

G. Transportation

1. Existing Conditions

The Proposed Project consists of 80 multi-family units on property located on the west side of NYS Route 100 south of the existing Towne Centre at Somers Shopping Center and a 19,000 sf grocery store located on the south side of US Route 202 to the west of the existing Towne Centre at Somers Shopping Center. As shown on Exhibit III.G-1, access to the residential development is proposed via a new unsignalized driveway connection to NYS Route 100 and access to the grocery store is proposed opposite Heritage Hills Drive with a modification to the existing traffic signal.

a) Description of Existing Roadways

As shown on Exhibit III.G-1, the proposed development will be served by various area and local roadways including US Route 202, NYS Route 100, NYS Route 138, and NYS Route 116. The following is a brief description of each of these roadways. Copies of the SYNCHRO analysis which include lane widths, number of lanes, traffic control and signal timings (where appropriate) are contained in Appendix H for each of the individual intersections studied. Existing lane geometry is shown in Exhibit III.G-2.

US Route 202

US Route 202 is a major arterial roadway throughout much of southern New York State including Westchester and Putnam Counties. In the immediate vicinity of the Site, US Route 202 consists of one lane in each direction with additional designated turning lanes provided at several area intersections. West of NYS Route 100 the roadway has an east/west designation; however, it changes to a north/south direction at its intersection with NYS Route 100. The roadway serves many existing residential and retail type land uses. Within the study area it has signalized intersections with Heritage Hills Drive, NYS Route 100/Bailey Court and NYS Route 116. The Towne Centre at Somers is currently accessed via an unsignalized driveway located between the NYS Route 100 and Heritage Hills Drive intersections. Access to the Site (grocery store) is proposed via a new driveway connection to US Route 202 opposite Heritage Hills Drive. Within the study area, the roadway has a posted speed limit of 35 MPH. To the west of Heritage Hills Drive the Somers Middle School is accessed via US Route 202 and a "School Zone Speed Limit" of 25 MPH is posted. To the west of NYS Route 100 the roadway pavement width varies from 30 to 43 feet. The shoulder width for this section of roadway is generally 4 to 5 feet. To the north of the NYS Route 100/Bailey Court intersection the roadway pavement width varies from 36 to 42



feet. The shoulders for this section of US Route 202 are generally 5 feet wide. At the intersection with NYS Route 100/Bailey Court, crosswalks and pedestrian signals are provided on the southbound and eastbound approaches, however, a full sidewalk is only provided on the northwest corner of the intersection. The northeast corner of the intersection has only a small sidewalk section and handicap ramp. The pavement along Route 202 is generally in good condition.

NYS Route 100

NYS Route 100 is a state highway which traverses through Westchester County beginning in the southern part of the county in Yonkers, NY and traveling north, eventually through the study area. To the north of its intersection with US Route 202 and Bailey Court, the roadway becomes US Route 202/NYS Route 100. NYS Route 100 terminates at an intersection with Croton Falls Road approximately 2 miles north of the its intersection with NYS Route 116, at which point US Route 202 merges with NYS Route 22. In the vicinity of the Site the roadway generally consists of one lane in each direction with designated turning lanes provided at several intersections. Within the study area the roadway has signalized intersections with NYS Route 138, US Route 202/Bailey Court, and NYS Route 116. The roadway also has a signalized intersection with the IBM driveway to the north of NYS Route 138, however this intersection is not analyzed as part of this study. The roadway serves mostly office and retail type land uses including the Mill Pond Offices, IBM, a Mobil Station and the Towne Centre at Somers, which has an existing driveway connection south of the US Route 202 intersection, opposite the Citibank parking lot driveway. Access to the residential portion of the Site is proposed at the south end of the Site along NYS Route 100 north of the existing New York State Police Station. The roadway has a posted speed limit of 35 MPH north of the proposed site access with a speed limit of 55 south of the site access. The roadway varies in width from 35 to 45 feet with varying shoulder widths of 5 to 10 feet. No sidewalks are provided along NYS Route 100 within the study area. The pavement is generally in good condition.

NYS Route 138

NYS Route 138 is a state roadway which originates as a “T” shaped signalized intersection with NYS Route 100 to the south of the Site. The roadway traverses in an easterly direction towards a grade separated intersection with Interstate 684 and an intersection with NYS Route 22 near the Goldens Bridge Train Station. From here the roadway continues east to its terminus at a full movement intersection with NYS Route 121. At the intersection with NYS Route 100 there is a channelized right turn lane to accommodate heavy evening right turn volumes for vehicles returning from the train station in the afternoon. Likewise, a southbound left turn lane is also provided to accommodate heavy vehicle



volumes traveling to the train station in the mornings. The roadway has a posted speed limit of 40 MPH and the pavement is generally in good condition. The pavement width of the roadway varies from 30 to 60 feet with varying shoulder widths of between 2 and 10 feet. No sidewalks are provided along NYS Route 138. At its intersection with NYS Route 100, no crosswalks or pedestrian signals are provided.

NYS Route 116

NYS Route 116 is a state roadway which originates at a signalized, "T" shaped intersection with NYS Route 100 to the north of the Site. The roadway continues in an easterly direction towards Interstate 84, at which access is provided for vehicles entering southbound and exiting northbound. Prior to the Interstate 84 ramps, access is provided to the Purdy's Train Station. The roadway terminates to the east of Interstate 84 at a signalized, "T" shaped intersection with NYS Route 22. NYS Route 116 has a posted speed limit of 40 MPH and the pavement is generally in good condition. The pavement width of the roadway varies from 30 to 50 feet with varying shoulder widths of 2 to 5 feet. No sidewalks are provided along NYS Route 116. At its intersection with US Route 202, no crosswalks or pedestrian signals are provided.

b) Year 2013 Existing Traffic Volumes

In order to identify current conditions in the vicinity of the Site for the Study Area Intersections, historical traffic data was compared to recent manual traffic counts and machine counts (conducted in October 2013) to establish the Year 2013 Existing Traffic Volumes. All traffic counts were conducted while school was in session and under normal conditions. Together this information was utilized to establish the Year 2013 Existing Traffic Volumes for the Weekday Peak AM, Weekday Peak PM and Saturday Peak Hours at the following intersections as outlined in the Scoping Document:

- US Route 202 and NYS Route 116
- US Route 202 and NYS Route 100/Bailey Court
- US Route 202 and Heritage Hills Drive
- US Route 202 and Towne Centre at Somers Access
- NYS Route 100 and Towne Centre at Somers Access/Citibank Driveway
- NYS Route 100 and Mill Pond Offices Driveway
- NYS Route 100 and Mobil Entrance
- NYS Route 100 and Mobil Exit
- NYS Route 100 and NYS Route 138
- US Route 202 and Warren Street



Based on a review of the traffic count data, the peak hours are generally:

- Weekday Peak AM Hour – 7:30 AM – 8:30 AM
- Weekday Peak PM Hour – 4:30 PM – 5:30 PM
- Saturday Peak Hour – 11:15 AM – 12:15 PM

The resulting Year 2013 Existing Traffic Volumes for each of the Study Area Intersections are shown on Exhibits III.G-3, III.G-4, and III.G-5, for the Weekday Peak AM, Weekday Peak PM and Saturday Peak Hours, respectively. The Automatic Traffic Recorder (ATR) counts, which also include vehicle classification counts and speed data along US Route 202 and NYS Route 100, can be found in the Traffic Impact Study in Appendix H.

c) Public Transportation

In the vicinity of the proposed Somers Crossing Site there are three Metro-North commuter rail stations which provide service to New York City. These stations include the Goldens Bridge Station located along NYS Route 138 near the Interstate 84 ramps approximately 3 miles southeast of the Site, the Purdy's Station located along NYS Route 116 near the Interstate 84 ramps approximately 2 miles east of the Site, and the Croton Falls Station located along NYS Route 22 approximately 2 miles north of the Site. Each of these stations operates along the Harlem Line which runs from Grand Central Terminal in Manhattan to Wassaic in Dutchess County. The Goldens Bridge Station is capable of handling the most commuter traffic with 976 total commuter parking spaces. The Purdy's Station follows it with 400 total commuter parking spaces, and finally the Croton Falls Station provides 197 commuter parking spaces. Additional commuters also arrive at the Croton Falls Station via the Croton Falls shuttle which operates from Mahopac, NY in Putnam County to the Croton Falls Station. Taxi service is also provided at each of the stations as well as a rental car service at the Purdy's Train Station. During weekdays 10 trains depart each station between 6 AM and 9 AM and 12 trains arrive at each station between 4 PM and 8PM. Parking and access information for the above train stations are included in Appendix H. The Westchester Bee-Line Bus system does not provide public bus service along US Route 202 and NYS Route 100 in the vicinity of the Site.

d) Accident Data

Available accident data for the latest three year period for the area roadways were obtained from the NYSDOT. The accident data was summarized by location, date, time of day, traffic control, accident class, light condition, road condition,



weather, manner of collision and apparent contributing factors. Copies of the reports and summary tables are provided in Appendix H.

e) Parking

The Somers Crossing Site is currently vacant and does not have any parking or driveways. The Towne Centre at Somers is adjacent to the north and east, and contains a total of 405 parking spaces. During the Weekday PM it was found that a maximum of 175 vehicles were parked in the lots during any "one" hour period. During the Saturday time periods analyzed, a maximum of 178 vehicles were found to be parked in the lots during any "one" hour period¹. These parking lots are not currently connected to the Site.

f) NYSDOT improvements

The NYSDOT has awarded the NYS Route 100/NYS Route 138 improvement project (PIN #804410) to reconstruct the NYS Route 138 approach to the intersection with NYS Route 100 eliminating the slip ramp to northbound NYS Route 100 and replacing it with a right turn lane under signal control (with a completion date of September 30, 2015). This improvement was assumed under future No-Build and Build Conditions.

2. Anticipated Impacts

a) Year 2018 No-Build Traffic Volumes

In order to account for normal traffic growth in the area, the Year 2013 Existing Traffic Volumes were projected to the 2018 Design Year by applying a background growth of 1% per year (based on historical data including information from NYSDOT) for a total growth of 5%. The resulting Year 2018 Projected Traffic Volumes are shown on Exhibits III.G-6, III.G-7 and III.G-8 for each of the Peak Hours, respectively. In addition, other traffic volumes which will be associated with other specific developments planned in the area were also identified by the Town. These developments include Wright's Court, Greenbriar, Meichner Subdivision, Merritt Park Estates, Somers Estates, Ridgeview Builders and the Deans Bridge Association Subdivision. The Other Development Traffic Volumes are shown on Exhibits III.G-9, III.G-10 and III.G-11 for the Weekday Peak AM, Weekday Peak PM and Saturday Peak Hours respectively. These Other Development Traffic Volumes were then added to the Year 2018 Projected Traffic

¹ Parking surveys of the Towne Centre parking lots were conducted by John Collins Engineers, PC on Friday, January 30, 2009 from 1:00 PM to 6:00 PM and Saturday January 31, 2009 from 9:00 AM to 2:00 PM and supplemented with recent surveys conducted on Wednesday, December 11, 2013, Thursday, December 19, 2013 and Saturday, December 7, 2013. This information is contained in Appendix H.



Volumes to obtain the Year 2018 No-Build Traffic Volumes. The Year 2018 No-Build Traffic Volumes are shown on Exhibits III.G-12, III.G-13 and III.G-14 for the Weekday Peak AM and PM Hours and Saturday Peak Hours, respectively.

b) Site Generated Traffic Volumes

Estimates of the amount of traffic to be generated by the Somers Crossing Development during each of the peak hours were developed based on data published by the Institute of Transportation Engineers (ITE) as contained in their publication entitled, *Trip Generation*, 9th Edition, 2012. ITE Land Use 230: Residential Condominium/ Townhouse and ITE Land Use 850: Supermarket were used to estimate traffic generated by the residential and retail portions of the Site respectively. Table III.G-1 provides the Hourly Trip Generation Rates and Anticipated Site Generated Traffic Volumes for each of the Peak Hours. It is estimated that the proposed residential development and grocery store will generate 39 “new” entering vehicles and 53 “new” exiting vehicles during the Weekday Peak AM Hour, 121 “new” entering and 100 “new” exiting vehicles during the Weekday Peak PM Hour, and 105 “new” entering and 97 “new” exiting vehicles during the Saturday Peak Hour (after “pass-by” trips are accounted for).



**Table III.G-1
Hourly Trip Generation Rates and Anticipated Site Generated Traffic Volumes**

	Entry		Exit		Total	
	HTGR ¹	Volume	HTGR ¹	Volume	HTGR ¹	Volume
<i>80 Residential Units²</i>						
Weekday Peak AM Hour	0.09	7	0.45	36	0.54	43
Weekday Peak PM Hour	0.42	34	0.21	17	0.63	51
Saturday Peak Hour	0.35	28	0.30	24	0.65	52
<i>19,000 S.F. Grocery Store³</i>						
Weekday Peak AM Hour	2.11	40	1.29	25	3.40	65
Weekday Peak PM Hour	6.11	116	5.88	112	11.99	228
Saturday Peak Hour	5.43	103	5.22	99	10.65	202
<i>With 25% Pass-By Credit</i>						
Weekday Peak AM Hour	--	32	--	17	--	49
Weekday Peak PM Hour	--	87	--	83	--	170
Saturday Peak Hour	--	77	--	73	--	150
<i>Total</i>						
Weekday Peak AM Hour	--	47	--	61	--	108
Weekday Peak PM Hour	--	150	--	129	--	279
Saturday Peak Hour	--	131	--	123	--	254
<i>"New" Trips⁴</i>						
Weekday Peak AM Hour	--	39	--	53	--	92
Weekday Peak PM Hour	--	121	--	100	--	221
Saturday Peak Hour	--	105	--	97	--	202

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, 9th Edition, 2012.

² ITE Land Use 230 – Townhouse Rates w/ No Credit for Seniors Age 55 and Above (AM Equation, PM Equation, Saturday Average of Equation & Average Rate)

³ ITE Land Use 850 – Supermarket Rates (AM Average Rate, PM Equation, Saturday Average Rate)

⁴ It can be expected that a significant portion of the grocery store trips would be "pass-by" traffic from the existing traffic stream. A 25% "pass-by" credit was utilized.

c) Arrival/Departure Distribution

An arrival and departure distribution was established based on the existing traffic volumes and from a review of the employment and population centers in the area to assign the site generated traffic volumes to the roadway network. Due to the layout of the Site, the proposed access points, and the consideration of the nearby commuter rail stations, separate arrival and departure distributions were established for the Residential Land Uses and for the Retail Land Uses. The resulting arrival and departure distributions are shown on Exhibits III.G-15 and III.G-16 for the residential community and Exhibits III.G-17 and III.G-18 for the



grocery store. Access to the residential development is proposed via a new unsignalized driveway connection to NYS Route 100 and access to the grocery store is proposed opposite Heritage Hills Drive with a modification to the existing traffic signal. There will be no vehicular interconnection provided between the residential community and the grocery store.

d) Year 2018 Build Traffic Volumes

The site generated traffic volumes were assigned to the roadway network utilizing the above referenced arrival and departure distributions. The total site generated traffic volumes are shown on Exhibits III.G-19, III.G-20 and III.G-21. The site generated traffic volumes for the residential community are shown on Exhibits III.G-22, III.G-23, and III.G-24 for peak hours. Exhibits III.G-25, III.G-26, and III.G-27 show site generated traffic volumes for the grocery store for each of the peak hours. These site generated traffic volumes were added to the Year 2018 No-Build Traffic Volumes resulting in the Year 2018 Build Traffic Volumes which are shown on Exhibits III.G-28, III.G-29, and III.G-30 for the Weekday Peak AM, Weekday PM and Saturday Peak Hours.

e) Traffic Generation Analysis

A SYNCHRO Analysis was completed for each of the Peak Hours in order to determine existing and future traffic operating conditions at the study area intersections. SYNCHRO is a simulation model that can be used to optimize signal timing parameters for isolated intersections as well as generate coordinated traffic signal timing plans for arterials and networks. SYNCHRO also optimizes cycle lengths and performs coordination analysis. SYNCHRO also calculates intersection Levels of Service, approach delays, volume-to-capacity (v/c) ratios, and queue lengths, each of which are described in more detail below.

Levels of Service

Level of Service (LOS) is a rating system defined in terms of capacity (the maximum hourly rate at which a vehicle can pass through an intersection) and delay, which is a measure of travel time for signalized intersections. Six Levels of Service are defined ranging from "A" to "F", with LOS "A" representing the best (operating conditions) and LOS "F" the worst. Each Level of Service represents a range of delays (operating conditions), measured in seconds, experienced by drivers. Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix H. The Level of Service table is provided below as Table III.G-2.



TABLE III.G-2

LEVEL OF SERVICE SUMMARY TABLE

	LOCATION	YEAR 2013 EXISTING CONDITIONS			YEAR 2018 NO-BUILD CONDITIONS			YEAR 2018 BUILD CONDITIONS		
		WEEKDAY AM	WEEKDAK PM	SATURDAY	WEEKDAY AM	WEEKDAK PM	SATURDAY	WEEKDAY AM	WEEKDAK PM	SATURDAY
1	U.S. ROUTE 202 & NYS ROUTE 116 SIGNALIZED	C [31.4] {0.63}	D [45.7] {0.89}	C [34.5] {0.63}	C [31.4] {0.65}	D [49.9] {0.92}	C [34.7] {0.65}	C [31.9] {0.66}	E [55.1] {0.95}	C [34.8] {0.66}
	WESTBOUND LEFT / RIGHT	C [31.4]	D [45.7]	C [34.5]	C [31.4]	D [49.9]	C [34.7]	C [31.9]	E [55.1]	C [34.8]
	WESTBOUND APPROACH	B [12.8] {0.47}	D [45.4] {0.95}	B [10.8] {0.46}	B [14.7] {1.04}	E [65.7] {1.04}	B [11.9] {0.50}	B [15.2] {0.57}	F [83.4] {1.09}	B [12.7] {0.54}
	NORTHBOUND THROUGH / RIGHT	B [12.8]	D [45.4]	B [10.8]	B [14.7]	E [65.7]	B [11.9]	B [15.2]	F [83.4]	B [12.7]
	NORTHBOUND APPROACH	A [6.0] {0.28}	B [10.1] {0.15}	A [5.0] {0.05}	A [6.6] {0.32}	B [10.4] {0.17}	A [5.4] {0.06}	A [6.8] {0.33}	B [10.4] {0.17}	A [5.6] {0.06}
	SOUTHBOUND LEFT	B [11.0] {0.68}	B [10.3] {0.28}	A [5.7] {0.25}	B [12.7] {0.73}	B [10.9] {0.30}	A [6.1] {0.27}	B [12.9] {0.74}	B [11.2] {0.32}	A [6.4] {0.29}
	SOUTHBOUND THROUGH	B [10.3]	B [10.3]	A [5.6]	B [11.7]	B [10.8]	A [6.1]	B [12.0]	B [11.1]	A [6.3]
	SOUTHBOUND APPROACH	B [13.8]	D [38.5]	B [13.9]	B [15.2]	D [50.1]	B [14.6]	B [15.6]	E [60.6]	B [15.0]
	OVERALL INTERSECTION									
	W/ TIMING CHANGES									
	WESTBOUND LEFT / RIGHT								D [51.2] {0.93}	
	WESTBOUND APPROACH								D [51.2]	
	NORTHBOUND THROUGH / RIGHT								E [72.9] {1.06}	
	NORTHBOUND APPROACH								E [72.9]	
	SOUTHBOUND LEFT								B [12.0] {0.21}	
	SOUTHBOUND THROUGH								B [11.7] {0.32}	
	SOUTHBOUND APPROACH								B [11.7]	
	OVERALL INTERSECTION								D [54.3]	
2	U.S. ROUTE 202 / NYS ROUTE 100 / BAILEY COURT SIGNALIZED	D [52.1] {0.76}	E [64.8] {0.91}	D [54.2] {0.79}	D [53.0] {0.78}	E [72.8] {0.95}	E [56.4] {0.82}	D [53.5] {0.79}	F [84.5] {1.00}	E [58.3] {0.85}
	EASTBOUND LEFT / THROUGH	F [131.7] {1.20}	C [26.4] {0.36}	C [32.1] {0.58}	F [149.6] {1.24}	C [27.3] {0.39}	C [32.7] {0.60}	F [152.1] {1.25}	C [28.4] {0.44}	C [33.7] {0.64}
	EASTBOUND RIGHT	F [109.7]	E [51.5]	D [43.0]	F [122.6]	E [57.1]	D [44.5]	F [124.3]	E [64.2]	D [45.9]
	EASTBOUND APPROACH	D [48.2] {0.09}	E [66.4] {0.60}	D [48.3] {0.39}	D [47.9] {0.09}	E [70.7] {0.64}	D [49.5] {0.41}	D [48.0] {0.09}	E [70.9] {0.65}	D [50.3] {0.42}
	WESTBOUND LEFT / THROUGH / RIGHT	D [48.2]	E [66.4]	D [48.3]	D [47.9]	E [70.7]	D [49.5]	D [48.0]	E [70.9]	D [50.3]
	WESTBOUND APPROACH	C [24.2] {0.38}	C [33.1] {0.77}	B [16.9] {0.39}	C [33.0] {0.46}	D [43.6] {0.87}	B [18.5] {0.43}	D [36.1] {0.52}	E [55.5] {0.94}	C [21.1] {0.50}
	NORTHBOUND LEFT	A [7.2] {0.12}	B [18.4] {0.50}	B [12.7] {0.21}	A [7.5] {0.13}	C [20.2] {0.55}	B [13.3] {0.23}	A [7.7] {0.13}	C [20.6] {0.56}	B [13.9] {0.24}
	NORTHBOUND THROUGH / RIGHT	B [15.6]	C [25.5]	B [14.9]	C [20.2]	C [31.5]	B [16.0]	C [22.2]	D [37.9]	B [17.8]
	NORTHBOUND APPROACH	D [40.9] {0.90}	C [24.1] {0.30}	C [22.4] {0.31}	D [51.6] {0.96}	C [25.3] {0.34}	C [23.1] {0.33}	D [53.0] {0.97}	C [25.7] {0.35}	C [24.1] {0.35}
	SOUTHBOUND LEFT / THROUGH	A [4.7] {0.30}	A [4.4] {0.34}	A [3.8] {0.23}	A [4.8] {0.32}	A [4.8] {0.38}	A [3.8] {0.24}	A [4.9] {0.33}	A [5.0] {0.41}	A [3.9] {0.27}
	SOUTHBOUND RIGHT	C [29.7]	B [11.7]	B [13.1]	D [37.0]	B [12.4]	B [13.4]	D [37.7]	B [12.5]	B [13.5]
	SOUTHBOUND APPROACH	E [62.5]	C [30.7]	C [26.4]	E [71.9]	D [35.1]	C [27.4]	E [72.7]	D [40.0]	C [28.7]
	OVERALL INTERSECTION									
	W/ TIMING CHANGES									
	EASTBOUND LEFT / THROUGH								E [63.8] {0.92}	
	EASTBOUND RIGHT								B [15.1] {0.32}	
	WESTBOUND LEFT / THROUGH / RIGHT								D [46.2]	
	WESTBOUND APPROACH								E [70.2] {0.64}	
	NORTHBOUND LEFT								E [70.2]	
	NORTHBOUND THROUGH / RIGHT								D [53.0] {0.91}	
	NORTHBOUND APPROACH								C [23.3] {0.59}	
	SOUTHBOUND LEFT / THROUGH								D [83.0]	
	SOUTHBOUND RIGHT								D [54.5] {0.73}	
	SOUTHBOUND APPROACH								B [10.7] {0.50}	
	OVERALL INTERSECTION								C [26.6]	
	W/ TIMING CHANGES								D [38.5]	

LEVEL OF SERVICE [VEHICLE DELAY IN SECONDS] (VOLUME-TO-CAPACITY RATIO) FOR THE SIGNALIZED INTERSECTIONS
 LEVEL OF SERVICE (AVERAGE TOTAL DELAY IN SECONDS) (VOLUME-TO-CAPACITY RATIO) FOR THE UNSIGNALIZED INTERSECTIONS.

