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-
Follow-up Hdwy	3.518	3.75	2.218	-	-	-
Pot Cap-1 Maneuver	28	122	485	-	-	-
Stage 1	183	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	17	122	485	-	-	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	112	-	-	-	-	-
Stage 2	327	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	45.9	2.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	485	-	112	-	-
HCM Lane V/C Ratio	0.237	-	0.218	-	-
HCM Control Delay (s)	14.7	0	45.9	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0.9	-	0.8	-	-

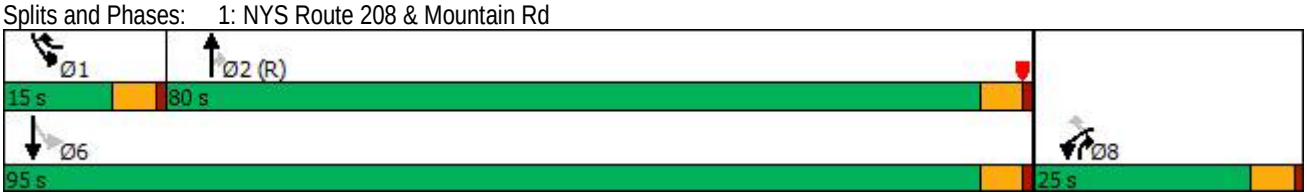
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	185	249	1164	357	213	694
Future Volume (vph)	185	249	1164	357	213	694
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Grade (%)	-10%		-2%			-1%
Storage Length (ft)	0	100		50	100	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				86	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1585	1881	1599	1664	1872
Flt Permitted	0.950				0.050	
Satd. Flow (perm)	1745	1585	1881	1599	88	1872
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		87		96		
Link Speed (mph)	40		55			55
Link Distance (ft)	628		503			2244
Travel Time (s)	10.7		6.2			27.8
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	7%	2%	2%	9%	2%
Adj. Flow (vph)	189	254	1188	364	217	708
Shared Lane Traffic (%)						
Lane Group Flow (vph)	189	254	1188	364	217	708
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	11		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane			Yes			
Headway Factor	0.98	0.94	0.99	0.99	0.99	0.99
Turning Speed (mph)	15	9		9	15	
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	83	83	83	83	83	83
Trailing Detector (ft)	-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	40	40	40	40	40
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(ft)	43	43	43	43	43	43
Detector 2 Size(ft)	40	40	40	40	40	40
Detector 2 Type	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
Turn Type	Prot	pm+ov	NA	pm+ov	pm+pt	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2	6	
Detector Phase	8	1	2	8	1	6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	10.0	10.0	15.0	10.0	10.0	15.0
Total Split (s)	25.0	15.0	80.0	25.0	15.0	95.0
Total Split (%)	20.8%	12.5%	66.7%	20.8%	12.5%	79.2%
Maximum Green (s)	20.0	10.0	75.0	20.0	10.0	90.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	C-Max	None	None	Max
v/c Ratio	0.78	0.49	1.01	0.28	0.89	0.49
Control Delay	71.9	26.1	30.0	0.9	68.9	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.9	26.1	30.0	0.9	68.9	6.5
Queue Length 50th (ft)	142	105	~858	13	120	169
Queue Length 95th (ft)	220	187	m658	m11	#303	262
Internal Link Dist (ft)	548		423			2164
Turn Bay Length (ft)		100		50	100	
Base Capacity (vph)	290	523	1175	1348	244	1457
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.49	1.01	0.27	0.89	0.49

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Red
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: NYS Route 208 & Mountain Rd



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	185	249	1164	357	213	694
Future Volume (veh/h)	185	249	1164	357	213	694
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	2218	2188	1949	1949	1804	1909
Adj Flow Rate, veh/h	189	254	1188	364	217	708
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	5	7	2	2	9	2
Cap, veh/h	304	421	1263	1307	235	1476
Arrive On Green	0.14	0.14	0.65	0.65	0.08	0.77
Sat Flow, veh/h	2113	1854	1949	1651	1718	1909
Grp Volume(v), veh/h	189	254	1188	364	217	708
Grp Sat Flow(s),veh/h/ln	2113	1854	1949	1651	1718	1909
Q Serve(g_s), s	10.1	14.7	66.0	7.1	8.6	16.1
Cycle Q Clear(g_c), s	10.1	14.7	66.0	7.1	8.6	16.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	304	421	1263	1307	235	1476
V/C Ratio(X)	0.62	0.60	0.94	0.28	0.92	0.48
Avail Cap(c_a), veh/h	352	464	1263	1307	235	1476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	41.5	19.0	3.3	38.9	4.9
Incr Delay (d2), s/veh	1.4	1.1	14.6	0.5	38.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	6.7	28.7	3.8	8.6	4.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.8	42.6	33.7	3.9	77.1	6.0
LnGrp LOS	D	D	C	A	E	A
Approach Vol, veh/h	443		1552			925
Approach Delay, s/veh	45.7		26.7			22.7
Approach LOS	D		C			C

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	15.0	82.8			97.8	22.2
Change Period (Y+Rc), s	5.0	5.0			5.0	5.0
Max Green Setting (Gmax), s	10.0	75.0			90.0	20.0
Max Q Clear Time (g_c+I1), s	10.6	68.0			18.1	16.7
Green Ext Time (p_c), s	0.0	3.6			2.2	0.5

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	29	104	24	1476	877	8
Future Volume (vph)	29	104	24	1476	877	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	11	12
Grade (%)	3%			-5%	6%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.895				0.999	
Flt Protected	0.989			0.999		
Satd. Flow (prot)	1570	0	0	1826	1745	0
Flt Permitted	0.989			0.999		
Satd. Flow (perm)	1570	0	0	1826	1745	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	140			414	503	
Travel Time (s)	3.2			6.3	7.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%
Adj. Flow (vph)	30	106	24	1506	895	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	0	1530	903	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	11			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.07	1.02	0.97	1.01	1.09	1.04
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	104	24	1476	877	8
Future Vol, veh/h	29	104	24	1476	877	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	3	-	-	-5	6	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	3	2	2
Mvmt Flow	30	106	24	1506	895	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2453	899	903	0	-	0
Stage 1	899	-	-	-	-	-
Stage 2	1554	-	-	-	-	-
Critical Hdwy	7.02	6.52	4.12	-	-	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 23	313	753	-	-	-
Stage 1	342	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 19	313	753	-	-	-
Mov Cap-2 Maneuver	96	-	-	-	-	-
Stage 1	275	-	-	-	-	-
Stage 2	148	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	48.9	0.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	753	-	210	-	-
HCM Lane V/C Ratio	0.033	-	0.646	-	-
HCM Control Delay (s)	9.9	0	48.9	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.1	-	3.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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Traffic Impact Study

Appendix E | Accident Data

Colliers Engineering & Design

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