TABLE III.G-2

LEVEL OF SERVICE SUMMARY TABLE

	LOCATION	YEAR 2013 EXISTING CONDITIONS			YEAR 2018 NO-BUILD CONDITIONS			YEAR 2018 BUILD CONDITIONS				
		WEEKDAY AM	WEEKDAK PM	SATURDAY	WEEKDAY AM	WEEKDAK PM	SATURDAY	WEEKDAY AM	WEEKDAK PM	SATURDAY		
3	U.S. ROUTE 202 & HERITAGE HILLS DRIVE SIGNALIZED EASTBOUND LEFT EASTBOUND THROUGH EASTBOUND APPROACH WESTBOUND THROUGH / RIGHT WESTBOUND APPROACH SOUTHBOUND LEFT SOUTHBOUND RIGHT SOUTHBOUND APPROACH OVERALL INTERSECTION W/ PROPOSED SITE ACCESS EASTBOUND LEFT EASTBOUND THROUGH / RIGHT EASTBOUND APPROACH WESTBOUND LEFT WESTBOUND THROUGH / RIGHT WESTBOUND APPROACH SOUTHBOUND LEFT SOUTHBOUND THROUGH / RIGHT SOUTHBOUND APPROACH NORTHBOUND LEFT NORTHBOUND THROUGH / RIGHT NORTHBOUND APPROACH OVERALL INTERSECTION	A [8.8] {0.18}	A [5.1] {0.21}	A [7.3] {0.30}	A [8.9] {0.20}	A [5.4] {0.23}	A [7.4] {0.31}	B [11.2] {0.22}	B [19.3] {0.43}	C [32.8] {0.66}		
		C [31.8] {0.92}	A [6.2] {0.42}	A [7.9] {0.40}	D [37.1] {0.95}	A [6.2] {0.43}	A [8.3] {0.43}	-----	D [39.8] {0.95}	C [21.7] {0.60}	C [25.1] {0.60}	
		C [30.1]	A [6.1]	A [7.8]	D [35.1]	A [6.1]	A [8.1]	-----	D [37.7]	C [21.4]	C [26.8]	
		C [22.8]	C [29.7] {0.90}	D [42.7]	C [23.2] {0.67}	C [32.8]	E [56.8]	-----	C [21.9]	D [44.8]	D [42.4]	
		C [25.9] {0.55}	D [43.8] {0.67}	D [40.2] {0.84}	C [27.9] {0.60}	D [49.3] {0.74}	D [45.4] {0.88}	-----	C [34.6] {0.71}	B [11.3] {0.22}	B [13.9] {0.21}	
		A [3.4] {0.09}	A [6.3] {0.10}	A [2.4] {0.12}	A [3.3] {0.09}	A [6.2] {0.11}	A [2.4] {0.12}	-----	A [7.5] {0.13}	D [47.8] {0.97}	D [45.4] {0.92}	
		C [21.9]	D [36.3]	C [32.9]	C [23.6]	D [40.6]	D [37.2]	-----	C [29.7]	C [30.4]	C [31.9]	
		C [26.4]	C [23.3]	C [28.8]	C [29.5]	C [25.6]	D [35.6]	-----	C [19.7]	C [20.4]	B [16.5]	
		-----	-----	-----	-----	-----	-----	-----	C [31.5]	C [34.0]	C [33.5]	
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
		4	U.S. ROUTE 202 & TOWNE CENTRE AT SOMERS UNSIGNALIZED MAJOR MOVEMENTS WESTBOUND LEFT MINOR MOVEMENTS NORTHBOUND LEFT NORTHBOUND RIGHT	B [10.9] {0.037}	A [9.2] {0.046}	A [9.1] {0.043}	B [11.2] {0.041}	A [9.4] {0.05}	A [9.3] {0.047}	B [11.3] {0.041}	A [9.7] {0.053}	A [9.5] {0.049}
E [44.9] {0.227}	F [141.0] {0.958}			F [68.0] {0.804}	F [54.2] {0.276}	F [216.3] {1.159}	F [103.9] {0.949}	F [58.5] {0.294}	F [327.9] {1.407}	F [162.9] {1.116}		
C [20.6] {0.166}	B [14.4] {0.185}			B [14.0] {0.218}	C [22.5] {0.192}	C [15.2] {0.204}	B [14.7] {0.239}	C [22.9] {0.195}	C [16.3] {0.223}	C [15.7] {0.257}		

LEVEL OF SERVICE [VEHICLE DELAY IN SECONDS] {VOLUME-TO-CAPACITY RATIO} FOR THE SIGNALIZED INTERSECTIONS
 LEVEL OF SERVICE (AVERAGE TOTAL DELAY IN SECONDS) {VOLUME-TO-CAPACITY RATIO} FOR THE UNSIGNALIZED INTERSECTIONS.

TABLE III.G-2

LEVEL OF SERVICE SUMMARY TABLE

	LOCATION	YEAR 2013 EXISTING CONDITIONS		YEAR 2018 NO-BUILD CONDITIONS		YEAR 2018 BUILD CONDITIONS					
		WEEKDAY AM	WEEKDAY PM	WEEKDAY AM	WEEKDAY PM	WEEKDAY AM	WEEKDAY PM	SATURDAY			
5	NYS ROUTE 100 & TOWNE CENTRE AT SOMERS / CITIBANK UN SIGNALIZED <u>MAJOR MOVEMENTS</u> NORTHBOUND LEFT SOUTHBOUND LEFT <u>MINOR MOVEMENTS</u> EASTBOUND LEFT / THROUGH EASTBOUND RIGHT WESTBOUND LEFT / THROUGH / RIGHT	B (13.0) {0.044} A (7.9) {0.01}	A (8.4) {0.044} A (9.7) {0.021} E (39.3) {0.49} B (11.0) {0.03} D (26.2) {0.071}	A (8.6) {0.059} A (8.3) {0.04}	B (13.7) {0.049} A (7.9) {0.011}	F (80.8) {0.516} E (44.1) {0.391} F (236.6) {0.378}	A (8.5) {0.047} A (9.9) {0.023}	A (8.8) {0.064} A (8.3) {0.042}	B (13.8) {0.05} A (8.0) {0.011}	A (8.7) {0.049} B (10.1) {0.024}	A (8.9) {0.066} A (8.5) {0.044}
6	NYS ROUTE 100 & MILL POND OFFICES UN SIGNALIZED <u>MAJOR MOVEMENTS</u> NORTHBOUND LEFT <u>MINOR MOVEMENTS</u> EASTBOUND LEFT / RIGHT	B (13.7) {0.048}	B (8.3) {0.007}	B (8.5) {0.007}	B (14.4) {0.055}	B (8.3) {0.007}	B (8.6) {0.007}	B (14.7) {0.056}	B (8.7) {0.007}	B (8.5) {0.007}	B (8.7) {0.007}
7	NYS ROUTE 100 & MOBIL ENTRANCE UN SIGNALIZED <u>MAJOR MOVEMENTS</u> NORTHBOUND LEFT	A (0.9) {0.05}	A (0.7) {0.04}	A (0.4) {0.03}	A (1.1) {0.06}	A (0.8) {0.04}	A (0.4) {0.03}	A (1.2) {0.06}	A (0.9) {0.04}	A (0.5) {0.03}	
8	NYS ROUTE 100 & MOBIL EXIT UN SIGNALIZED <u>MINOR MOVEMENTS</u> EASTBOUND LEFT EASTBOUND RIGHT	F (50.3) {0.202} F (61.5) {0.694}	D (34.5) {0.342} B (10.8) {0.066}	C (20.0) {0.233} B (11.6) {0.097}	F (60.9) {0.249} F (84.7) {0.809}	E (41.0) {0.402} B (11.0) {0.072}	C (22.0) {0.265} B (11.9) {0.107}	F (65.5) {0.265} F (93.1) {0.84}	E (49.0) {0.455} B (11.4) {0.076}	C (24.9) {0.297} B (12.3) {0.112}	

LEVEL OF SERVICE [VEHICLE DELAY IN SECONDS] (VOLUME-TO-CAPACITY RATIO) FOR THE SIGNALIZED INTERSECTIONS
 LEVEL OF SERVICE (AVERAGE TOTAL DELAY IN SECONDS) (VOLUME-TO-CAPACITY RATIO) FOR THE UNSIGNALIZED INTERSECTIONS.

TABLE III.G-2

LEVEL OF SERVICE SUMMARY TABLE

	LOCATION	YEAR 2013 EXISTING CONDITIONS			YEAR 2018 NO-BUILD CONDITIONS			YEAR 2018 BUILD CONDITIONS			
		WEEKDAY AM	WEEKDAK PM	SATURDAY	WEEKDAY AM	WEEKDAK PM	SATURDAY	WEEKDAY AM	WEEKDAK PM	SATURDAY	
9	NYS ROUTE 100 & NYS ROUTE 138 SIGNALIZED NORTHBOUND THROUGH / RIGHT NORTHBOUND APPROACH SOUTHBOUND LEFT SOUTHBOUND THROUGH / RIGHT SOUTHBOUND APPROACH WESTBOUND LEFT / RIGHT WESTBOUND APPROACH OVERALL INTERSECTION W/ NYSDOT IMPROVEMENTS SIGNALIZED NORTHBOUND THROUGH / RIGHT NORTHBOUND APPROACH SOUTHBOUND LEFT SOUTHBOUND THROUGH / RIGHT SOUTHBOUND APPROACH WESTBOUND LEFT WESTBOUND RIGHT WESTBOUND APPROACH OVERALL INTERSECTION	B [11.4] {0.29}	B [19.5] {0.58}	A [8.3] {0.26}							
		B [11.4]	B [19.5]	A [8.3]							
		A [8.3] {0.69}	A [8.2] {0.38}	A [3.5] {0.31}							
		A [4.3] {0.38}	A [6.7] {0.22}	A [2.8] {0.19}							
		A [6.4]	A [7.3]	A [3.1]							
		C [25.1] {0.61}	C [29.2] {0.84}	B [16.9] {0.66}							
		C [25.1]	C [29.2]	B [16.9]							
		A [9.5]	B [18.7]	A [7.7]							
10	U.S. ROUTE 202 & WARREN STREET UNSIGNALIZED MAJOR MOVEMENTS EASTBOUND LEFT MINOR MOVEMENTS SOUTHBOUND LEFT / RIGHT NYS ROUTE 100 & PROPOSED SITE ACCESS UNSIGNALIZED MAJOR MOVEMENTS NORTHBOUND LEFT MINOR MOVEMENTS EASTBOUND LEFT / RIGHT										
11	NYS ROUTE 100 & PROPOSED SITE ACCESS UNSIGNALIZED MAJOR MOVEMENTS NORTHBOUND LEFT MINOR MOVEMENTS EASTBOUND LEFT / RIGHT										

LEVEL OF SERVICE [VEHICLE DELAY IN SECONDS] {VOLUME-TO-CAPACITY RATIO} FOR THE SIGNALIZED INTERSECTIONS
 LEVEL OF SERVICE (AVERAGE TOTAL DELAY IN SECONDS) {VOLUME-TO-CAPACITY RATIO} FOR THE UNSIGNALIZED INTERSECTIONS.

Volume-To-Capacity (v/c) Ratio

The volume-to-capacity (v/c) ratio is an approximate indicator of the overall sufficiency on an intersection. The volume-to-capacity (v/c) ratio is based on a comparison of the volume to capacity of individual movements as well as for the overall intersection and can help determine if an individual movement or the overall intersection is near or at capacity.

Queuing

Queuing is another performance measure to determine the number of vehicles that are queued depending on arrival patterns of vehicles and vehicles that do not clear the intersection. Queues are generally measured in feet, however queue lengths can be presented in terms of number of vehicles using the assumption that on average a vehicle occupies 25 feet. The Queue Summary table is provided below as Table III.G-3.

Results of Traffic Analysis

A SYNCHRO analysis was performed to analyze the Year 2013 Existing, Year 2018 No-Build and Year 2018 Build Conditions for the Weekday AM, PM and Saturday Peak Hours utilizing the procedures described above in order to evaluate current and future operating conditions. Copies of the SYNCHRO analysis are contained in Appendix H. Summarized below is a brief description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service and any recommended improvements.

Tables III.G-2 and III.G-3, summarize the results of the SYNCHRO analysis. Table III.G-2 summarizes the Levels of Service, delays, and v/c ratios and Table III.G-3 summarizes the Queues for the Year 2013 Existing, Year 2018 No-Build and Year 2018 Build Conditions.

The Traffic Impact Study in Appendix H contains traffic signal timing data and signal plans obtained from NYSDOT. It should be noted that for the analysis of signalized intersections existing traffic signal timings used were from timings collected during field observations.

TABLE NO. 3

QUEUE SUMMARY TABLE

	LOCATION	STORAGE LENGTH (FEET)	YEAR 2013 EXISTING CONDITIONS			YEAR 2018 NO-BUILD CONDITIONS			YEAR 2018 BUILD CONDITIONS												
			WEEKDAY AM 50th % 95th %	WEEKDAY PM 50th % 95th %	SATURDAY 50th % 95th %	WEEKDAY AM 50th % 95th %	WEEKDAY PM 50th % 95th %	SATURDAY 50th % 95th %	WEEKDAY AM 50th % 95th %	WEEKDAY PM 50th % 95th %	SATURDAY 50th % 95th %										
1	U.S. ROUTE 202 & NYS ROUTE 116 SIGNALIZED WESTBOUND LEFT / RIGHT NORTHBOUND THROUGH / RIGHT SOUTHBOUND LEFT SOUTHBOUND THROUGH W/ TIMING CHANGES WESTBOUND LEFT / RIGHT NORTHBOUND THROUGH / RIGHT SOUTHBOUND LEFT SOUTHBOUND THROUGH	500'	83	149	240	#391	89	156	89	157	265	#433	97	166	92	162	287	#467	102	173	
		1,611'	95	189	-567	#814	83	259	110	209	-638	#888	98	297	118	221	-683	#936	109	332	
		170'	21	46	8	20	3	13	23	49	8	21	4	14	24	49	8	21	4	15	
		780'	190	360	86	133	49	107	219	405	93	143	56	120	226	412	98	151	60	129	
2	U.S. ROUTE 202 / NYS ROUTE 100 / BAILEY COURT SIGNALIZED EASTBOUND LEFT / THROUGH EASTBOUND RIGHT WESTBOUND LEFT / THROUGH / RIGHT NORTHBOUND LEFT NORTHBOUND THROUGH / RIGHT SOUTHBOUND LEFT / THROUGH SOUTHBOUND RIGHT W/ TIMING CHANGES EASTBOUND LEFT / THROUGH EASTBOUND RIGHT WESTBOUND LEFT / THROUGH / RIGHT NORTHBOUND THROUGH / RIGHT SOUTHBOUND LEFT / THROUGH SOUTHBOUND RIGHT	875'	175	306	319	#502	224	301	190	#336	346	#550	245	326	195	#357	360	#604	273	358	
		100'+	-584	#963	120	188	193	261	251	-644	#1025	129	200	209	280	-656	#1038	152	230	235	311
		50'+	6	25	58	#122	29	70	6	6	25	62	#133	31	72	6	25	62	#133	33	72
		541'	29	85	232	#341	90	148	40	126	253	#430	102	159	53	147	276	276	#516	128	179
		541'	27	76	247	345	78	131	31	81	269	374	89	141	34	85	272	272	379	101	145
		1,611'	425	#862	115	178	115	194	490	490	#935	124	190	127	206	498	#940	129	197	140	212
		420'	54	80	46	67	27	41	59	87	50	73	73	29	44	61	91	55	80	33	49

THE ABOVE SUMMARIZES

THE 50TH PERCENTILE AND 95TH PERCENTILE QUEUES BASED ON THE SYNCHRO ANALYSIS

THE SYNCHRO ANALYSIS DOES NOT CALCULATE A 50TH PERCENTILE QUEUE FOR UNSIGNALIZED INTERSECTIONS

~ 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

TABLE NO. 3

QUEUE SUMMARY TABLE

	STORAGE LENGTH (FEET)	YEAR 2013 EXISTING CONDITIONS				YEAR 2018 NO-BUILD CONDITIONS				YEAR 2018 BUILD CONDITIONS															
		WEEKDAY AM 50th % 95th %	WEEKDAY PM 50th % 95th %	SATURDAY 50th % 95th %	SATURDAY 50th % 95th %	WEEKDAY AM 50th % 95th %	WEEKDAY PM 50th % 95th %	SATURDAY 50th % 95th %	SATURDAY 50th % 95th %	WEEKDAY AM 50th % 95th %	WEEKDAY PM 50th % 95th %	SATURDAY 50th % 95th %	SATURDAY 50th % 95th %												
9	NYS ROUTE 100 & NYS ROUTE 138 SIGNALIZED NORTHBOUND THROUGH / RIGHT SOUTHBOUND LEFT SOUTHBOUND THROUGH / RIGHT WESTBOUND LEFT / RIGHT W/ NYS DOT IMPROVEMENTS SIGNALIZED NORTHBOUND THROUGH / RIGHT SOUTHBOUND LEFT SOUTHBOUND THROUGH / RIGHT WESTBOUND LEFT WESTBOUND RIGHT	71	124	463	114	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
		81	176	32	79	57	114	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		66	142	50	116	22	59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		40	87	118	181	23	61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	73	118	164	397	62	116	121	199	452	68	128	--	--	--	--	--	--	--
		--	--	--	--	--	--	79	148	19	55	23	55	82	23	71	25	62	--	--	--	--	--	--	--
		--	--	--	--	--	--	63	118	30	80	24	57	121	35	99	26	63	--	--	--	--	--	--	--
		--	--	--	--	--	--	30	60	38	68	17	44	60	38	68	17	44	--	--	--	--	--	--	--
		--	--	--	--	--	--	0	39	12	50	0	63	39	33	85	0	65	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	U.S. ROUTE 202 & WARREN STREET UN SIGNALIZED MAJOR MOVEMENTS EASTBOUND LEFT MINOR MOVEMENTS SOUTHBOUND LEFT / RIGHT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
		3	6	5	7	3	5	3	7	7	5	3	7	7	5	5	5	--	--	--	--	--	--	5	
		129	76	65	99	169	83	183	99	121	83	183	183	121	121	99	99	--	--	--	--	--	--	99	
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	NYS ROUTE 100 & PROPOSED SITE ACCESS UN SIGNALIZED MAJOR MOVEMENTS NORTHBOUND LEFT MINOR MOVEMENTS EASTBOUND LEFT / RIGHT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7

THE ABOVE SUMMARIZES
 THE 50TH PERCENTILE AND 95TH PERCENTILE QUEUES BASED ON THE SYNCHRO ANALYSIS
 THE SYNCHRO ANALYSIS DOES NOT CALCULATE A 50TH PERCENTILE QUEUE FOR UNSIGNALIZED INTERSECTIONS
 - 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

US Route 202 and NYS Route 116

NYS Route 116 intersects US Route 202 at a semi-actuated signalized “T” shaped intersection. The US Route 202 southbound approach consists of two lanes in the form of a separate left turn lane and a separate through lane and the US Route 202 northbound approach consists of one lane for through and right turn movements. The NYS Route 116 westbound approach consists of one lane for left and right turn movements.

Year 2013 Existing Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2013 Existing Traffic Volumes and existing traffic signal operations indicates that this intersection is currently operating at an overall Level of Service “B” during the Weekday Peak AM Highway Hour, is currently operating at an overall Level of Service “D” during the Weekday Peak PM Highway Hour and is currently operating at an overall Level of Service “B” during the Saturday Peak Hour.

Year 2018 No-Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 No-Build Traffic Volumes and existing traffic signal operations indicates that this intersection is projected to operate at an overall Level of Service “B” during the Weekday Peak AM Highway Hour, is projected to operate at an overall Level of Service “D” during the Weekday Peak PM Highway Hour and is projected to operate at an overall Level of Service “B” during the Saturday Peak Hour.

Year 2018 Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 Build Traffic Volumes and existing traffic signal operations indicates that this intersection is projected to continue to operate at an overall Level of Service “B” during the Weekday Peak AM Highway Hour, is projected to continue to operate at an overall Level of Service “D” (with traffic signal timing changes) during the Weekday Peak PM Highway Hour and is projected to continue to operate at an overall Level of Service “B” during the Saturday Peak Hour.

The existing semi-actuated traffic signal at this location may require minimal signal timing adjustments to obtain optimal Levels of Service. This will be coordinated with NYSDOT as part of the Highway Work Permit.

US Route 202 and NYS Route 100/Bailey Court

US Route 202, NYS Route 100, and Bailey Court intersect at a full movement, fully actuated signalized intersection. A full sidewalk is only provided on the northwest corner of the intersection with crosswalks on the southbound and eastbound approaches with pedestrian signals. The NYS Route 100 northbound approach



consists of two lanes in the form of a separate left turn lane and a shared through/right turn lane and the US Route 202 southbound approach consists of two lanes in the form of a shared left/through lane and a separate right turn lane. The US Route 202 eastbound approach consists of two lanes in the form of a shared left/through lane and a separate right turn lane and the Bailey Court westbound approach consists of one lane for left, through and right turn movements.

Year 2013 Existing Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2013 Existing Traffic Volumes and existing traffic signal operations indicates that this intersection is currently operating at an overall Level of Service “E” during the Weekday Peak AM Highway Hour, is currently operating at an overall Level of Service “C” during the Weekday Peak PM Highway Hour and is currently operating at an overall Level of Service “C” during the Saturday Peak Hour. The eastbound US Route 202 right turn movement is currently experiencing long delays during the Weekday Peak AM Highway Hour.

Year 2018 No-Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 No-Build Traffic Volumes and existing traffic signal operations indicates that this intersection is projected to operate at an overall Level of Service “E” during the Weekday Peak AM Highway Hour, is projected to operate at an overall Level of Service “D” during the Weekday Peak PM Highway Hour and is projected to operate at an overall Level of Service “C” during the Saturday Peak Hour.

Year 2018 Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 Build Traffic Volumes and existing traffic signal operations indicates that this intersection is projected to continue to operate at an overall Level of Service “E” during the Weekday Peak AM Highway Hour, is projected to operate at an overall Level of Service “D” (with traffic signal timing changes) during the Weekday Peak PM Highway Hour and is projected to continue to operate at an overall Level of Service “C” during the Saturday Peak Hour. The existing actuated traffic signal at this location may require minimal signal timing adjustments to obtain optimal Levels of Service. This will be coordinated with NYSDOT as part of the Highway Work Permit.

Queuing – As noted above, under existing conditions the US Route 202 eastbound right turn movement is experiencing long delays during the Weekday Peak AM Highway Hour. The additional Project traffic is not expected to significantly increase this queue.



US Route 202 and Heritage Hills Drive/Site Access

US Route 202 and Heritage Hills Drive intersect at a semi-actuated signalized, “T” shaped intersection. The US Route 202 eastbound approach consist of two lanes in the form of a separate left turn lane and a shared through lane and the US Route 202 westbound approach consists of one lane for through and right turn movements. The Heritage Hills Drive southbound approach consists of two lanes in the form of a separate left turn lane and a separate right turn lane.

Year 2013 Existing Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2013 Existing Traffic Volumes and existing traffic signal operations indicates that this intersection is currently operating at an overall Level of Service “C” during the Weekday Peak AM Highway Hour, is currently operating at an overall Level of Service “C” during the Weekday Peak PM Highway Hour and is currently operating at an overall Level of Service “C” during the Saturday Peak Hour.

Year 2018 No-Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 No-Build Traffic Volumes and existing traffic signal operations indicates that this intersection is projected to operate at an overall Level of Service “C” during the Weekday Peak AM Highway Hour, is projected to operate at an overall Level of Service “C” during the Weekday Peak PM Highway Hour and is projected to operate at an overall Level of Service “D” during the Saturday Peak Hour.

Year 2018 Build Traffic Volumes – Access to the grocery store is proposed opposite Heritage Hills Drive. As part of the Project, a separate westbound left turn lane will be developed for entering traffic and the driveway (northbound approach) will have two lanes in the form of a separate left turn lane and a shared through/right turn lane. Appropriate sight distances for signalized intersections will be provided at the proposed site access. The capacity analysis conducted at this location utilizing the Year 2018 Build Traffic Volumes indicates that this intersection is projected to operate at an overall Level of Service “C” during the Weekday Peak AM Highway Hour, is projected to operate at an overall Level of Service “C” during the Weekday Peak PM Highway Hour and is projected to operate at an overall Level of Service “C” during the Saturday Peak Hour.

As part of the Highway Work Permit, the project access will be coordinated with NYS DOT to minimize queues and optimize signal operation.

US Route 202 and Towne Centre at Somers

The Towne Centre at Somers driveway intersects with U.S. Route 202 at an unsignalized “T” shaped intersection. The US Route 202 westbound approach

consist of two lanes in the form of a separate left turn lane and a shared through/right turn lane and the US Route 202 eastbound approach consists of one lane for through and right turn movements. The Towne Centre at Somers driveway (northbound approach) consists of two lanes in the form of a separate left turn lane and a separate right turn lane and is “stop” sign controlled.

Year 2013 Existing Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2013 Existing Traffic Volumes indicates that the Towne Centre Shopping Center exiting left turn (minor movement) is currently operating at a Level of Service “E” during the Weekday Peak AM Highway Hour, is currently operating at a Level of Service “F” during the Weekday Peak PM Highway Hour and is currently operating at a Level of Service “F” during the Saturday Peak Hour with the exiting right turn (minor movement) currently operating at a Level of Service “C” during the Weekday Peak AM Highway Hour, currently operating at a Level of Service “B” during the Weekday Peak PM Highway Hour and currently operating at a Level of Service “B” during the Saturday Peak Hour. It should be noted for unsignalized intersections it is not uncommon for the side road or driveway (minor movements) to operate with delays while the major movements operate at better Levels of Service.

Year 2018 No-Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 No-Build Traffic Volumes indicates that the Towne Centre Shopping Center exiting left turn (minor movement) is projected to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to operate at a Level of Service “F” during the Weekday Peak PM Highway Hour and is projected to operate at a Level of Service “F” during the Saturday Peak Hour with the exiting right turn (minor movement) projected to operate at a Level of Service “C” during the Weekday Peak AM Highway Hour, projected to operate at a Level of Service “C” during the Weekday Peak PM Highway Hour and projected to operate at a Level of Service “B” during the Saturday Peak Hour.

Year 2018 Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 Build Traffic Volumes indicates that the Towne Centre Shopping Center exiting left turn (minor movement) is projected to continue to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to continue to operate at a Level of Service “F” during the Weekday Peak PM Highway Hour and is projected to continue to operate at a Level of Service “F” during the Saturday Peak Hour with the exiting right turn (minor movement) projected to continue to operate at a Level of Service “C” during the Weekday Peak AM Highway Hour, projected to continue operate at a Level of



Service “C” during the Weekday Peak PM Highway Hour and projected to operate at a Level of Service “C” during the Saturday Peak Hour.

NYS Route 100 and Towne Centre at Somers/Citibank Driveway

The Towne Centre at Somers Driveway and the Citibank Driveway intersect NYS Route 100 opposite each other to form an unsignalized full movement intersection. The Towne Centre at Somers Driveway and the Citibank Driveway approaches are each controlled by a “stop” sign. The NYS Route 100 northbound approach consists of two lanes in the form of a separate left turn lane and a shared through/right turn lane and the NYS Route 100 southbound approach consists of one lane for left, through and right turn lanes. The Towne Centre at Somers driveway (eastbound approach) consists of two lanes in the form of a shared left/through lane and a separate right turn lane and the Citibank Driveway (westbound approach) consists of one lane for left, through and right turn movements.

Year 2013 Existing Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2013 Existing Traffic Volumes indicates that the Towne Centre Shopping Center exiting left/through (minor movements) is currently operating at a Level of Service “F” during the Weekday Peak AM Highway Hour, is currently operating at a Level of Service “E” during the Weekday Peak PM Highway Hour and is currently operating at a Level of Service “D” during the Saturday Peak Hour with the exiting right turn (minor movement) currently operating at a Level of Service “E” during the Weekday Peak AM Highway Hour, currently operating at a Level of Service “B” during the Weekday Peak PM Highway Hour and currently operating at a Level of Service “B” during the Saturday Peak Hour. The Citi Bank approach is currently operating at a Level of Service “F” during the Weekday Peak AM Highway Hour, is currently operating at a Level of Service “D” during the Weekday Peak PM Highway Hour and is currently operating at a Level of Service “C” during the Saturday Peak Hour. It should be noted for unsignalized intersections it is not uncommon for the side road or driveway (minor movements) to operate with delays while the major movements operate at better Levels of Service.

Year 2018 No-Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 No-Build Traffic Volumes indicates that the Towne Centre Shopping Center exiting left/through (minor movements) is projected to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to operate at a Level of Service “F” during the Weekday Peak PM Highway Hour and is projected to operate at a Level of Service “D” during the Saturday Peak Hour with the exiting right turn (minor movement) projected to operate at a Level of Service “E” during the Weekday Peak AM Highway Hour,



projected to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour and projected to operate at a Level of Service “B” during the Saturday Peak Hour. The Citi Bank approach is projected to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to operate at a Level of Service “D” during the Weekday Peak PM Highway Hour and is projected to operate at a Level of Service “D” during the Saturday Peak Hour.

Year 2018 Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 Build Traffic Volumes indicates that the Towne Centre Shopping Center exiting left/through (minor movements) is projected to continue to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to continue to operate at a Level of Service “F” during the Weekday Peak PM Highway Hour and is projected to continue to operate at a Level of Service “D” during the Saturday Peak Hour with the exiting right turn (minor movement) projected to continue to operate at a Level of Service “E” during the Weekday Peak AM Highway Hour, projected to continue to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour and projected to continue to operate at a Level of Service “B” during the Saturday Peak Hour. The Citi Bank approach is projected to continue to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to continue to operate at a Level of Service “D” during the Weekday Peak PM Highway Hour and is projected to continue to operate at a Level of Service “D” during the Saturday Peak Hour.

NYS Route 100 and Mill Pond Offices

The Mill Pond Offices Driveway intersects NYS Route 100 at an unsignalized “T” shaped intersection. The NYS Route 100 northbound approach consist of one lane for left and through movements and the NYS Route 100 southbound approach consists of one lane for through and right turn movements. The Mill Pond Office Driveway (eastbound approach) consists of one lane for left and right movements and is “stop” sign controlled.

Year 2013 Existing Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2013 Existing Traffic Volumes indicates that the Mill Pond Office approach (minor movements) is currently operating at a Level of Service “F” during the Weekday Peak AM Highway Hour, is currently operating at a Level of Service “D” during the Weekday Peak PM Highway Hour and is currently operating at a Level of Service “C” during the Saturday Peak Hour. It should be noted for unsignalized intersections it is not uncommon for the side road or driveway (minor movements) to operate with delays while the major movements operate at better levels of Service.



Year 2018 No-Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 No-Build Traffic Volumes indicates that the Mill Pond Office approach (minor movements) is projected to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to operate at a Level of Service “E” during the Weekday Peak PM Highway Hour and is projected to operate at a Level of Service “C” during the Saturday Peak Hour.

Year 2018 Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 Build Traffic Volumes indicates that the Mill Pond Office approach (minor movements) is projected to continue to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to continue to operate at a Level of Service “E” during the Weekday Peak PM Highway Hour and projected to continue to operate at a Level of Service “C” during the Saturday Peak Hour.

NYS Route 100 and Mobil Entrance

NYS Route 100 intersects with the Mobil Entrance driveway at an unsignalized “T” shaped intersection.

Year 2013 Existing Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2013 Existing Traffic Volumes indicates that the Mobil entering left turn is currently operating at a Level of Service “A” during the Weekday Peak AM Highway Hour, Weekday Peak PM Highway Hour and Saturday Peak Hour.

Year 2018 No-Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 No-Build Traffic Volumes indicates that the Mobil entering left turn is projected to operate at a Level of Service “A” during the Weekday Peak AM Highway Hour, Weekday Peak PM Highway Hour and Saturday Peak Hour.

Year 2018 Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 Build Traffic Volumes indicates that the Mobil entering left turn is projected to continue to operate at a Level of Service “A” during the Weekday Peak AM Highway Hour, Weekday Peak PM Highway Hour and Saturday Peak Hour.

NYS Route 100 and Mobil Exit

NYS Route 100 and the Mobil Exit Driveway intersect at an unsignalized “T” shaped intersection. The Mobil Exit Driveway consists of two lanes in the form of a separate left turn lane and separate right turn lane and is “stop” sign controlled.



Year 2013 Existing Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2013 Existing Traffic Volumes indicates that the Mobil exiting left turn (minor movement) is currently operating at a Level of Service “F” during the Weekday Peak AM Highway Hour, is currently operating at a Level of Service “D” during the Weekday Peak PM Highway Hour and is currently operating at a Level of Service “C” during the Saturday Peak Hour and the Mobil exiting right turn (minor movement) is currently operating at a Level of Service “F” during the Weekday Peak AM Highway Hour, is currently operating at a Level of Service “B” during the Weekday Peak PM Highway Hour and is currently operating at a Level of Service “B” during the Saturday Peak Hour. It should be noted for unsignalized intersections it is not uncommon for the side road or driveway (minor movements) to operate with delays while the major movements operate at better levels of Service.

Year 2018 No-Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 No-Build Traffic Volumes indicates that the Mobil exiting left turn (minor movement) is projected to continue operating at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to operate at a Level of Service “E” during the Weekday Peak PM Highway Hour and is projected to operate at a Level of Service “C” during the Saturday Peak Hour and the Mobil exiting right turn (minor movement) is projected to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour and is projected to operate at a Level of Service “B” during the Saturday Peak Hour.

Year 2018 Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 Build Traffic Volumes indicates that the Mobil exiting left turn (minor movement) is projected to continue to operate operating at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to continue to operate at a Level of Service “E” during the Weekday Peak PM Highway Hour and is projected to continue to operate at a Level of Service “C” during the Saturday Peak Hour and the Mobil exiting right turn (minor movement) is projected to continue to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to continue to operate at a Level of Service “B” during the Weekday Peak PM Highway Hour and is projected to continue to operate at a Level of Service “B” during the Saturday Peak Hour.

NYS Route 100 and NYS Route 138

NYS Route 100 and NYS Route 138 intersect at a semi-actuated signalized “T” shaped intersection. The NYS Route 100 southbound approach consists of two lanes in the form of a separate left turn lane and a separate through lane and the NYS Route 100 northbound approach consists of one lane for through and right



turn movements. The NYS Route 138 westbound approach consist of two lanes in the form of a separate left turn lane and a separate channelized right turn lane which is controlled by a “Yield” sign.

Year 2013 Existing Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2013 Existing Traffic Volumes and existing traffic signal operations indicates that this intersection is currently operating at an overall Level of Service “A” during the Weekday Peak AM Highway Hour, is currently operating at an overall Level of Service “B” during the Weekday Peak PM Highway Hour and is currently operating at an overall Level of Service “A” during the Saturday Peak Hour.

NYS DOT Improvements - The NYS DOT has awarded the NYS Route 100/NYS Route 138 improvement project (PIN #804410) to reconstruct the NYS Route 138 approach to the intersection with NYS Route 100 eliminating the slip ramp to northbound NYS Route 100 and replacing it with a right turn lane under signal control (with a completion date of September 30, 2015) and was assumed under future No-Build and Build Conditions.

Year 2018 No-Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 No-Build Traffic Volumes and existing traffic signal operations indicates that this intersection is projected to operate at an overall Level of Service “A” during the Weekday Peak AM Highway Hour, is projected to operate at an overall Level of Service “B” during the Weekday Peak PM Highway Hour and is projected to operate at an overall Level of Service “A” during the Saturday Peak Hour.

Year 2018 Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 Build Traffic Volumes and existing traffic signal operations indicates that this intersection is projected to continue to operate at an overall Level of Service “A” during the Weekday Peak AM Highway Hour, is projected to continue to operate at an overall Level of Service “B” (with traffic signal timing changes) during the Weekday Peak PM Highway Hour and is projected to continue to operate at an overall Level of Service “A” during the Saturday Peak Hour.

US Route 202 and Warren Street

US Route 202 and Warren Street intersect at an unsignalized, “T” shaped intersection. The US Route 202 eastbound approach consists of one lane for left and right turn movements and the US Route 202 westbound approach consists of one lane for through and right turn movements. The Warren Street southbound approach consists of one lane for left and right turn movements.



Year 2013 Existing Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2013 Existing Traffic Volumes indicates that the Warren Street approach (minor movements) is currently operating at a Level of Service “F” during the Weekday Peak AM Highway Hour, is currently operating at a Level of Service “E” during the Weekday Peak PM Highway Hour and is currently operating at a Level of Service “D” during the Saturday Peak Hour. It should be noted for unsignalized intersections it is not uncommon for the side road or driveway (minor movements) to operate with delays while the major movements operate at better Levels of Service.

Year 2018 No-Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 No-Build Traffic Volumes indicates that the Mill Pond Office approach (minor movements) is projected to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to operate at a Level of Service “F” during the Weekday Peak PM Highway Hour and is projected to operate at a Level of Service “E” during the Saturday Peak Hour.

Year 2018 Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 Build Traffic Volumes indicates that the Mill Pond Office approach (minor movements) is projected to continue to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to continue to operate at a Level of Service “F” during the Weekday Peak PM Highway Hour and projected to continue to operate at a Level of Service “E” during the Saturday Peak Hour.

NYS Route 100 and Proposed Site Access

Access to the residential portion of the Site is planned to intersect NYS Route 100 at an unsignalized “T” shaped intersection. The proposed site access approach will be controlled by a “stop” sign.

Year 2018 Build Traffic Volumes – The capacity analysis conducted at this location utilizing the Year 2018 Build Traffic Volumes indicates that the proposed site driveway (minor movements) is projected to operate at a Level of Service “F” during the Weekday Peak AM Highway Hour, is projected to operate at a Level of Service “D” during the Weekday Peak PM Highway Hour and is projected to operate at a Level of Service “C” during the Saturday Peak Hour. It should be noted for unsignalized intersections it is not uncommon for the side road or driveway (minor movements) to operate with delays while the major movements operate at better Levels of Service.

Sight Distance- With the construction of the proposed driveway to the residential portion of the Site and adequate clearing of trees and shrubs near the access, it



is expected that a sight distance of 700+ feet will be provided looking to the north (left) and 500+ feet will be provided looking to the south (right) for vehicles exiting the proposed driveway. The speed limit in this area changes from 35 MPH to 55 MPH. However, the 85th percentile speeds were found to be 45 MPH for northbound traffic and 48 MPH for southbound traffic. At 50 MPH, the required the stopping sight distance is 425 feet and the intersection sight distance is 555 feet looking left and 480 feet looking right. Based on the above, there is adequate sight distance at this driveway.

**Table III.G-4
Sight Distance: NYS Route 100 and Proposed Site Access**

SIGHT DISTANCE: NYS ROUTE 100 AND PROPOSED SITE ACCESS						
Design Speed	AASHTO Sight Distance Standards ⁽¹⁾				Existing Sight Distance	
	Left Turn From Stop		Right Turn From Stop		Left	Right
	Stopping	Intersection	Stopping	Intersection		
50 mph	425	555	425	480	700'+	500'+

⁽¹⁾ Based on AASHTO Standards as contain in "A Policy on Geometric Design of Highway and Streets-2011."

f) Alteration of Present Patterns of Movement of People or Goods

Since the Proposed Project considers both residential and retail uses similar to the adjacent properties, similar arrival/departure patterns will continue along the area roadways. See also Section 2.C above.

g) Impacts on Adjacent Schools

The Somers Central School District has expressed concerns regarding additional local traffic at school arrival and dismissal times (see letter from SCSD dated 1/29/14 in Appendix C). Peak traffic conditions were analyzed for the area roadways along NYS Route 100 and US Route 202 in the vicinity of the Site during the Weekday Peak AM and Weekday Peak PM Highway Hours. The existing traffic volumes include school bus traffic along US Route 202 and NYS Route 100 and have been considered in the Existing, No-Build and Build analysis. In addition, 24-hour traffic volumes were collected (ATR machine counts) along NYS Route 100 and US Route 202 and are included in Appendix E of the Traffic Impact Study (DEIS Appendix H).

Somers Crossing is anticipated to generate some 19 trips along US Route 202 in the vicinity of the Somers Intermediate School and Somers Middle School during

the morning school hours and some 42 trips during the afternoon school hours. Based on a review of the ATR machine counts, the average Weekday volume along US Route 202 in the vicinity of the schools is 813 vehicles during the 7:00AM-8:00AM Hour, 1,037 vehicles during the 8:00AM-9:00AM Hour, 815 vehicles during the 2:00PM-3:00PM Hour, and 989 vehicles during the 3:00PM-4:00PM Hour.

In addition, it should be noted that when a school bus stops to pick-up/drop-off children, they use the on-bus safety system including flashing light and stop signs. As typical with school bus activity on the area roads, traffic stops in both directions allowing safe pick-up/drop-off of children. School bus routes were observed along US Route 202 and NYS Route 100. There were no school bus stops observed in the vicinity of the Site.

Based on the above, it is expected that similar school bus operation will continue under Future No-Build and Future Build Conditions.

Regarding a school bus stop for students that reside at the site, the applicant will work with the school district to arrive at a suitable location for a school bus stop on site, and will give permission for school buses to travel on the private roads on the site.

h) Conceptual Improvement Plan

The improvement plan for the proposed grocery store driveway to US Route 202, opposite Heritage Hills Drive, is indicated on the engineering plans for the project, and on the Conceptual Intersection Improvement Plan, Exhibit III.G-31.

i) Proposed Site Parking

The residential portion of the project will have parking in unit garages as well as in driveways and 32 guest parking spaces along the roadway. The grocery store has 107 parking spaces proposed, in two parking lots, plus one loading space proposed, as shown on the Proposed Concept Plan (Exhibit II-5). The required parking for the grocery store is 95 (1 space per 200 sf), plus one loading space as per Section 170-40.B. of the Town Code. No shared parking is proposed or required. Adequate parking is provided for each land use (See Chapter II, Project Description, as well as Chapter III.B, Zoning for description and comparison of parking required and provided for each proposed land use).

j) Internal Connections Within the Site

As shown on Exhibit III. G-1, access to the residential development is proposed via a driveway connection to NYS Route 100 and access to the grocery store is proposed opposite Heritage Hills with a modification to the existing traffic signal.

Due to the wetlands and wetland buffer areas located between the proposed residential community and grocery store, direct vehicular access between the two uses is not proposed. A pedestrian path, however, is proposed to link the two uses through the open space, as indicated on the Proposed Concept Plan (Exhibit II-5). This path will also serve as a connection between the Site frontage on Route 202 (opposite Heritage Hills) and the site frontage on Route 100. Pending Town initiatives and/or plans and proposals regarding pedestrian access in the surrounding area are not known at this time.

k) Connections to the Adjacent Shopping Center

A pedestrian connection to the adjacent Towne Centre at Somers will be made via a path to the edge of the Site property line. Vehicular connection, however, is not proposed in the Concept Plan. Pedestrians might be able to walk from the grocery store to the shopping center, although it is unlikely because the pavement will extend only to the property line without a connection on the shopping center site. The Applicant is in discussion with the owner of the Towne Centre at Somers property to determine a feasible connection between the two sites. (See Chapter IV, Alternatives for description of plans that do indicate vehicular connections; and the following summary of these connection alternatives).

There are three potential connection alternatives with the Towne Centre Site: a connection between the grocery store; a connection between the residential development; and a connection to both the grocery store and residential development.

Connection between the Grocery Store and Towne Centre

A vehicular connection between the grocery store and Towne Centre would potentially reduce some turning movements at the NYS Route 100/US Route 202 intersection by providing access to/from the south on NYS Route 100 through the existing Towne Centre driveway. This could potentially reduce the NYS Route 100/US Route 202 intersection by some 15 trips during the Weekday Peak AM Hour, some 31 trips during the Weekday Peak PM Hour and some 45 trips during the Saturday Peak Hour. A further reduction of traffic at the adjacent driveways would be experienced as a result of interplay trips between the Towne Centre and grocery store. In addition, this connection would also allow the Towne



Centre unsignalized exiting left turns to access US Route 202 westbound at the signalized Somers Crossing driveway.

Connection between the Residential Community and Towne Centre

A vehicular connection between the residential and Towne Centre would also reduce traffic on the adjacent driveways as a result of interplay trips between Towne Centre and the residential community. In addition, this connection would also provide another point of access to the residential development.

Connection between both the Grocery Store, Residential and Towne Centre

A connection between both the grocery store and Towne Centre and the residential community and Towne Centre would combine the benefits outlined above as well as further reduce traffic on the adjacent driveways as a result of interplay between the grocery store and the residential development.

It should be noted that there would be no significant detriments of the alternative connections. These connection scenarios would not likely create the potential for “cut-throughs” of the Site to/from Heritage Hills and/or the shopping center. The potential routes would not be direct and are designed to discourage short-cuts.

l) Increase in Traffic (Heritage Hills Drive and Warren Street)

It is expected that there will be trips destined from the residential areas along Heritage Hills Drive and Warren Street to the proposed grocery store. The traffic projections assume 10% of the grocery store traffic will be from Heritage Hills Drive, which will equate to some 5 trips during the Weekday Peak AM Hour, 17 trips during the Weekday Peak PM Hour and 15 trips during the Saturday Peak Hour. The traffic projections assume 5% of the grocery store trips will be from Warren Street which would equate to 3 trips during the Weekday Peak AM Hour, 8 trips during the Weekday Peak PM Hour and 8 trips during the Saturday Peak Hour. It should be noted that no project traffic is anticipated to use Heritage Hills and Warren Street as a “cut-through”.

m) Impacts to Mass Transit, Pedestrians and Bicyclists

The Existing and Future Traffic Volumes include mass transit, pedestrian and bicycle traffic. The arrival and departure distributions for the residential development also takes into account traffic destined to/from the area train stations. It is not expected that the Proposed Project will have a significant impact on mass transit or pedestrian and bicyclist activity in the area. Pedestrian connections are proposed between the residential community and the grocery store, as well as between the residential community and Towne Centre at Somers. No sidewalks are proposed in the residential community.



n) Other Potential Town Sites Eligible for MFR-DH District

As described in Chapter III.B, Zoning, the only other site identified with the potential to apply for the proposed MFR-DH floating district is a site located at the intersection of NYS Route 100/U.S. Route 202. If the existing shopping strip center at that site was redeveloped under the proposed zoning, it would generate an additional 78-82 vehicles on the roadway network during the Weekday peak AM, Weekday Peak PM and Saturday Peak Hours.

o) Construction Traffic

Impacts due to construction will be temporary and will result from delivery of materials and equipment as well as workers driving to and from the Site. The primary routes for import of fill and silt removal would be primarily to/from the north and south along NYS Route 100 from I-684. Construction workers and delivery of material and equipment would also be from US Route 202 from the west and from the NYS Route 202 Corridor.

The total exported and imported earth movement will require the following truck loads (preliminary estimates): 110 during construction phase 1A; 126 during construction phase 1B; 1,669 during construction phase 2; and 601 during construction phase 3. The construction period is proposed to be phased over a 24 to 36 month period. The length of each phase of construction has not been determined at this time. These estimates will be refined as the construction phasing and earthwork are detailed further in the process, and export will be reduced to the maximum extent practicable.

p) Emergency Access

All proposed roadways will be private roads. Access to the Site for emergency vehicles will be from the proposed access points: the new access on Route 100 for the residential portion or the new access at Route 202 opposite Heritage Hills for the grocery store. See Chapter IV.C.1. for an alternative site design which includes connections to the Towne Centre at Somers shopping center which would provide additional emergency access.

3. Mitigation Measures

The following is a list of proposed/recommended traffic improvements:

- US Route 202 and Heritage Hills Drive/Site Access:
 - Access to the grocery store is proposed opposite Heritage Hills Drive. As part of the Project, a separate westbound left turn lane will be developed for entering traffic and the driveway (northbound approach) will have



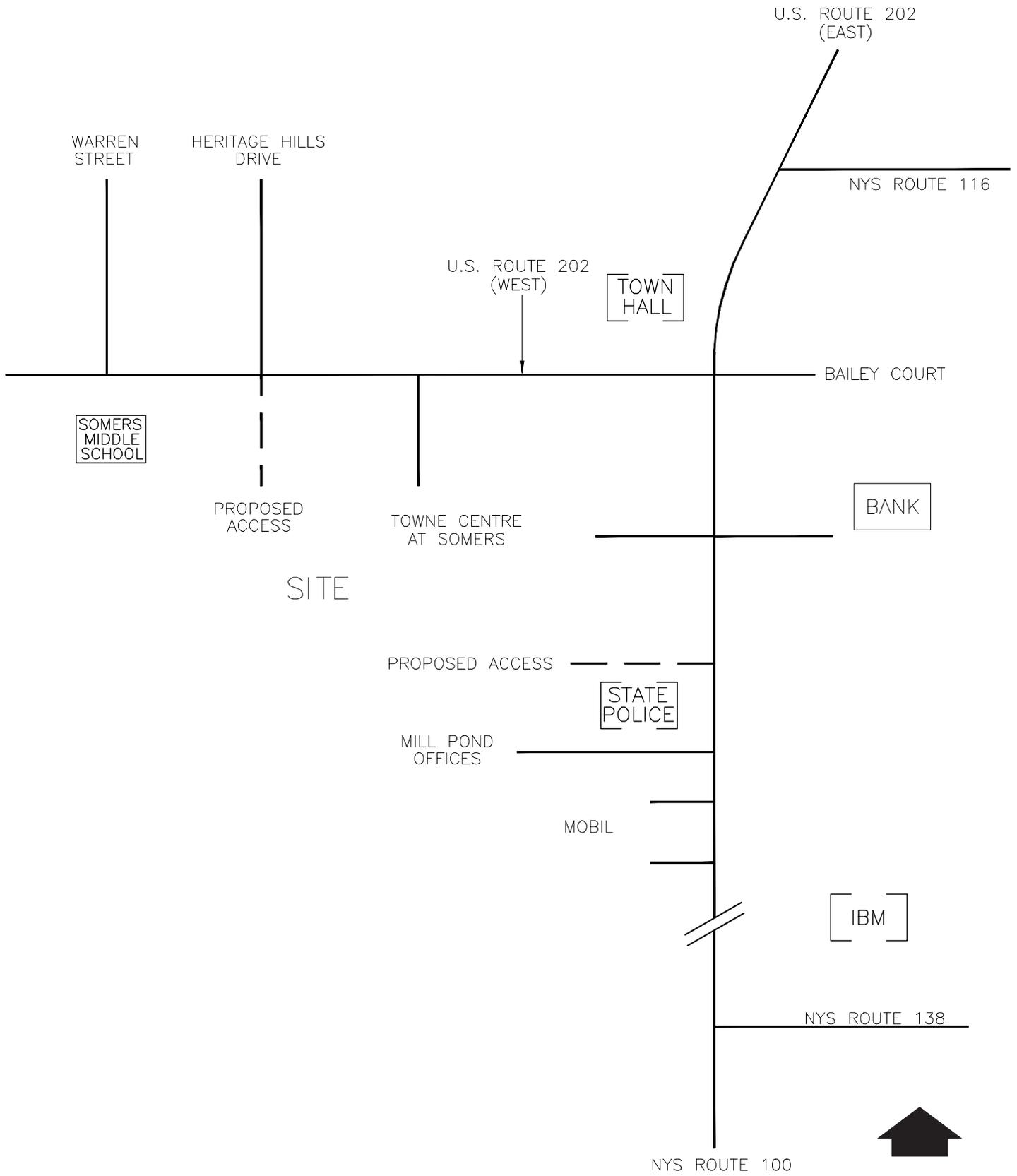
- two exiting lanes in the form of a separate left turn lane and a shared through/right turn lane.
- o Modification to the existing traffic signal
- US Route 202 and NYS Route 116:
 - o The existing semi-actuated traffic may require minimal signal timing adjustments.
- US Route 202 and NYS Route 100/ Bailey Court:
 - o The existing fully actuated traffic signal may require minimal signal timing adjustments.

As summarized in the Traffic Impact Study in Appendix H, with the completion of the above improvements, the traffic generated by Somers Crossing can be accommodated on the roadway system in the vicinity of the Site, and no other road improvements or sidewalks are proposed for mitigation.

No significant impacts to bus or train systems, bicyclists or pedestrians are anticipated, so no mitigation is proposed. Jitney service will not be practical relative to the amount of new development proposed. Therefore, a jitney service is not proposed. The applicant will work with the school district to arrive at a suitable location for a school bus stop on site, and will give permission for school buses to travel on the internal private roads.

An unpaved pathway through the open space is proposed creating a new pedestrian connection through the Site from Route 202 to Route 100. This is considered a positive impact to improve pedestrian access in the hamlet. A pathway connection is also proposed from the residential community to the parking lot of the adjacent Towne Centre. However, sidewalks will not be provided on the property because there is no sidewalk network to connect to in the hamlet as sidewalks only exist in front of Somers Town Hall and 342 Route 202.





NOTE: LINE DIAGRAM NOT TO SCALE

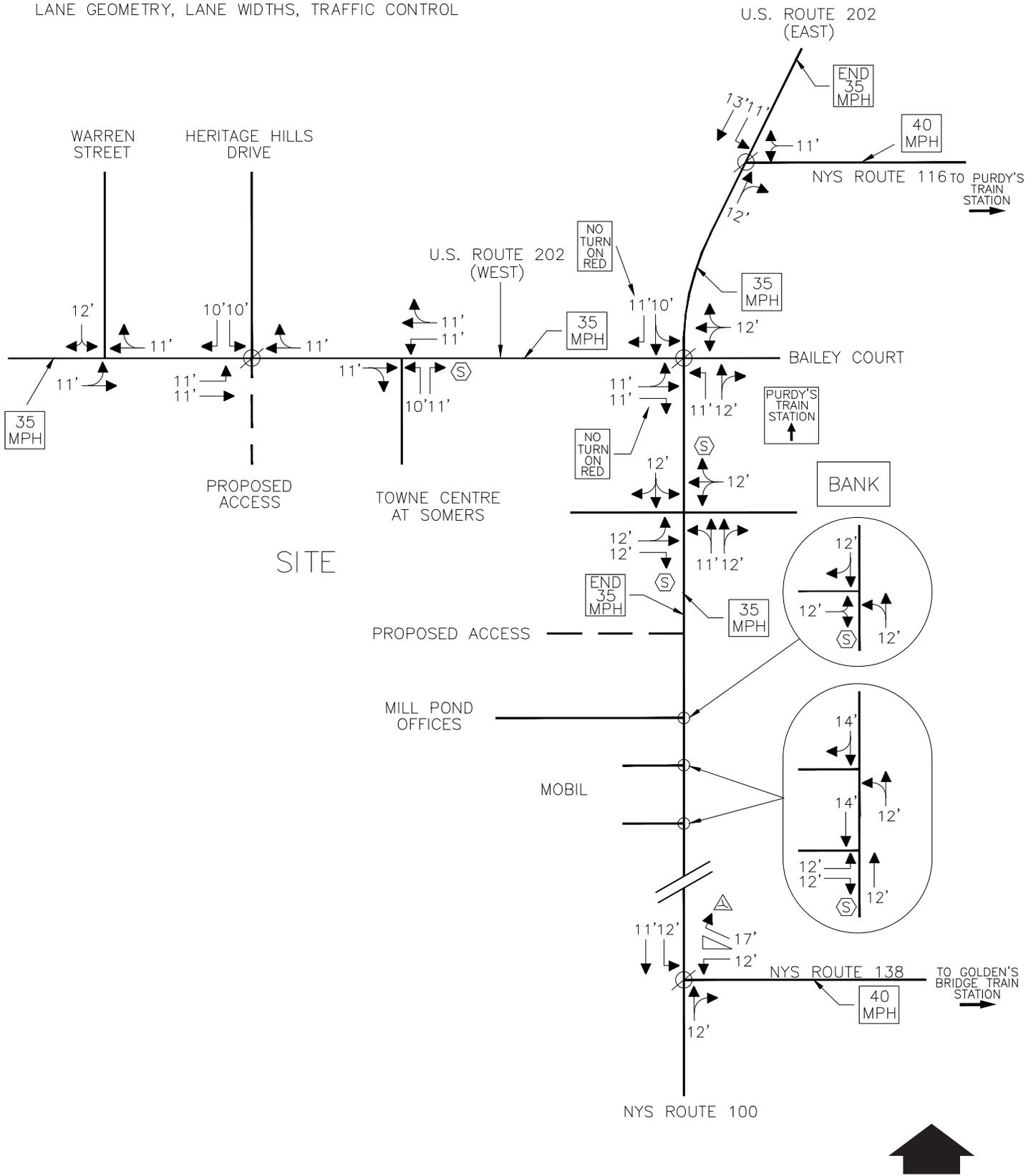
Source: Maser Consulting P.A.

SOMERS CROSSING
North Castle, New York

Site Location

Exhibit
III.G-1

LANE GEOMETRY, LANE WIDTHS, TRAFFIC CONTROL



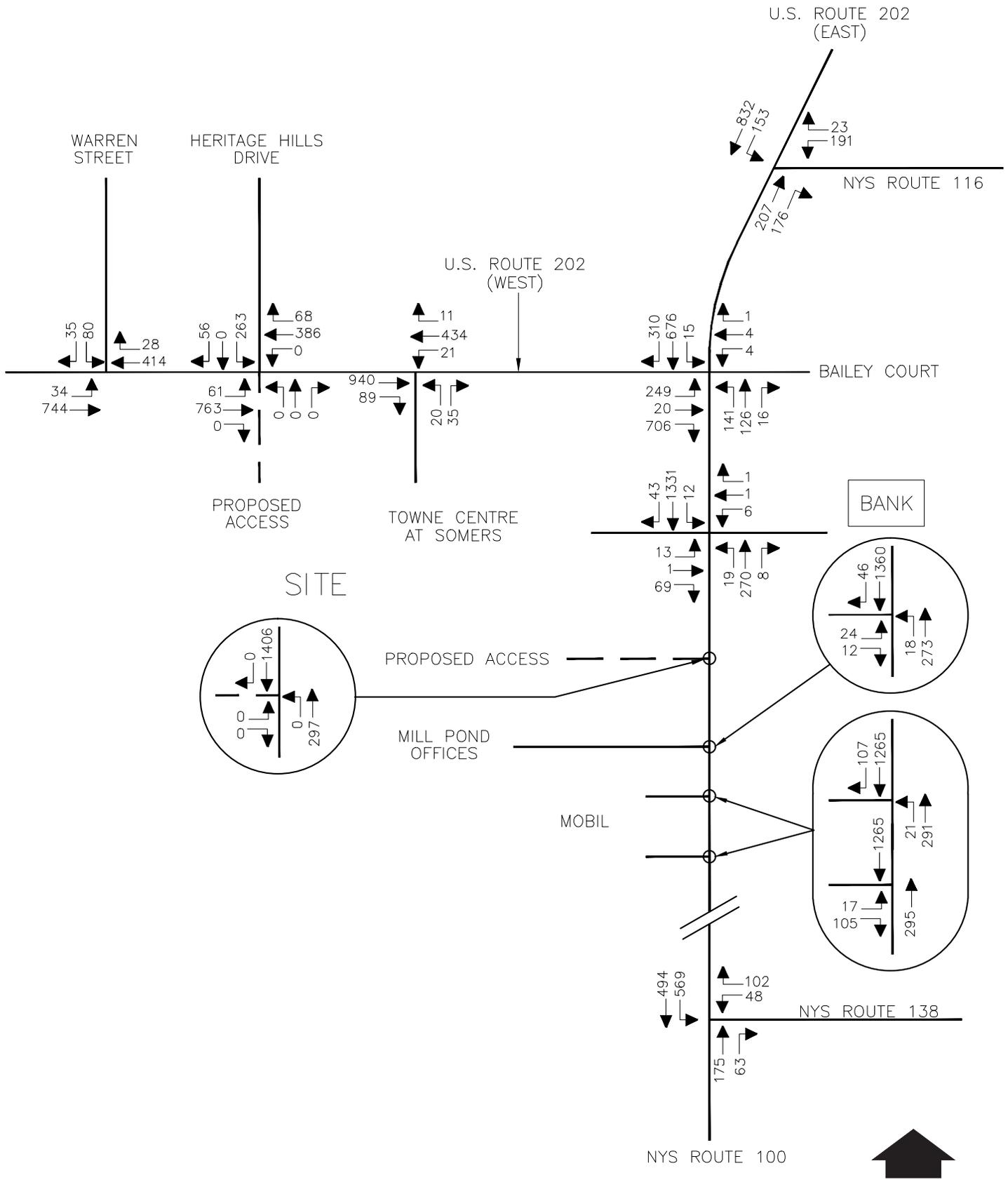
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A.

SOMERS CROSSING
North Castle, New York

Existing Lane Geometry

Exhibit
III.G-2

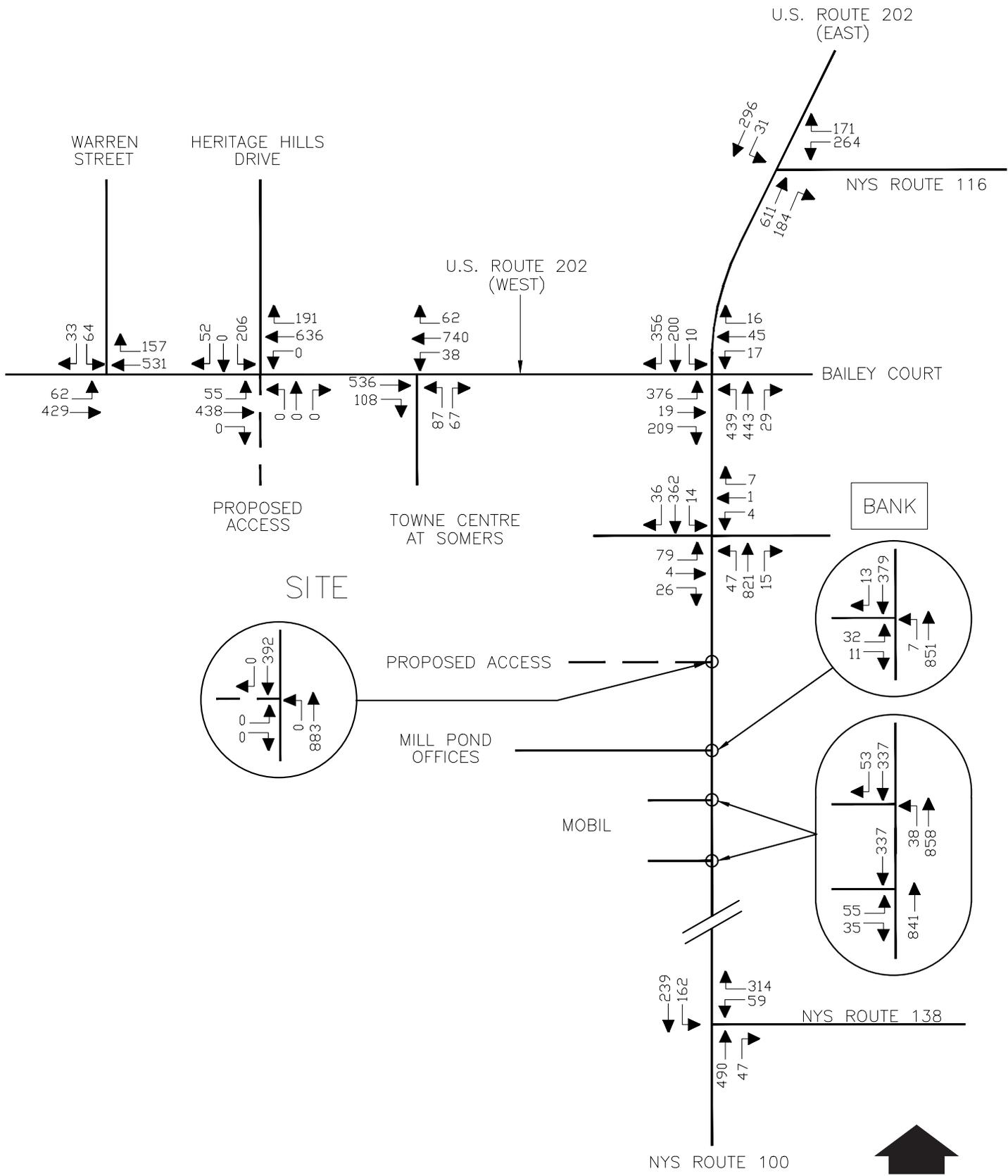


Source: Maser Consulting P.A.

SOMERS CROSSING
North Castle, New York

Year 2013 Existing Traffic Volumes:
Weekday Peak AM Highway Hour

Exhibit
III.G-3

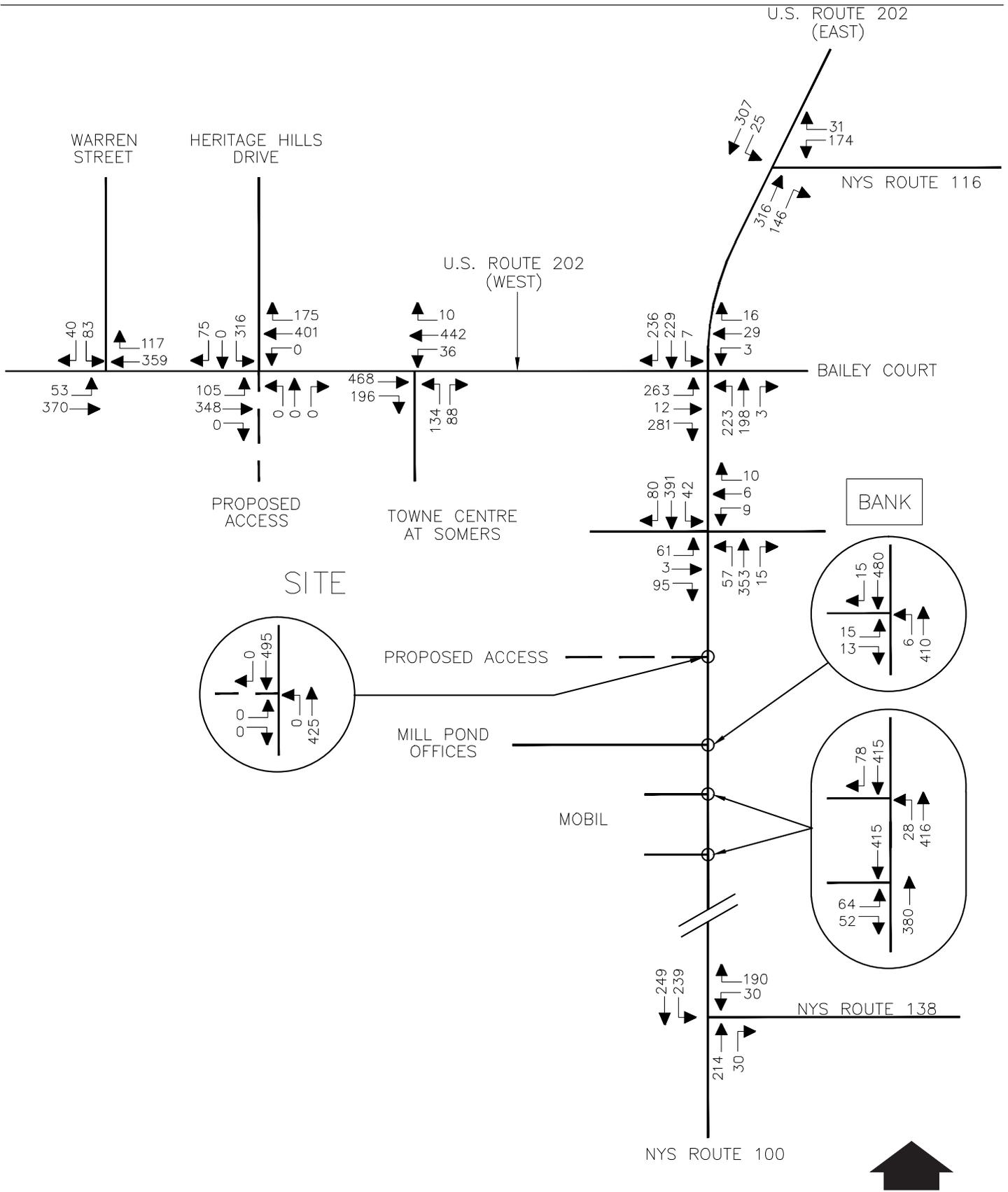


Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Year 2013 Existing Traffic Volumes:
Weekday Peak PM Highway Hour

Exhibit
III.G-4



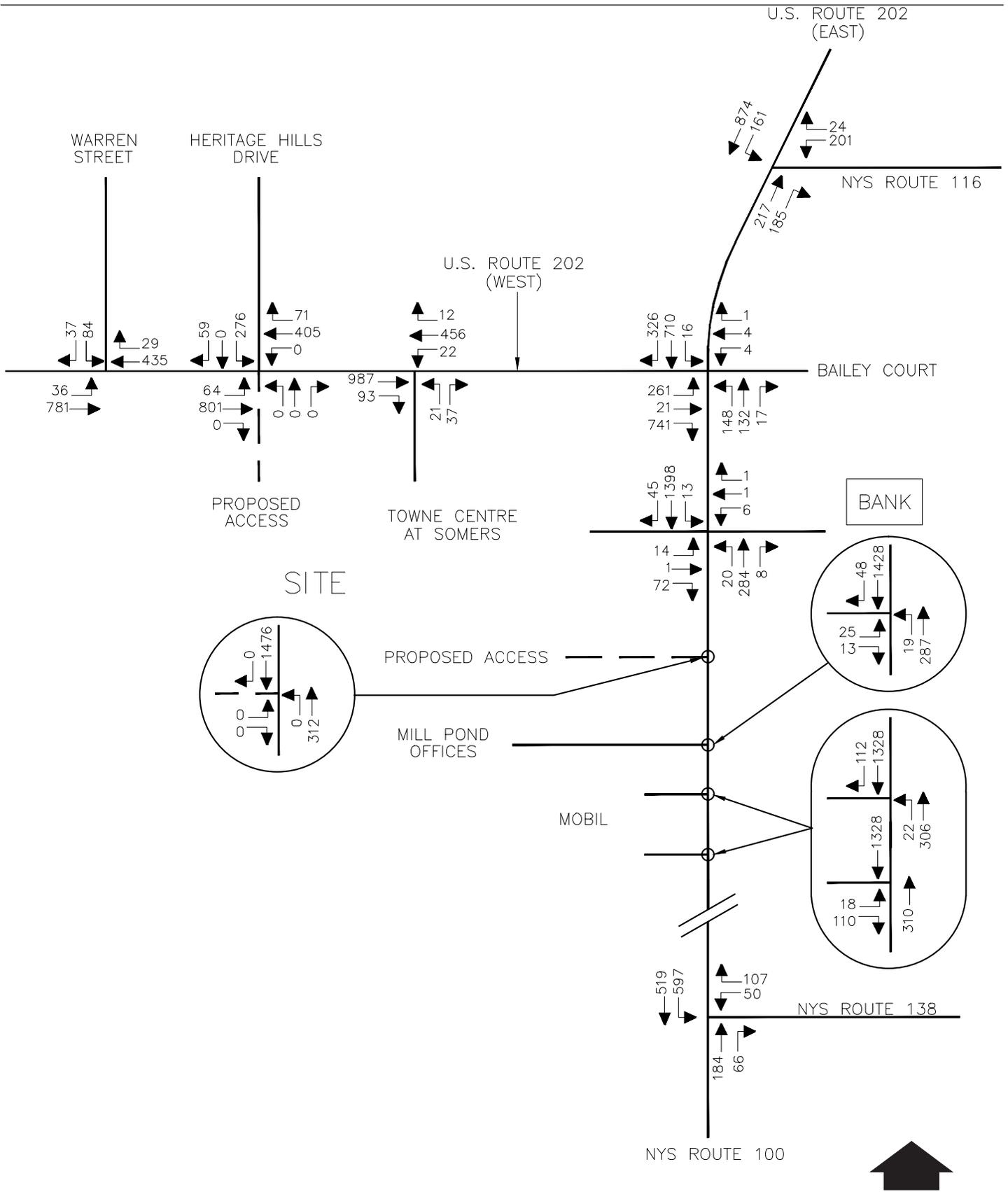
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Year 2013 Existing Traffic Volumes:
Weekday Peak Saturday Highway Hour

Exhibit
III.G-5

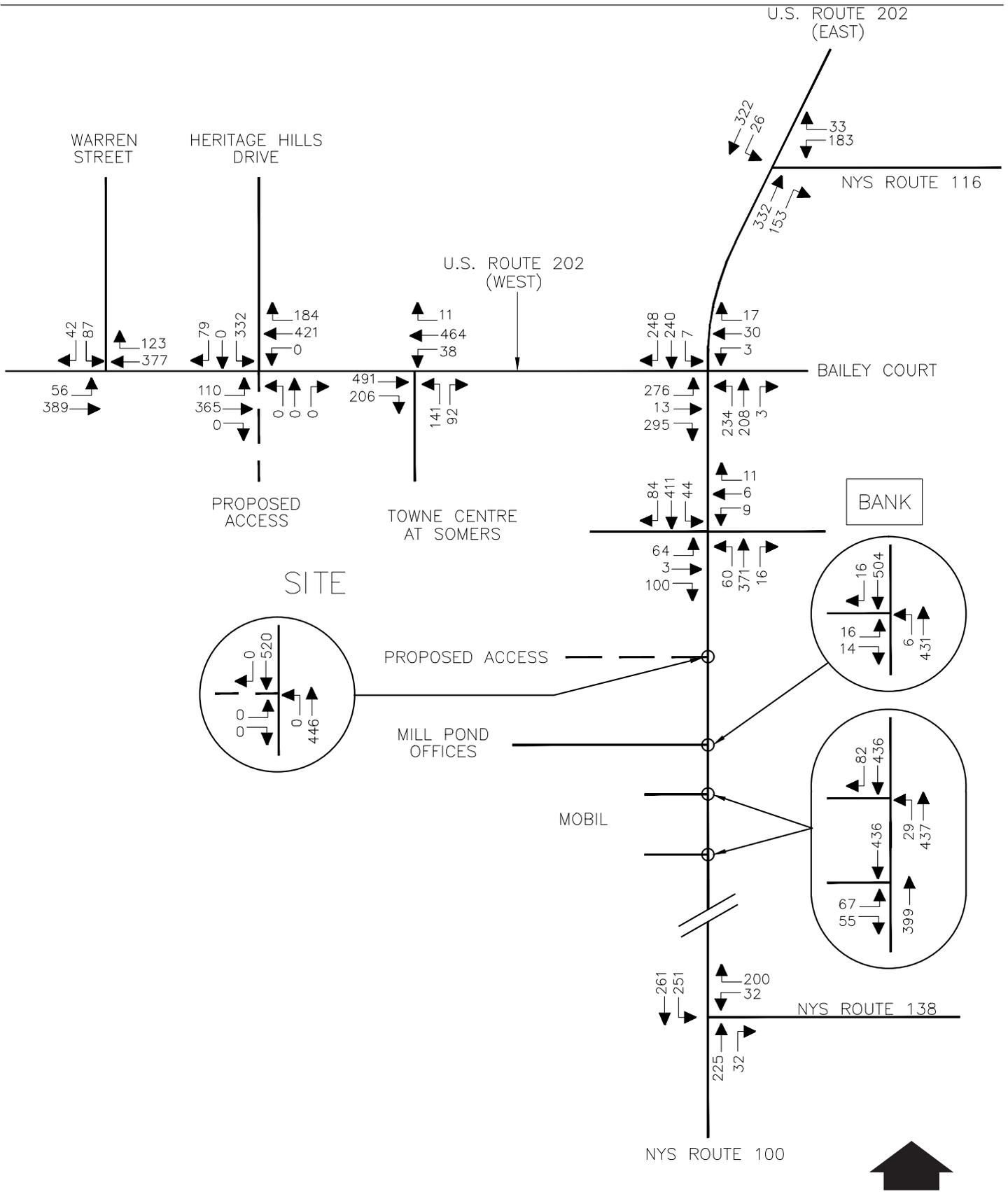


Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Year 2018 Projected Traffic Volumes:
Weekday Peak AM Highway Hour

Exhibit
III.G-6

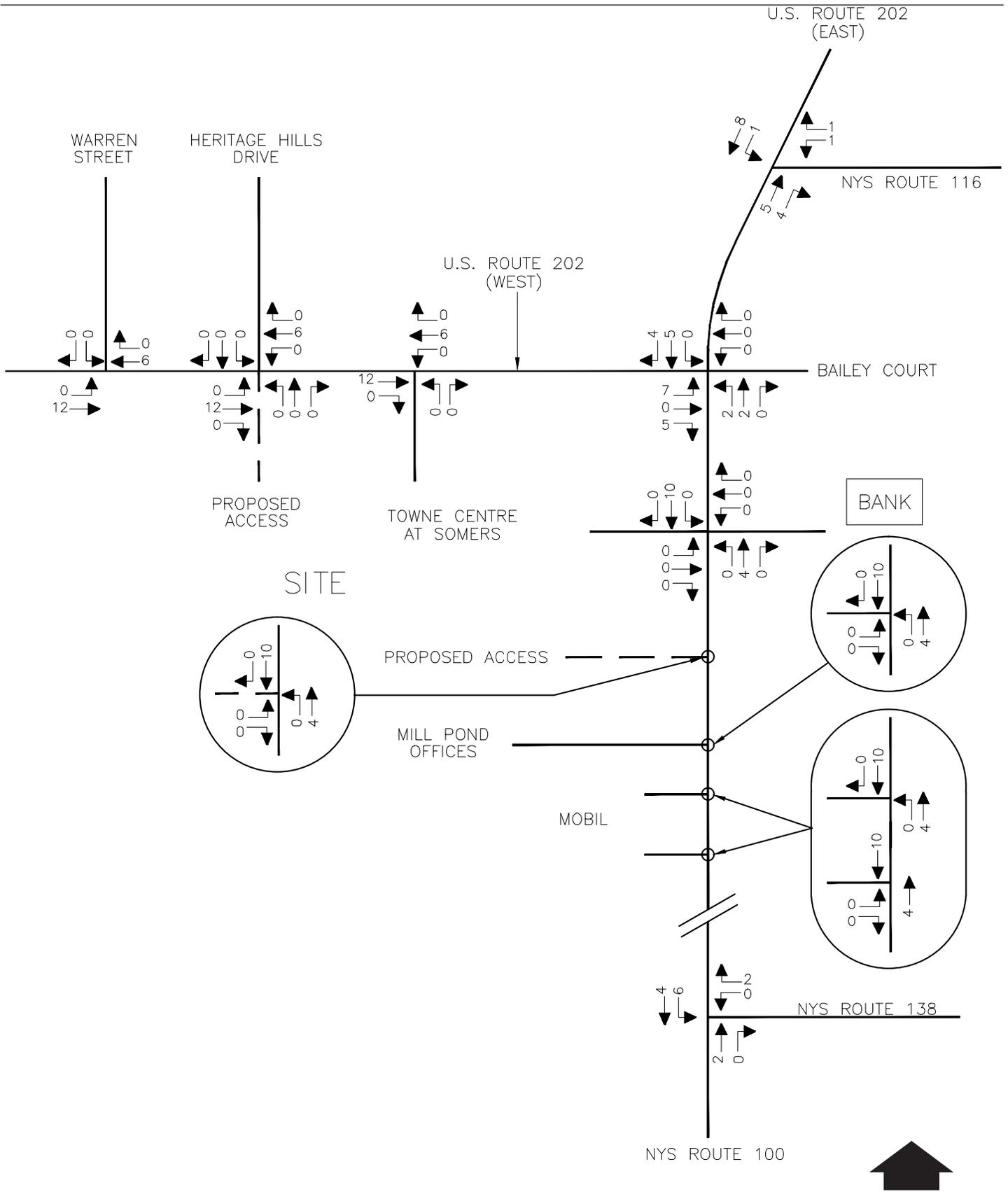


Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Year 2018 Projected Traffic Volumes:
Weekday Peak Saturday Highway Hour

Exhibit
III.G-8



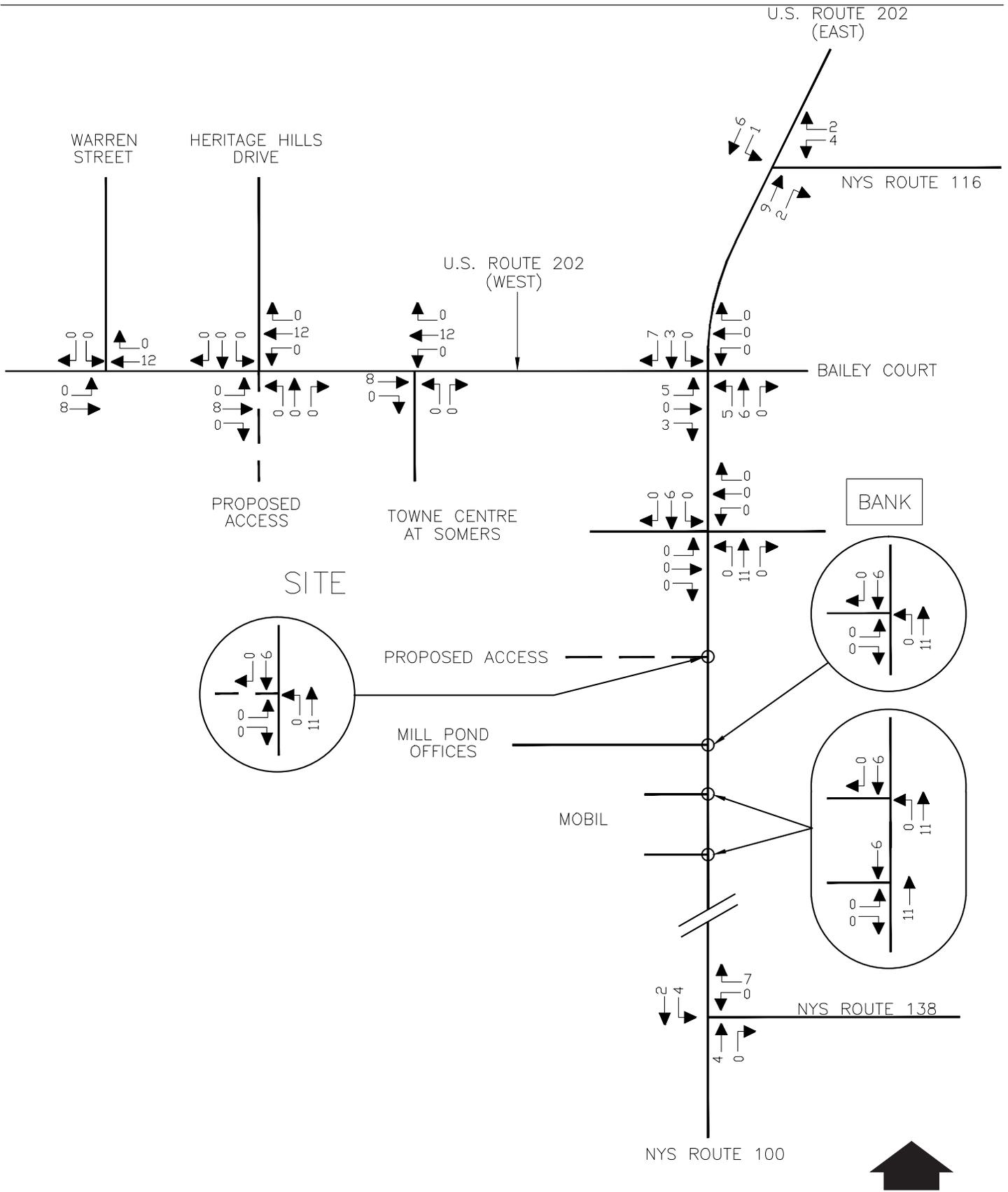
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Other Development Traffic Volumes:
Weekday Peak AM Highway Hour

Exhibit
III.G-9



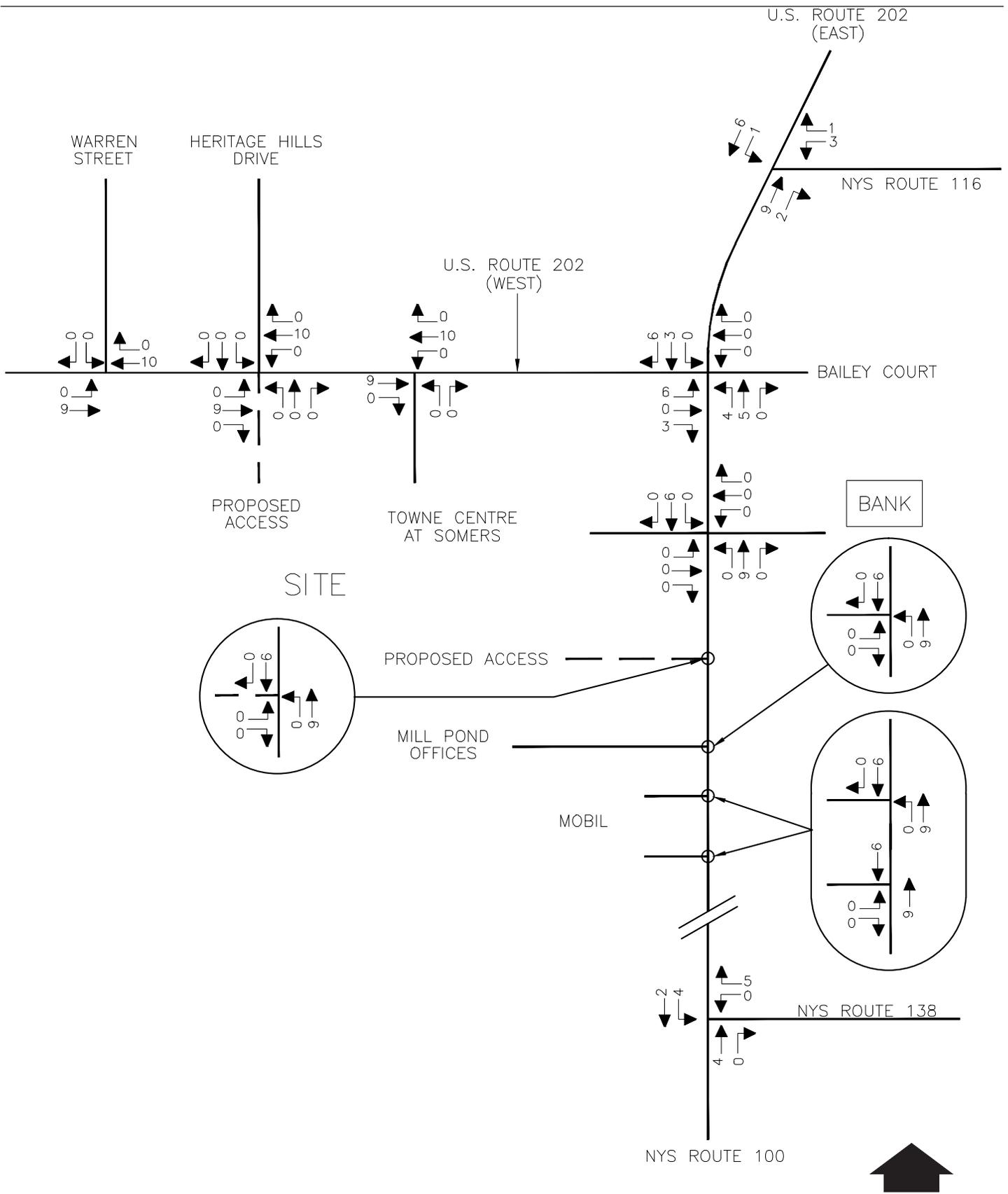
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Other Development Traffic Volumes:
Weekday Peak PM Highway Hour

Exhibit
III.G-10



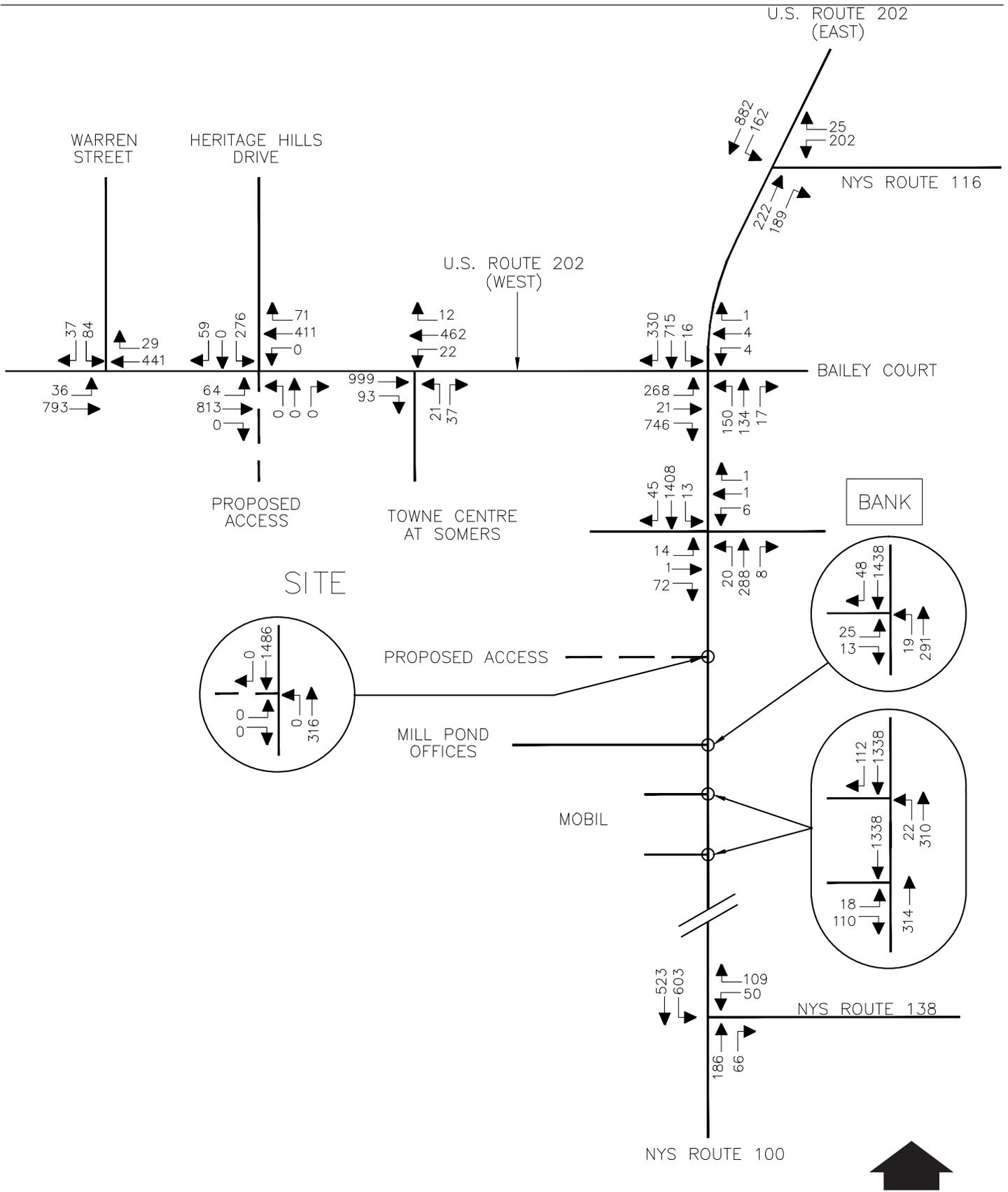
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Other Development Traffic Volumes:
Weekday Peak Saturday Highway Hour

Exhibit
III.G-11

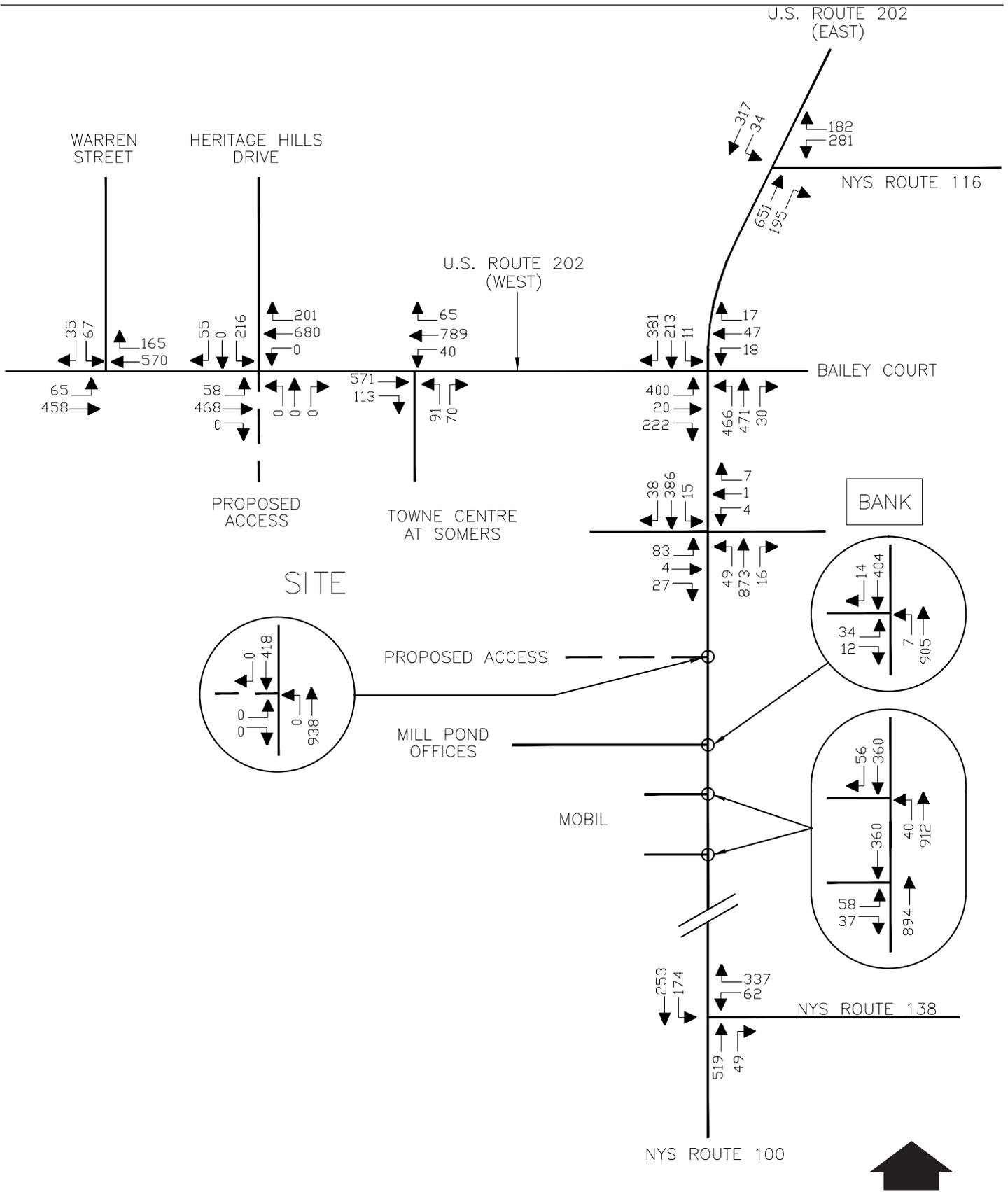


Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Year 2018 No Build Traffic Volumes:
Weekday Peak AM Highway Hour

Exhibit
III.G-12

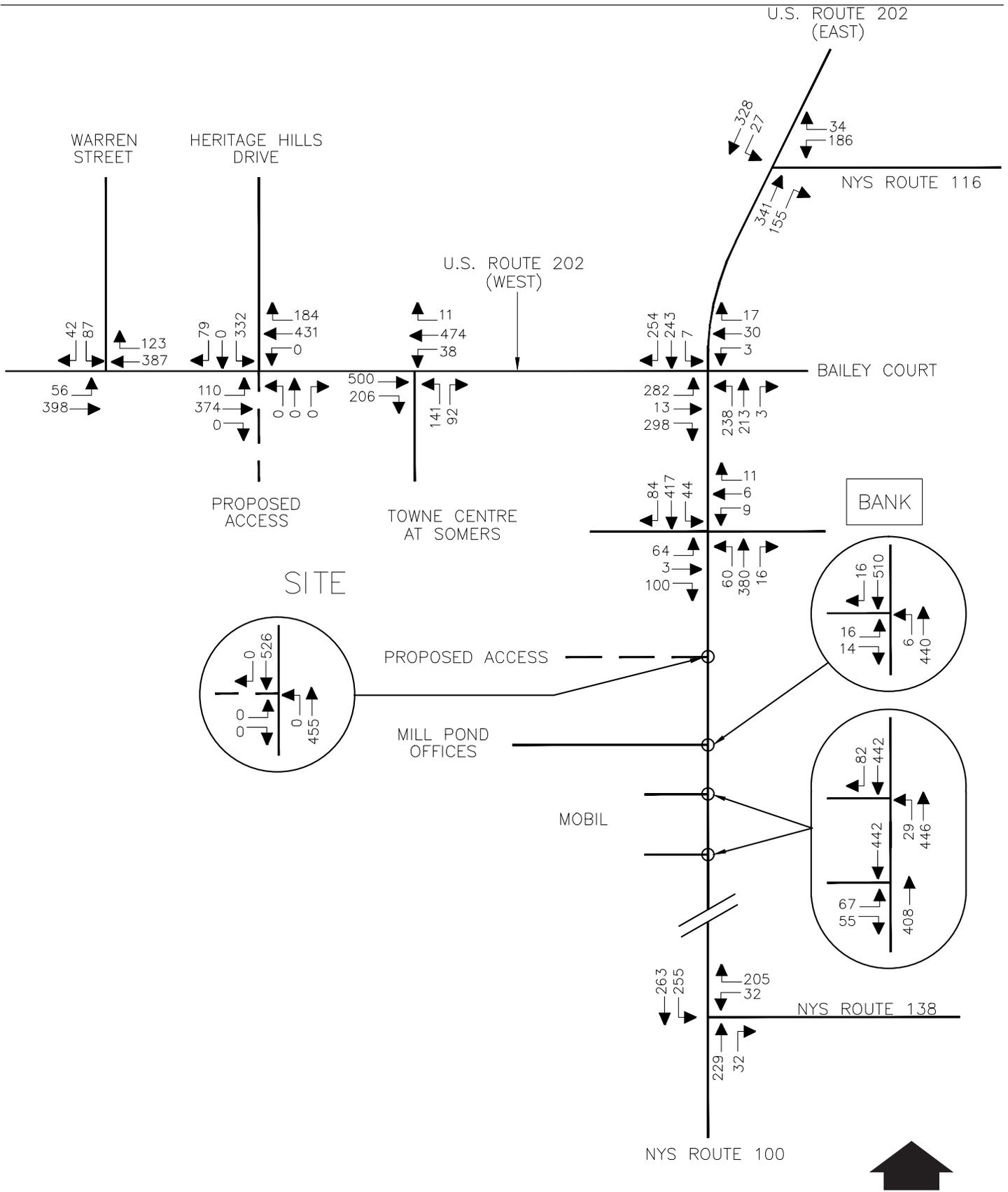


Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Year 2018 No Build Traffic Volumes:
Weekday Peak PM Highway Hour

Exhibit
III.G-13



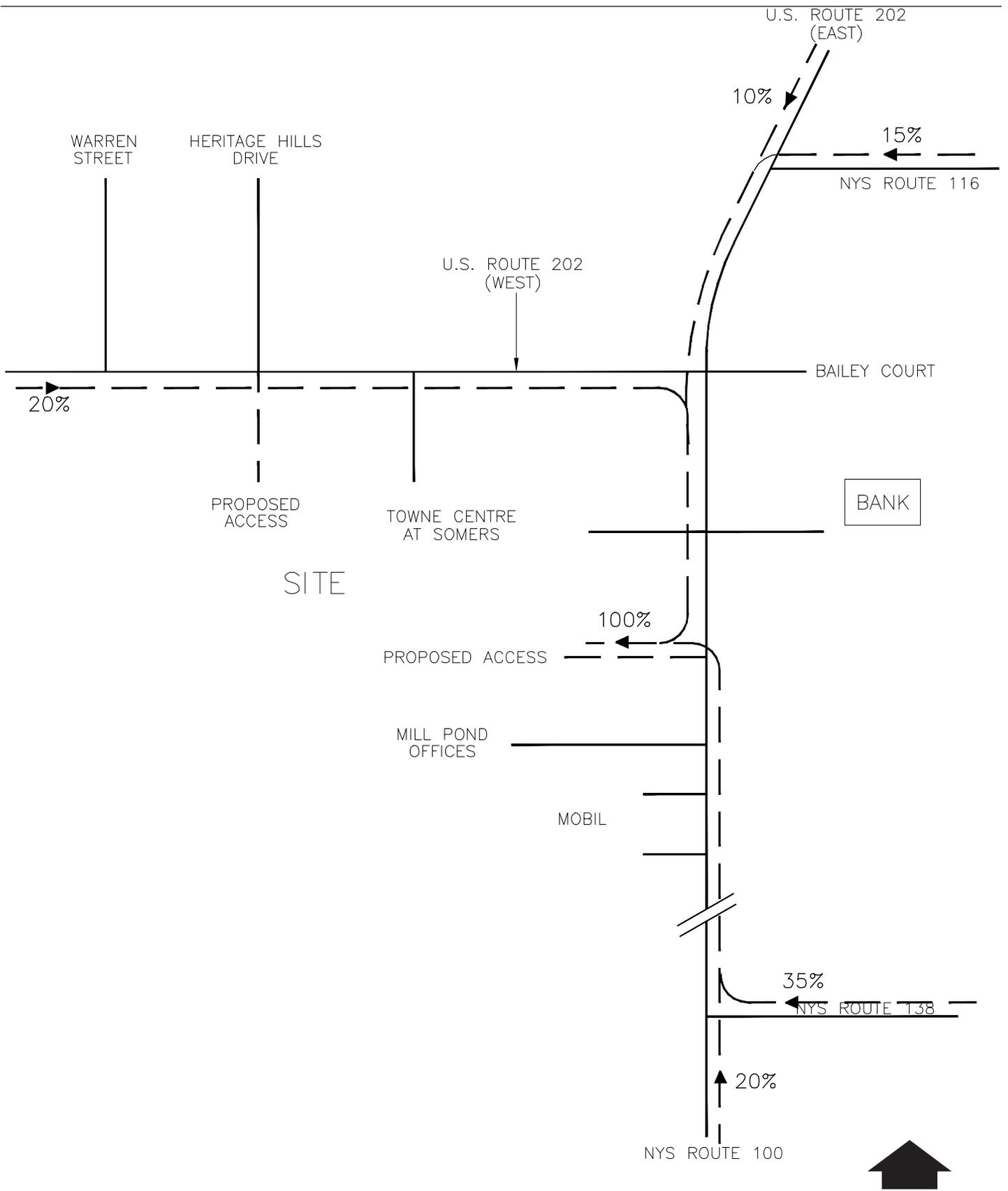
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Year 2018 No Build Traffic Volumes:
Weekday Peak Saturday Highway Hour

Exhibit
III.G-14



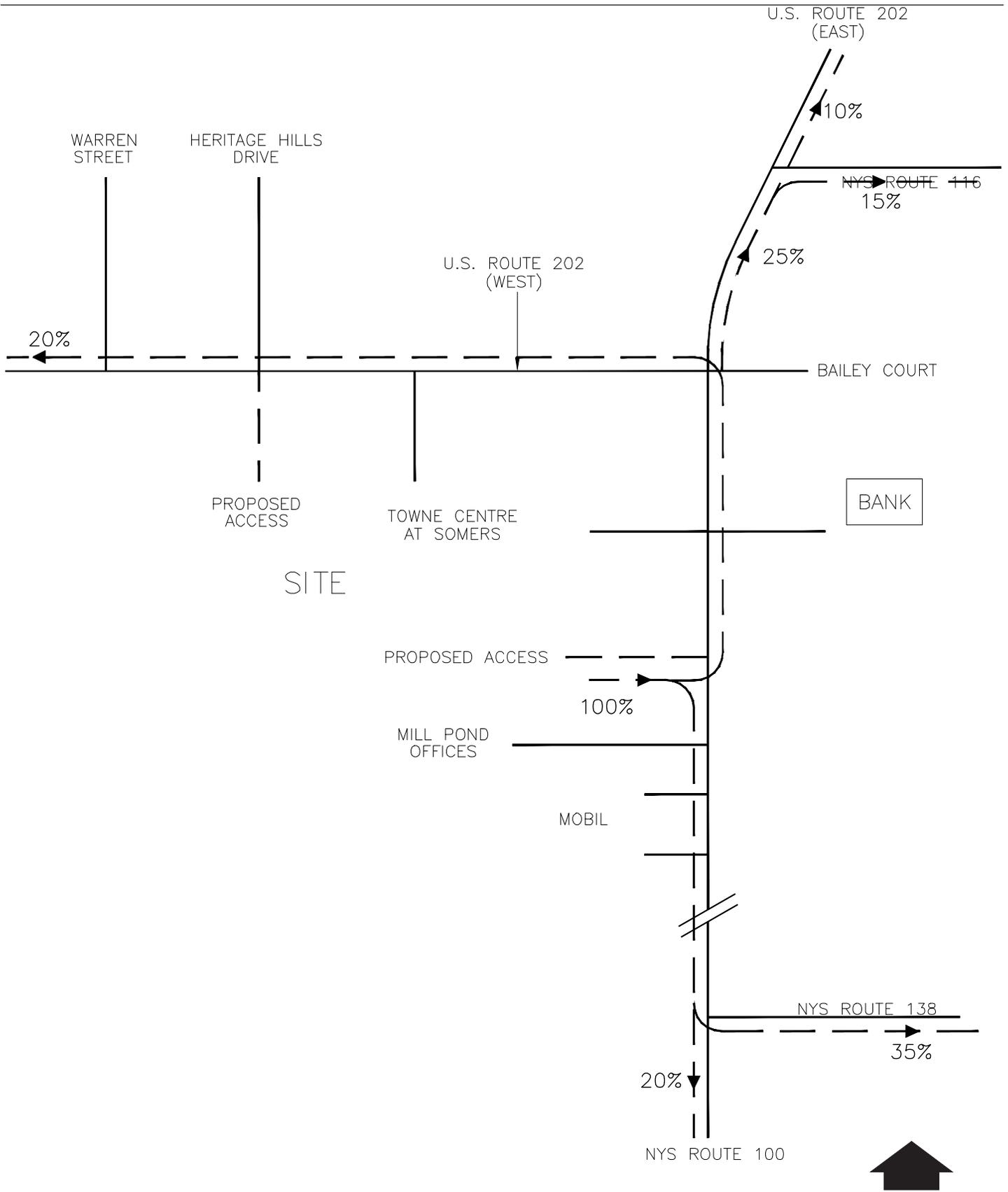
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Arrival Distribution (Residential)

Exhibit
III.G-15



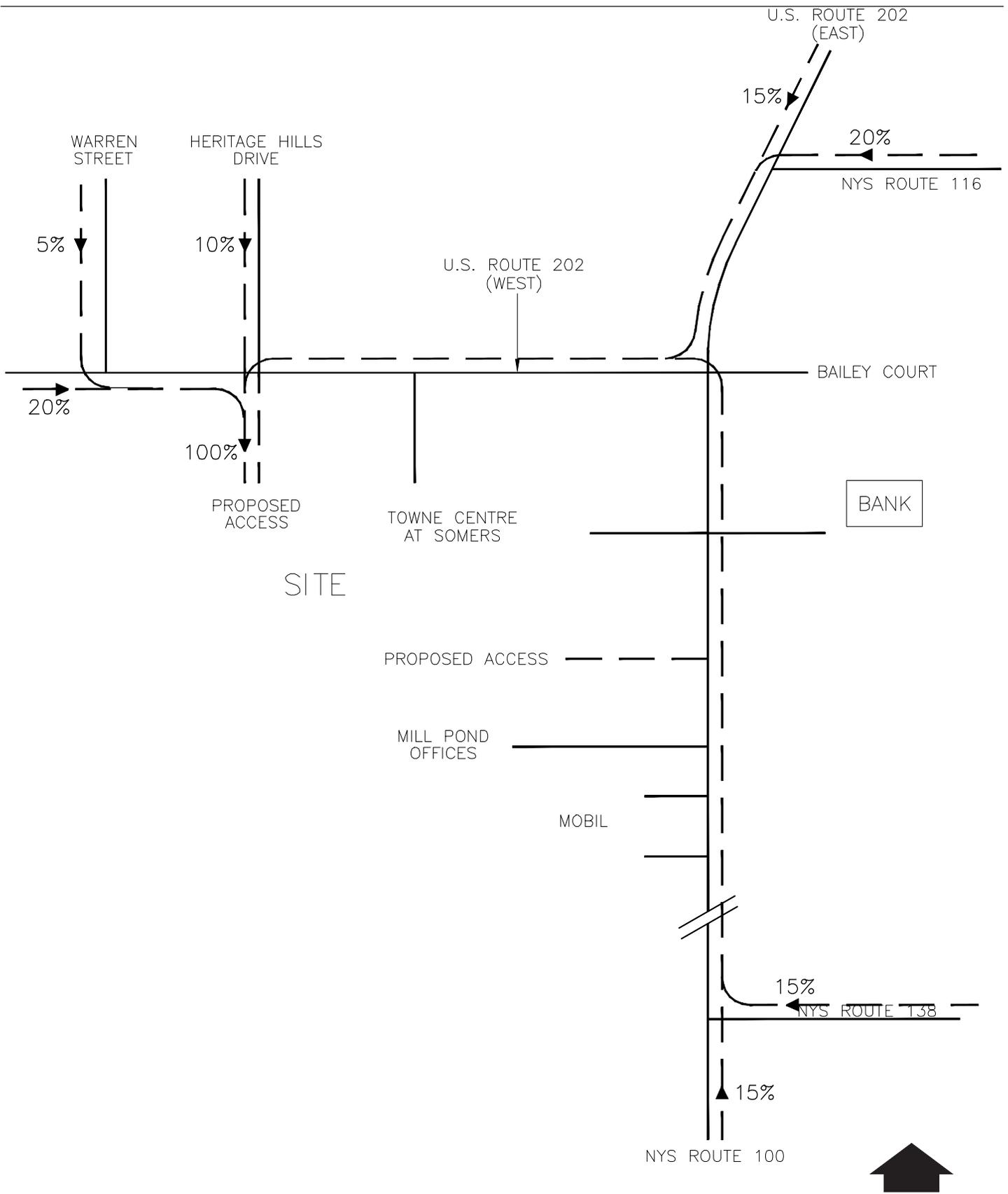
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Departure Distribution (Residential)

Exhibit
III.G-16



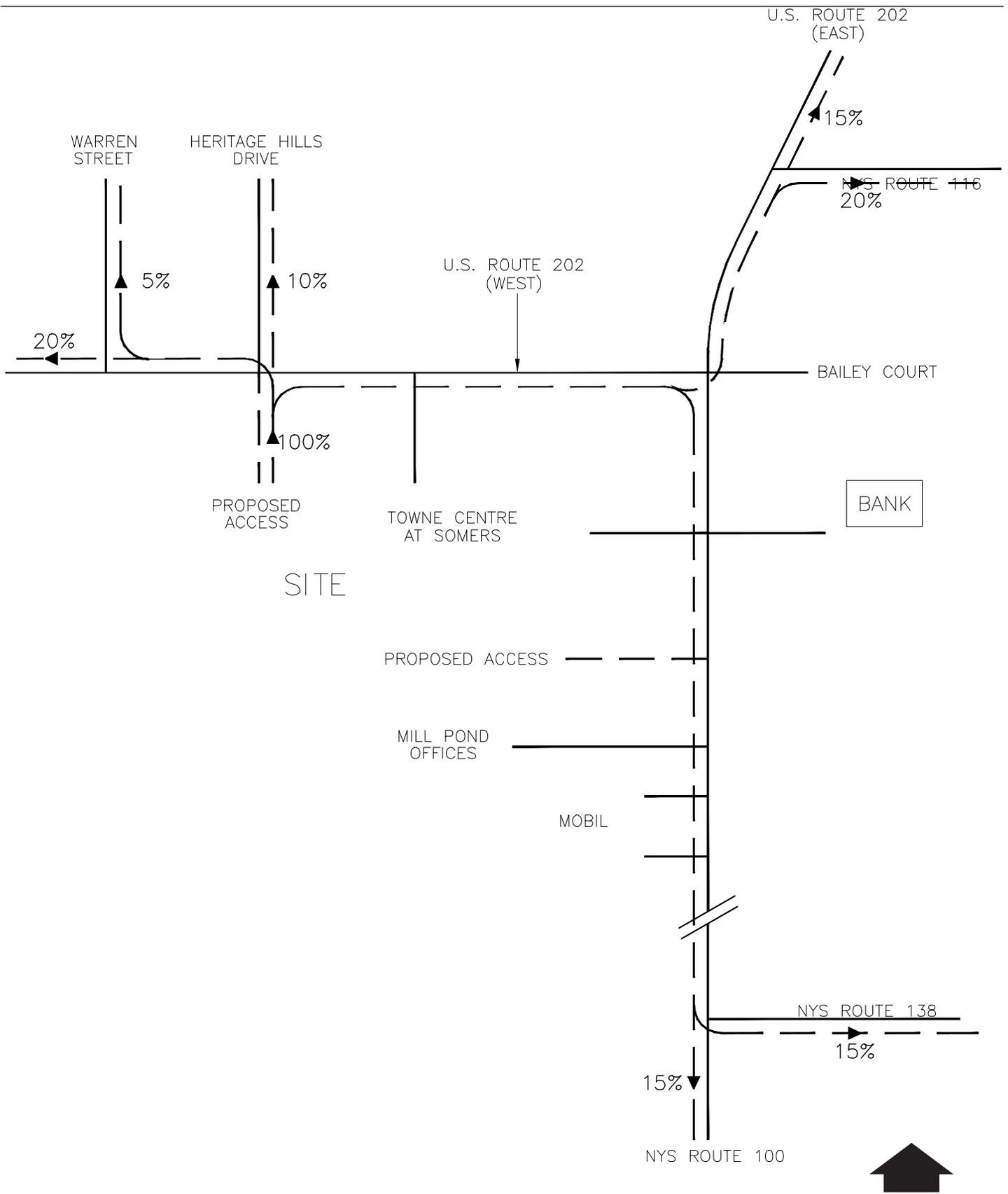
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Arrival Distribution (Grocery Store)

Exhibit
III.G-17



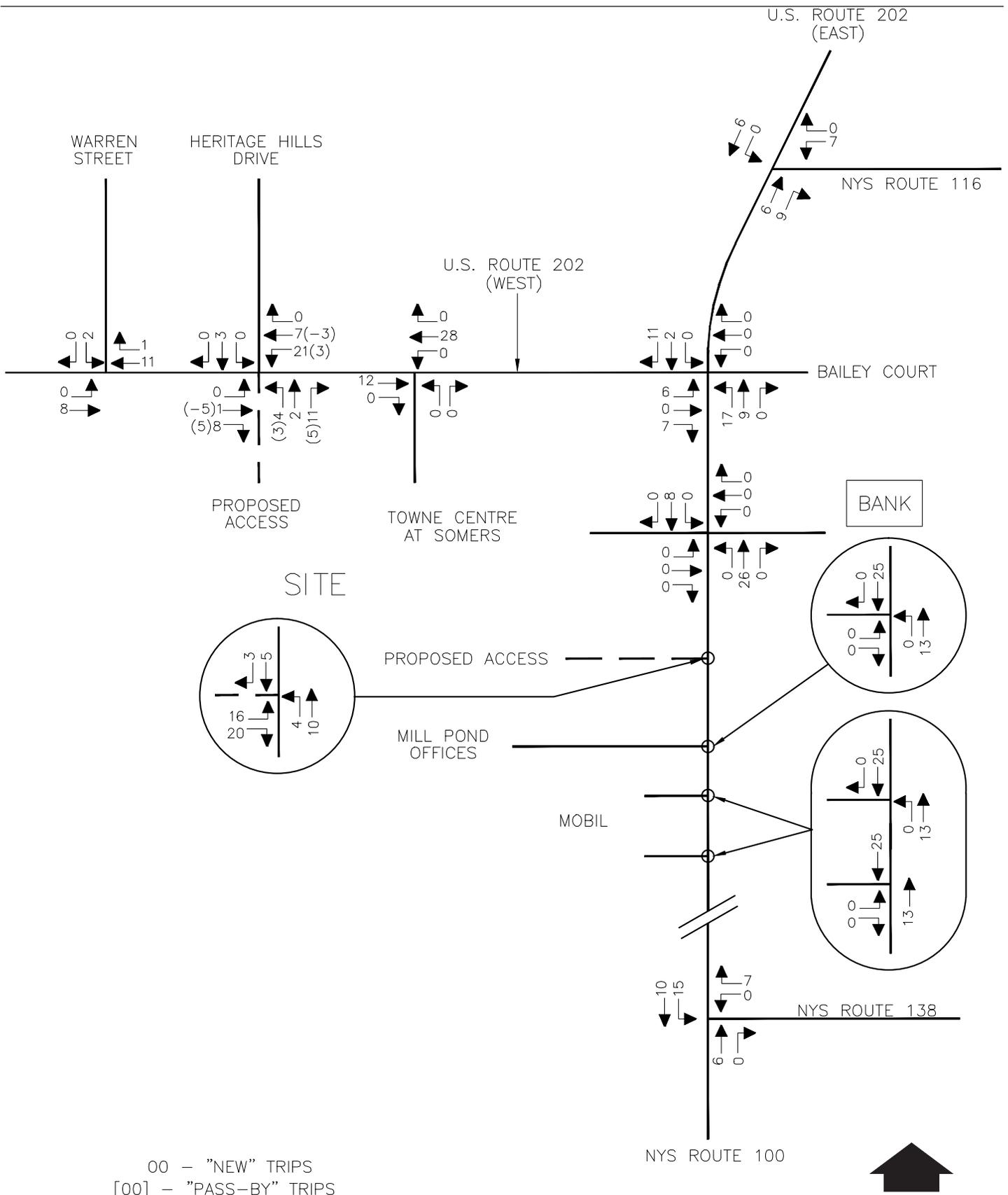
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Departures Distribution (Grocery Store)

Exhibit
III.G-18

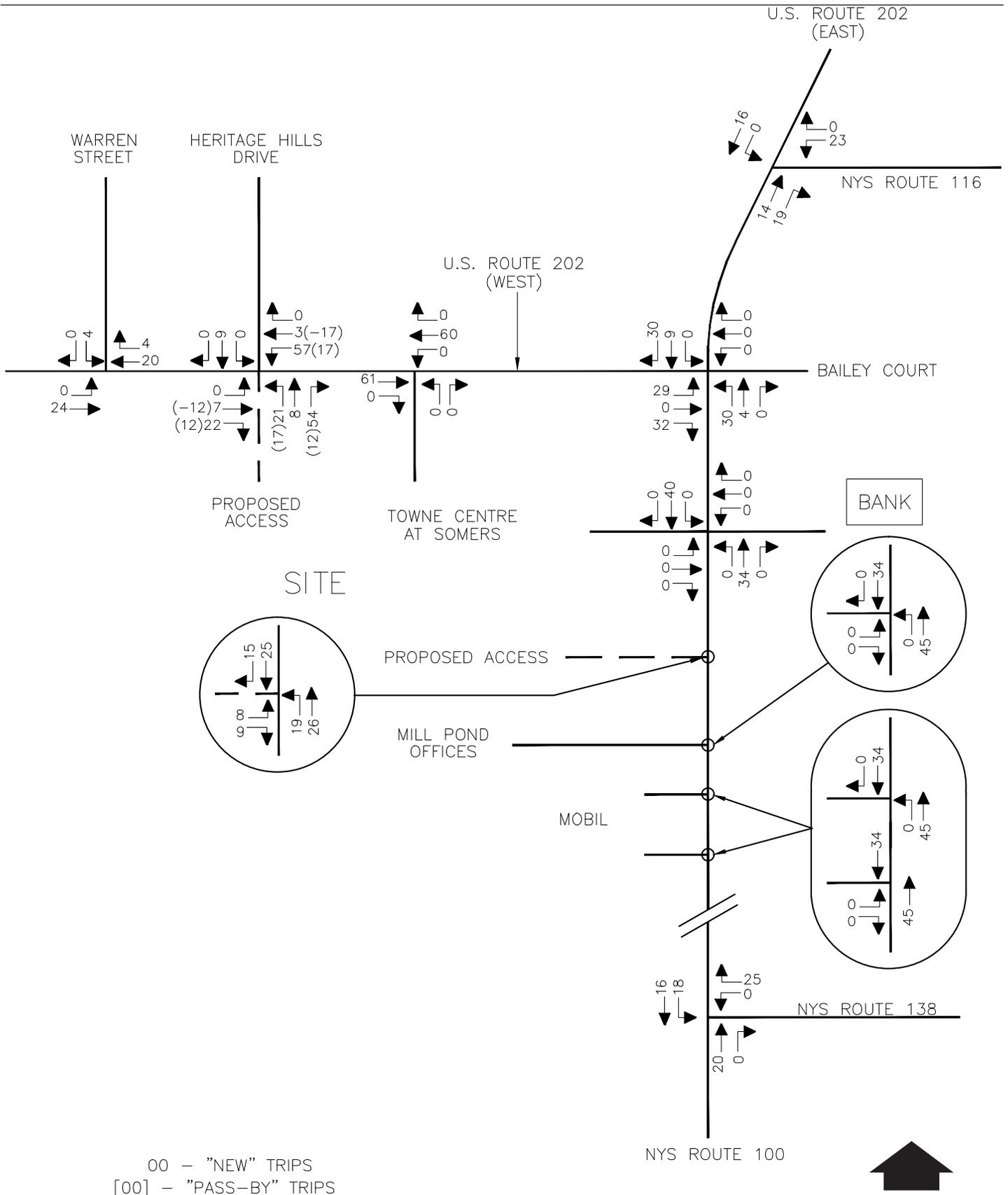


Source: Maser Consulting P.A

SOMERS CROSSING
 North Castle, New York

Total Site Generated Traffic Volumes:
Weekday Peak AM Highway Hour

Exhibit
III.G-19

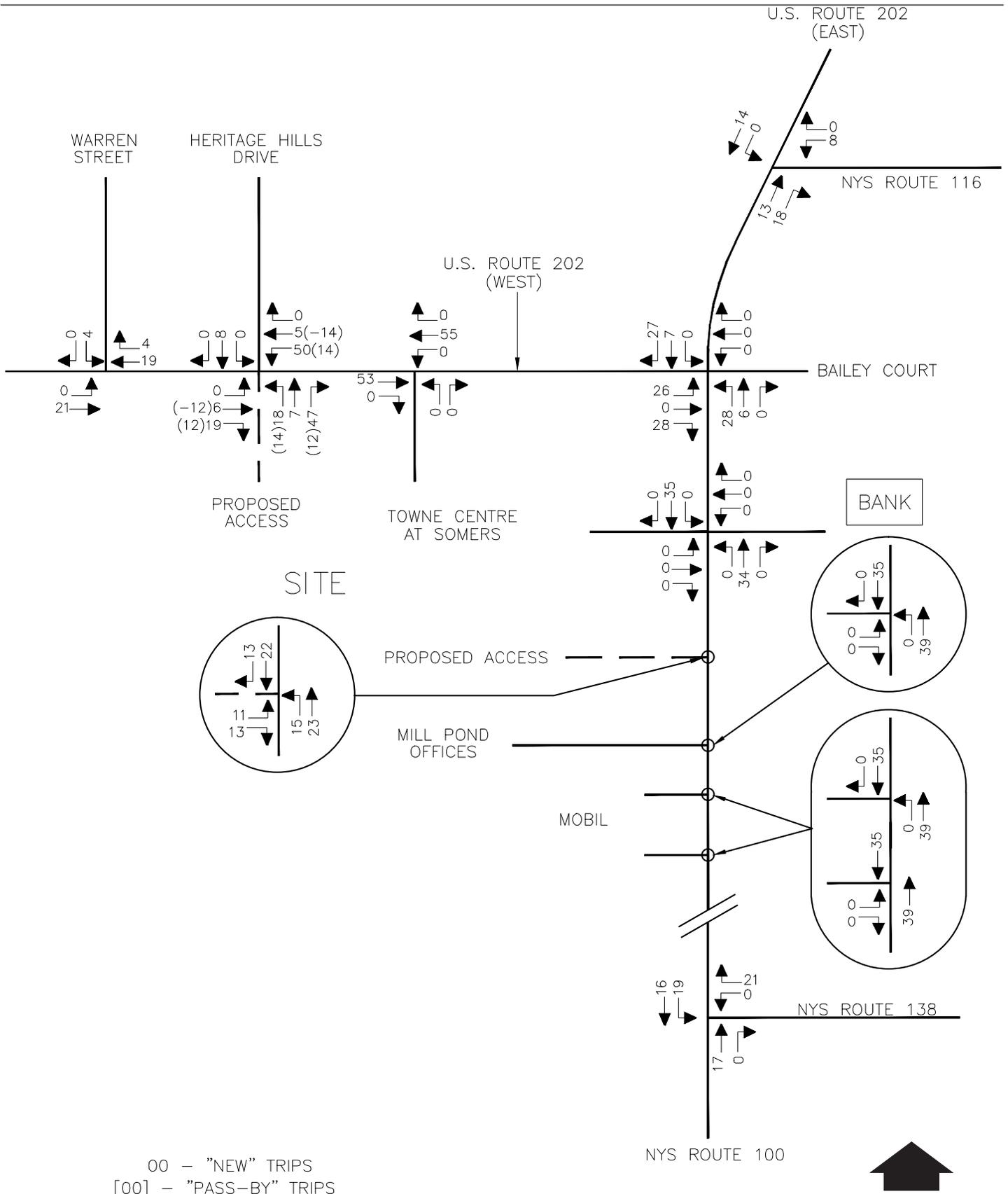


Source: Maser Consulting P.A

SOMERS CROSSING
 North Castle, New York

Total Site Generated Traffic Volumes:
Weekday Peak PM Highway Hour

Exhibit
III.G-20

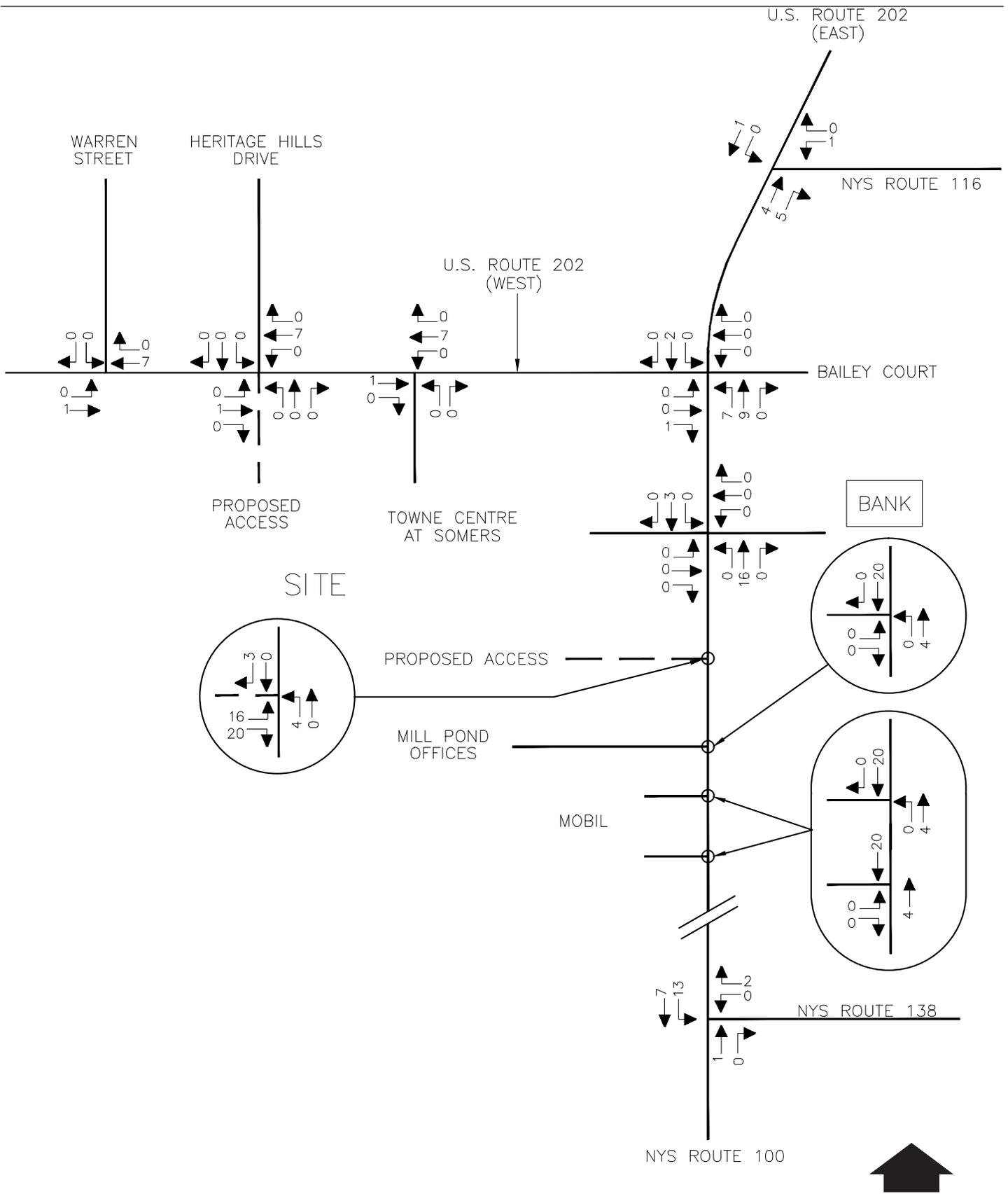


Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Total Site Generated Traffic Volumes:
Weekday Peak Saturday Highway Hour

Exhibit
III.G-21

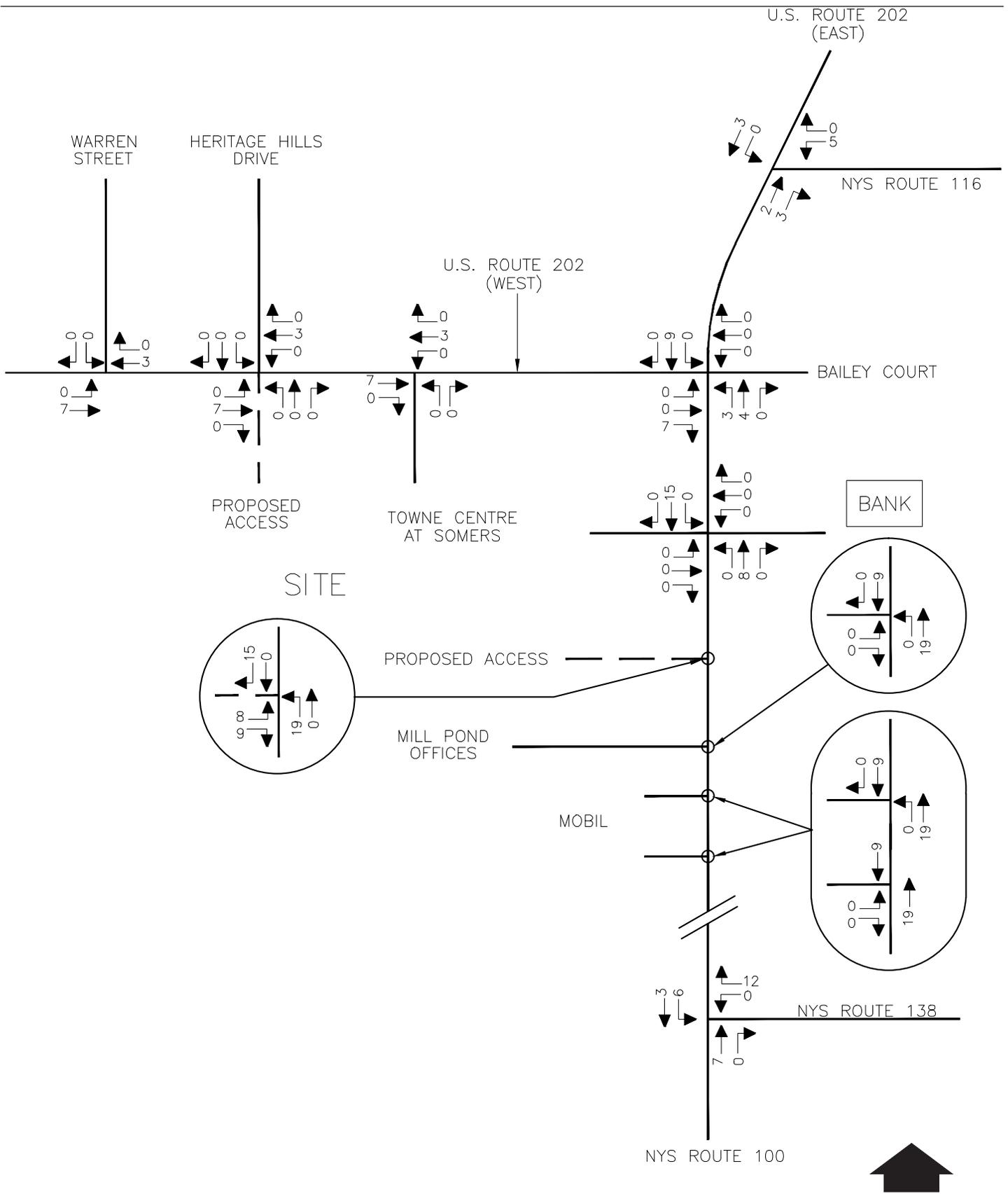


Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Site Generated Traffic Volumes:
Weekday Peak AM Highway Hour
(Residential)

Exhibit
III.G-22

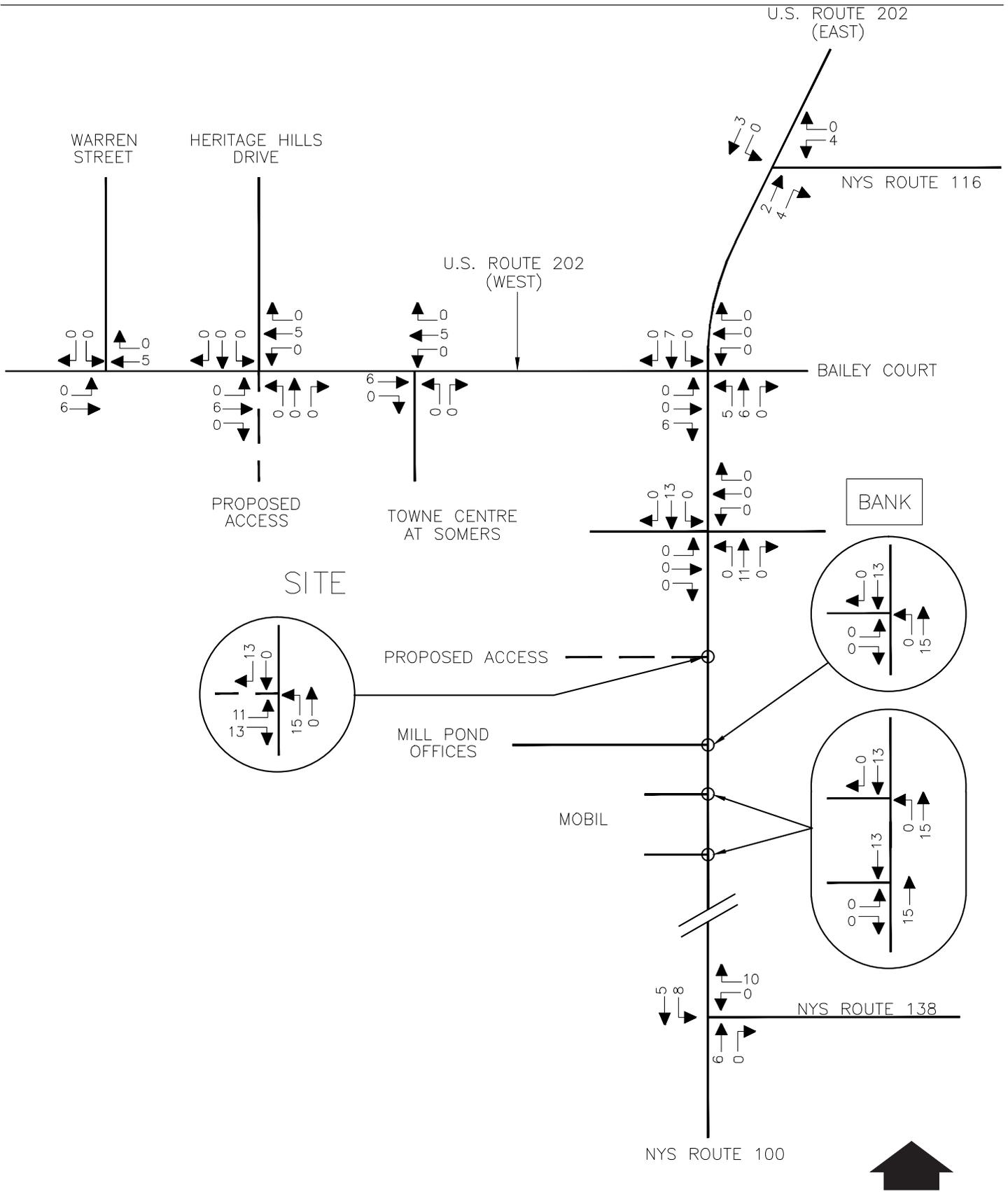


Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Site Generated Traffic Volumes:
Weekday Peak PM Highway Hour
(Residential)

Exhibit
III.G-23

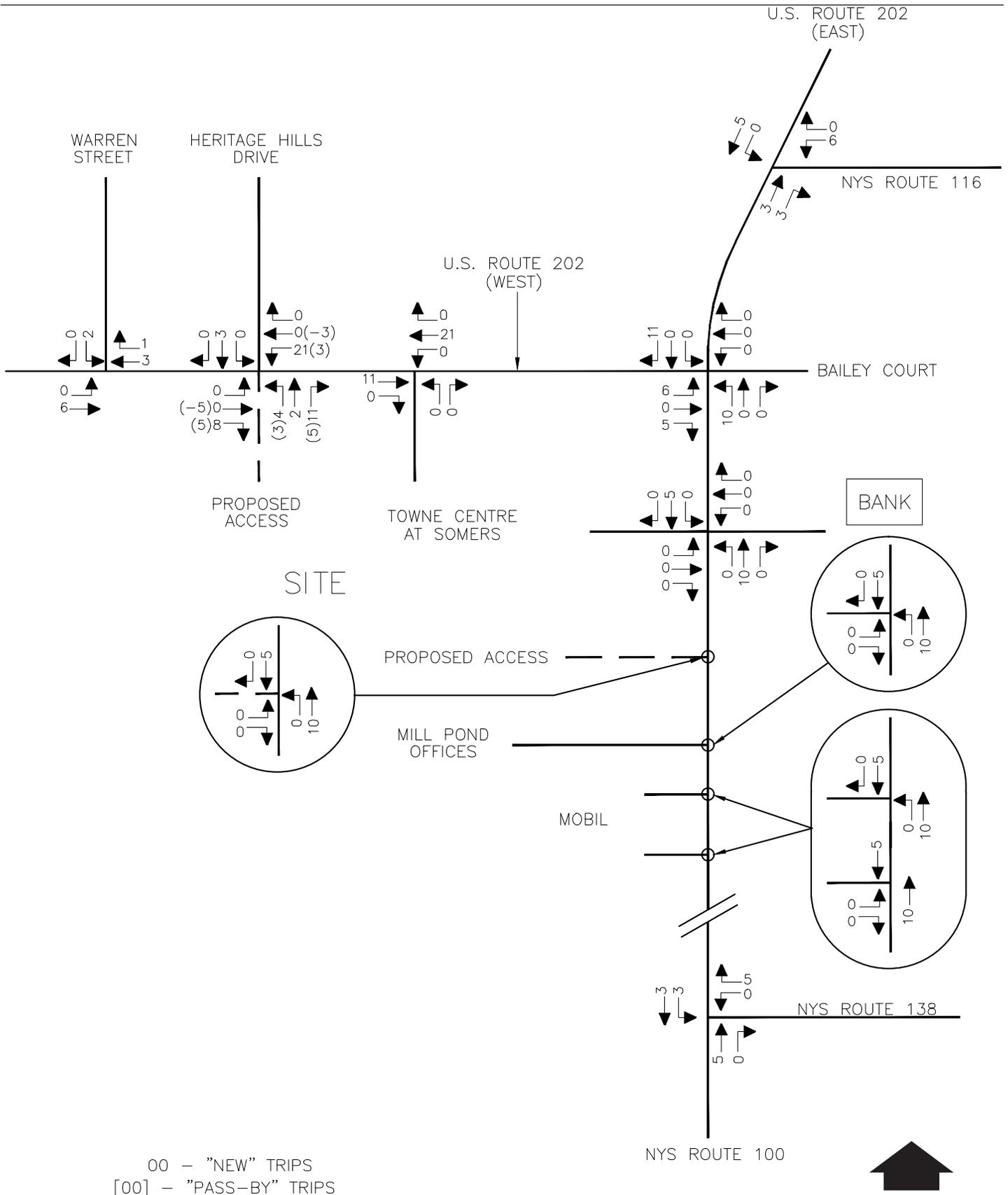


Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Site Generated Traffic Volumes:
Weekday Peak Saturday Highway Hour
(Residential)

Exhibit
III.G-24

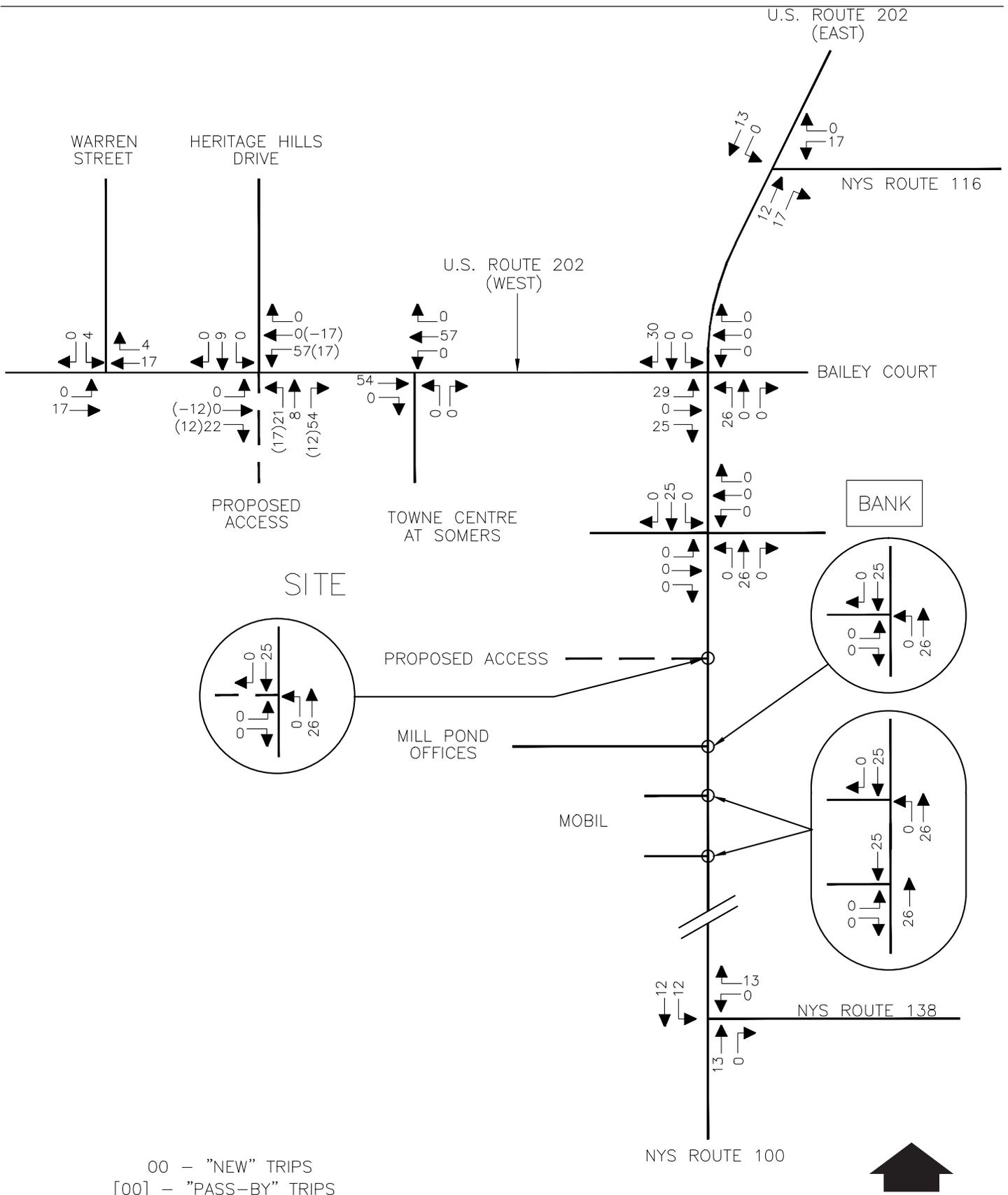


Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Site Generated Traffic Volumes:
Weekday Peak AM Highway Hour
(Grocery Store)

Exhibit
III.G-25

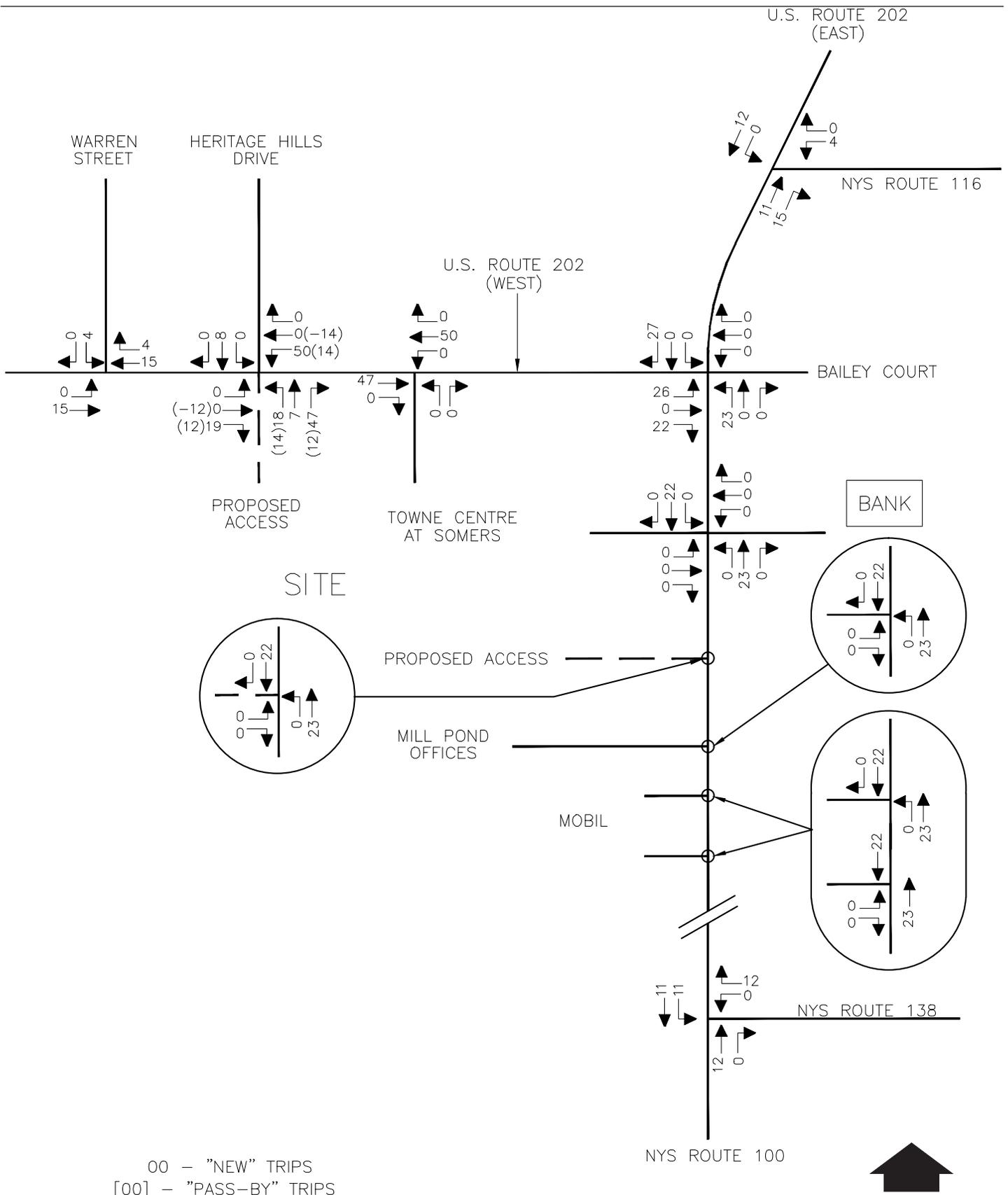


Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Site Generated Traffic Volumes:
Weekday Peak PM Highway Hour
(Grocery Store)

Exhibit
III.G-26

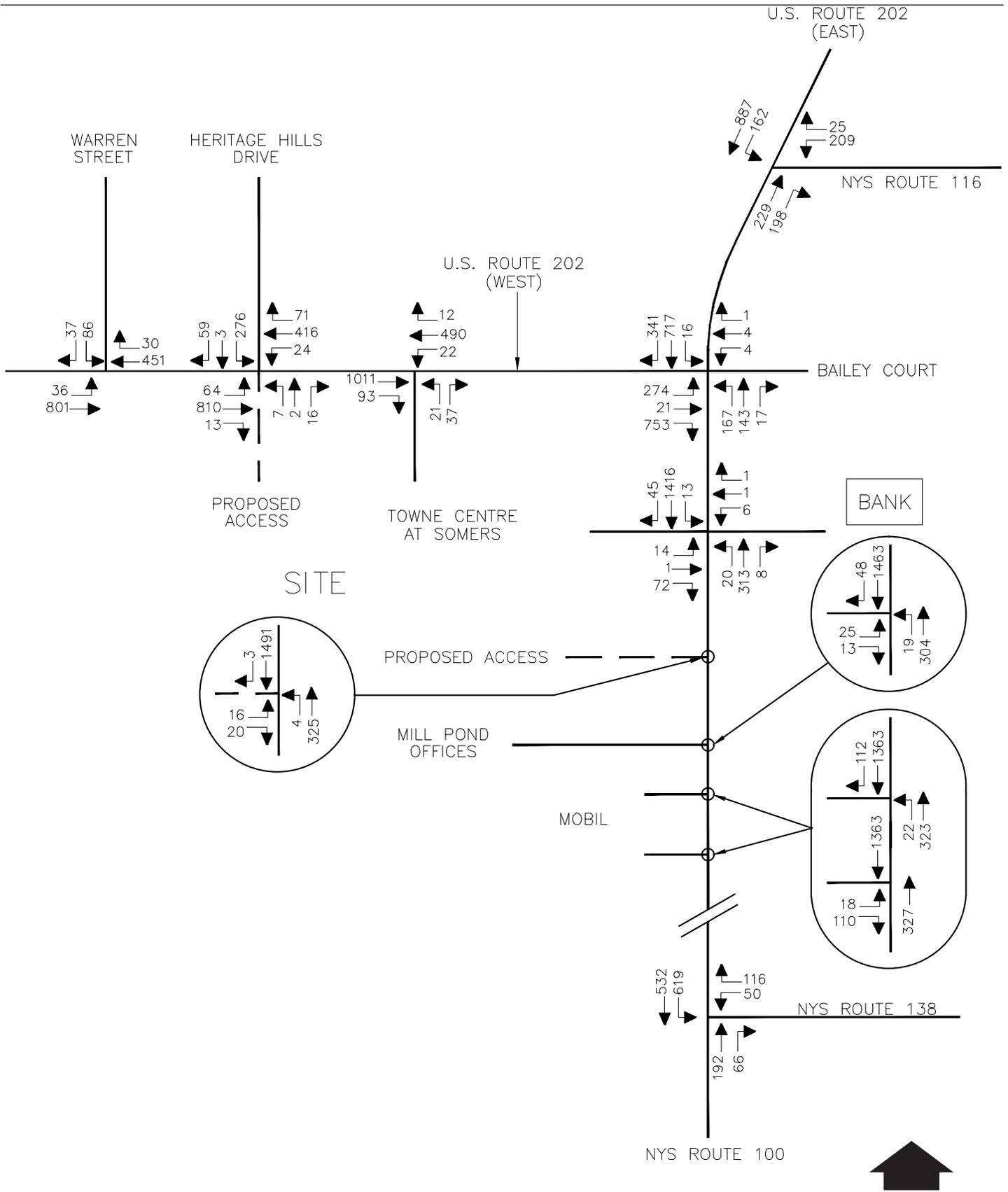


Source: Maser Consulting P.A

SOMERS CROSSING
 North Castle, New York

Site Generated Traffic Volumes:
Weekday Peak Saturday Highway Hour
(Grocery Store)

Exhibit
III.G-27



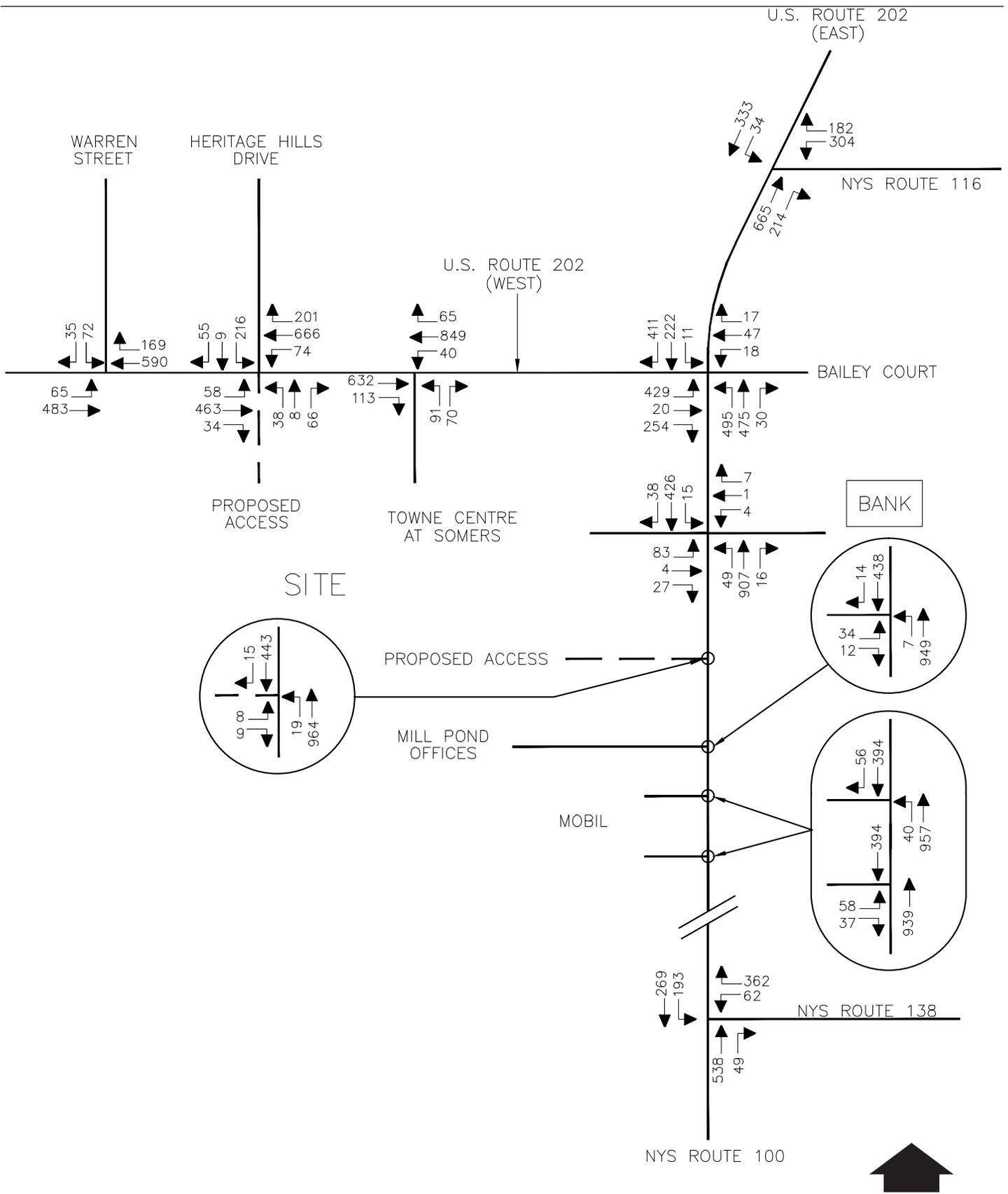
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Year 2018 Build Traffic Volumes:
Weekday Peak AM Highway Hour

Exhibit
III.G-28



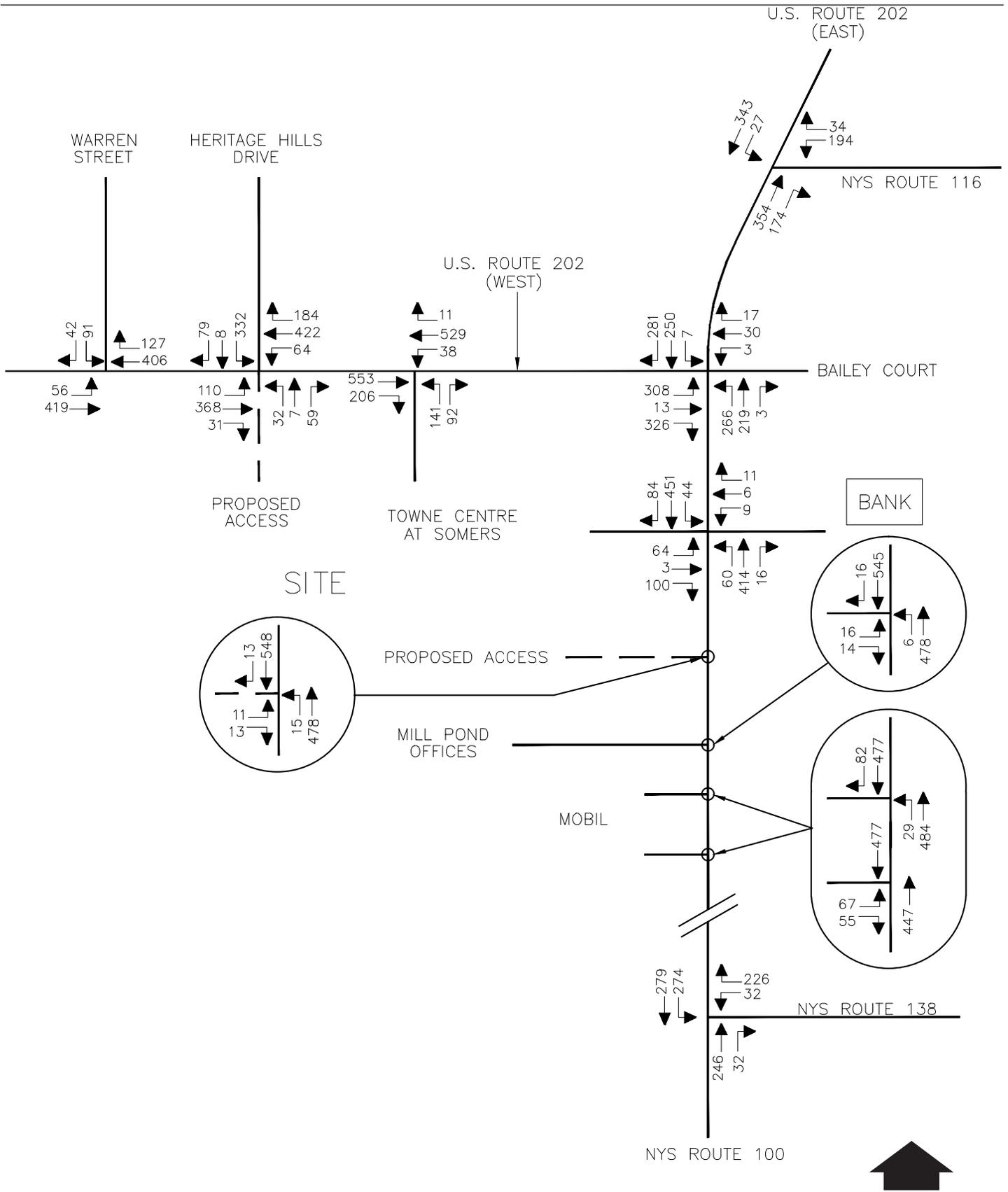
NOTE: LINE DIAGRAM NOT TO SCALE

Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Year 2018 Build Traffic Volumes:
Weekday Peak PM Highway Hour

Exhibit
III.G-29



Source: Maser Consulting P.A

SOMERS CROSSING
North Castle, New York

Year 2018 Build Traffic Volumes:
Weekday Peak Saturday Highway Hour

Exhibit
III.G-30



Source: Maser Consulting P.A

SOMERS CROSSING
Somers, New York

**Conceptual Intersection
Improvement Plan**

Exhibit
III.G-31

H. Demographics

1. Existing Conditions

a) Demographic Characteristics of the Town of Somers

In 2010 the Town of Somers had a total population of 20,434 people, according to the 2010 US Census¹. The Town had a population of 18,346 in the year 2000, representing a population increase of 2,088 people, or approximately 11% over ten years. As the population has grown, so has the median age of the Town, rising from 42.4 years to 46.6 years from 2000 to 2010. As shown in the table below, the largest percentage increases have been in the age groups 60 to 64 years, 75 to 84 years and 85 years and over.

**Table III.H-1
Town of Somers Population By Age 2000 and 2010**

Age	2000	2010	Difference	% Change
Under 5 years	1,235	927	-308	-25%
5 to 9 years	1,277	1,446	169	13%
10 to 14 years	1,229	1,677	448	36%
15 to 19 years	1,024	1,281	257	25%
20 to 24 years	528	587	59	11%
25 to 34 years	1,534	1062	-472	-31%
35 to 44 years	3,185	2639	-546	-17%
45 to 54 years	2,753	3481	728	26%
55 to 59 years	1,129	1,395	266	24%
60 to 64 years	921	1,358	437	47%
65 to 74 years	1,872	2047	175	9%
75 to 84 years	1,225	1768	543	44%
85 years and over	434	766	332	76%
Totals	18,346	20,434	2,088	11%

Source: US Census

The racial composition of the Town is mostly White (93% of population) with 1.6% Black or African American, 3.2% Asian, and 4.9% Latino.

There are 7,623 households in the Town, of which 34% contain children under 18 years old, and 40% of which contain individuals 65 years and over. The average household size is 2.61 persons and the average family size is 3.09 persons.

¹ All data in this chapter are from the 2010 US Census, unless otherwise noted.

Of the 7,982 total housing units, 7,623 units (96%) are occupied. Of the occupied housing units, 93% are owner-occupied and 7% are renter-occupied. The median household income in the Town is \$115,433².

2. Anticipated Impacts

a) Anticipated Resident Population

Proposed Action

The preliminary development concept plan for the Project includes 80 multifamily residential units and a grocery store. Since the plan is still in concept, specific floor plans and architecture have not been developed. The residential units would be constructed as townhomes with a master bedroom on the first floor, with a mix of 30 three-bedroom units and 50 two-bedroom units, all with two-car garages.

As shown in the table below, the 80 proposed residential units could generate approximately 241 individuals, using the standard multipliers for two- and three-bedroom condominiums. This would represent a 1.2% increase in the Town’s 2010 population of 20,434.

**Table III.H-2
Anticipated Resident Population: Proposed Action**

Residential Units	Standard Population Multiplier¹	Total Population
50 – 2BR Units	2.63	132
30 – 3BR Units	3.62	<u>109</u>
Total		241

¹ Residential Demographic Multipliers by Rutgers University Center for Urban Policy Research (June 2006), standard population multiplier for multifamily housing 2-4 Units, 2BR and 3BR, Value More than \$132,000, ownership units, New York State.

Site Build Out with Existing Zoning

If the Site were to be redeveloped in compliance with the existing R80 and R40 zoning, 10 single family homes could be built. Assuming the homes contained four bedrooms each, the site population would be approximately 37 individuals in the 10 homes (10 homes x 3.67 people per single family detached home as per Rutgers CUPR multiplier). See also Alternative 2 in Chapter IV, Alternatives.

² Source for median income is US Census 2008-2012 American Community Survey 5-Year Estimates.

Site Build Out with MFR-H Overlay Zone

If the Site were to be built out utilizing mapping of the existing MFR-H overlay district on the Site, the population could vary, depending upon the project proposed. As an example, if the Site were to include 109 two-bedroom apartments, the population would be approximately 287 persons.³ (See Chapter IV, Alternatives).

b) Potential Cumulative Impacts/Potential Mapping of MFR-DH

If anticipated total build out applying MFR-DH to eligible sites within 2,500 feet of the intersection of Route 202 and 100 (the “study area”) were to occur, development of no additional residential units would occur. As described in Chapter-III.B, Zoning, none of the sites within the study area were eligible or likely to obtain the MFR-DH floating zone for residential use. One site could be redeveloped with retail use, however, that would not affect area demographics such as population.

3. Mitigation Measures

A potential town-wide population increase of 1.2% from the Proposed Action is not considered to be a significant adverse impact, therefore no mitigation measures are proposed for demographics.

³ *Residential Demographic Multipliers* by Rutgers University Center for Urban Policy Research (June 2006)), standard population multiplier for multifamily housing 2-4 Units, 2BR and 3BR, Value More than \$132,000, ownership units, New York State.



I. Community Services

Letters were sent to community service providers to inquire as to current facilities and services and as to potential issues or impacts of the Proposed Action. These letters and the responses received are included in Appendix C.

1. Schools

a) Existing Conditions

The Somers Central School District (SCSD) consists of four schools providing education to Kindergarten through Grade 12. Elementary education in Somers is divided between Primrose Elementary School, which serves grades K-2 and Somers Intermediate School, which serves grades 3-5. Somers Middle School serves grades 6-8 and Somers High School serves grades 9-12. One parochial high school, John F. Kennedy Catholic High School, is also located in Somers (see Exhibit III.I-1, Community Facilities and Services for locations). The Intermediate School and Middle School are located a short distance to the west of the Site.

**Table III.I-1
Somers Central School District Enrollment 2013/14**

School	Grade	Enrollment	Subtotals
Primrose Elementary School (110 Primrose Street)	K	191	636
	1	211	
	2	234	
Somers Intermediate School (240 Route 202)	3	258	775
	4	251	
	5	266	
Somers Middle School (250 Route 202)	6	285	814
	7	262	
	8	267	
Somers High School (120 Primrose Street)	9	275	1,092
	10	268	
	11	283	
	12	266	
Total		3,317	3,317

Source: SCSD letter dated January 29, 2014, see Appendix C.

A recent publication by Hudson Valley Pattern for Progress entitled “*The Empty Classroom Syndrome – A Discussion Brief on the State of School Enrollment Projections in the Hudson Valley*” (May 2013) discusses issues school districts are



struggling with including declining enrollments, changes in state aid, and being faced with school closings and district consolidations. The report notes that enrollment in the Somers Central School District is projected to decrease 6% from the peak of 3,453 in 2010 to a projected 3,243 in 2020. The 2014/15 Budget Presentation to the Somers Central School District Board of Education states that “enrollment peaked during the 2010/2011 school year at 3,419 students” and overall enrollment is expected to decrease by 88 students in 2014/15 and by another 107 students in 2015/16.¹ This trend of decreasing enrollments between 2008 and 2014 is indicated in the table below, in all schools in the district except the high school.

Table III.I-2
Enrollment Trends for Somers Central School District

	2013/14	2011/12	2010/11	2009/10	2008/09
Primrose (K-2)	636	720	744	759	776
Intermediate (3-5)	775	799	809	812	845
Middle (6-8)	814	841	868	840	822
High (9-12)	1,092	1,058	1,032	1,011	974
Total	3,317	3,418	3,453	3,422	3,417

Source: New York State Report Cards for years 2008-2011, Somers Central School District for year 2013/14. Data for year 2012/13 was not available.

b) Anticipated Impacts

Utilizing the Residential Demographic Multipliers by Rutgers University Center for Urban Policy Research (June 2006), the Proposed Action is projected to generate approximately 37 public school children. These 37 public school children would be spread throughout the 13 grades (K-12).

Table III.I-3
Projected Public School-Children Generated from the Project

Unit Size	# of Units	Student Multiplier ¹	Public School Students
2 Bedroom	50	0.36	18.0
3 Bedroom	30	0.62	18.6
Totals	80		(36.6) 37

¹ Residential Demographic Multipliers by Rutgers University Center for Urban Policy Research (June 2006), School Age Children in Public School multipliers for multifamily housing 2-4 Units, 2BR and 3BR, Value More than \$132,000, ownership units, New York State.

¹ Proposed 2014/15 Budget Preview for the Board of Education meeting on January 7, 2014.
<http://www.somersschools.org/Page/4007>, accessed on 2/6/14.

The School District had an enrollment of 3,317 students (2013-2014), therefore, the 37 additional students would increase total enrollment by 1.1%, to 3,354 students.

For comparison purposes, a multiplier was also applied to determine the total amount of school-age children generated (public and private schools). As indicated in Table III.I-4, it is projected that 48 total school-age children would be generated from the Project.

**Table III.I-4
Total Projected School-Children Generated from the Project**

Unit Size	# of Units	Student Multiplier ¹	Total School-Age Children
2 Bedroom	50	0.45	22.5
3 Bedroom	30	0.83	24.9
Totals	80		(47.4) 48

¹ Residential Demographic Multipliers by Rutgers University Center for Urban Policy Research (June 2006), Total School Age Children multiplier for multifamily housing 2-4 Units, 2BR and 3BR, Value More than \$132,000, ownership units, New York State.

The Willows is a multi-family residential community in Somers with 120 (2 and 3 bedroom) townhomes. The development is located in a mapped MFR-H district in the Lincolndale hamlet. According to the SCSD (see correspondence in Appendix C), there are 58 school children residing in the Willows development as of January 2015. The 58 students attend the schools as follows: 12 at Primrose Elementary; 13 at Somers Intermediate; 8 at Somers Middle School; 24 at Somers High School and 1 out of district student who receives transportation.

The Willows has 120 units, therefore, its school children generation rate is 0.48 child per unit². Using the generation rate of 0.48, the proposed Somers Crossing community would generate 39 students (80 units x 0.48 = 38.4/39). 39 new students is generally consistent with the Rutgers multipliers, and would similarly increase the current district enrollment by approximately 1.1%, to 3,356 students.

The table below shows the breakdown by school of potential new students using both the standard Rutgers multiplier and The Willows multipliers. Both sets of

² The methodology used to determine the school child generation rates for The Willows project was dividing the number of school children in the development with the number of units in the development. 58 children ÷ 120 units = 0.48.



data are disaggregated by school rather than grade, therefore, this analysis is based on school impact instead of grade impact.

**Table III.I-5
Potential Range of New Students by School**

Grades and School	Using Rutgers Standard Multiplier¹	Using Generation Rate from The Willows²
K-2 Primrose Elementary School	8	8
3-5 Somers Intermediate School	7	9
6-8 Somers Middle School	10	6
9-12 Somers High School	12	16
Total	37	39

¹ Residential Demographic Multipliers by Rutgers University Center for Urban Policy Research (June 2006), School-Age Children in Public School multiplier by grade for multifamily housing 2-4 Units, 2BR and 3BR, Value More than \$132,000, ownership units, New York State. Data reconciled by VHB.

² Somers Central School District email dated January 30, 2015, see Appendix C.

As noted in Table III.I-4, Somers High School would likely receive the greatest number of new students. Although Somers High School enrollment has been increasing over the past five years, (see Table III.I-2), it is likely that enrollment will soon peak and begin decreasing due to decreasing enrollments in the lower grades. Grades K-8 have decreased by 218 students from the 2008/2009 school year so therefore it is expected that the high school enrollment will start decreasing as well. Declining enrollment trends are discussed above in Chapter III.I.1.a.

Existing Site Zoning

With existing zoning of R-80 and R-40 on the Somers Crossing Site, 10 single family homes could be constructed, which would generate approximately 11 school children. With MFR-H overlay, 109 units could be constructed, which would generate approximately 40 school children (see Chapter IV. Alternatives).

Other Sites Applying MFR-DH or MFR-H

As described in Chapter III.B., Zoning, only one other site in the Somers Hamlet would be eligible for the proposed MFR-DH floating zone. This site, however, is eligible only for commercial development within the MFR-DH district. Therefore, no additional school children would be generated by applying the floating zone. This site (site A on Exhibit III.B-3), would not be eligible for the existing MFR-H district because it does not meet the 10-acre minimum lot size. This site is currently developed under existing zoning (BH-P) and includes a small retail strip.



School Bus Stop

The SCSD anticipates that the District would provide a bus stop on the Route 100 at the entrance to the new residential community³, since the project will have private roads. However, the Applicant will provide access on private roads and will work with the School District to provide a school bus stop within the private road system for pickup of school children in the Project. Another option for consideration is dedication of a portion of the road (sufficient for a bus to turn around) to the town. These options will be further investigated during the Site Plan process. (See also Chapter III.G, Transportation).

c) Mitigation Measures

The potential impact of 37 to 39 new school children into the school district (an increase in district enrollment of 1.1%) is not considered significant, so no mitigation is proposed. The project will generate approximately \$1,597 annually in surplus taxes (see chapter III.L, Fiscal). A bus stop will be provided within the private road system, off of Route 100, with agreement from the School District. If necessary, a suitable school bus stop location will be designed during the site plan approval process.

2. Police

a) Existing Conditions

The Somers Town Police Department is a part-time force consisting of two lieutenants and 14 police officers. The Police Department headquarters is located near Reis Park on Route 139, approximately 2.5 miles from the Site. Among the services provided by the Department are vacant house checks, neighborhood watch, car etching and child-safe programs for the community. All officers are trained first responders in the use of automated defibrillators.

Additional services are provided by the New York State Police, which is located adjacent to the Site to the south on Route 100. The Somers Police Department is dispatched by the New York State Police. All 911 calls are answered at the New York State Police Communications Center in Hawthorne, New York. Either a Somers Town Police Officer, a New York State Trooper, or both, will respond to a call for assistance⁴.

³ SCSD letter dated January 29, 2014, see Appendix C.

⁴ Source: http://www.somersny.com/Pages/SomersNY_Police/index (accessed 11/19/13)

b) Anticipated Impacts

The addition of 80 new multi-family residential units would likely create approximately 241 residents at the Site. If all of those residents were new to Somers, the population of the Town would increase approximately 1.2%, based on the Town's 2010 population of 20,434. This increase would likely result in a proportionate increase in demand for police services, which includes an increase of 0.482 police personnel, 48.2 square feet of facility space, and 0.1446 vehicle, according to the planning standards published in the Urban Land Institute's Development Assessment Handbook⁵. Thus, these increases would not be significant. The addition of a new grocery store would also likely generate some additional demand for police services.

The Police Department would access the residential units via the proposed driveway from Route 100. Access to the new grocery store would be from the new access road off Route 202.

Neither the Somers Police Department nor the NY State Police have responded to letters written on January 8, 2014 and September 23, 2014 requesting additional information and their input on the Proposed Action. See Appendix C for correspondence sent.

MFR-H District/Other Sites in MFR-DH

If the Site were developed using the MFR-H (see Chapter IV, Alternatives), the 287 person site population in 109 units would not create a significant increase or decrease in demand for police services, compared with the Proposed Action.

As described in Chapter III.B., Zoning, only one other site in the Somers Hamlet would be eligible for the proposed MFR-DH floating zone. This site, however, is eligible only for commercial development within the MFR-DH district. The addition of more retail uses on this site would not likely generate significant additional demand for police services. This site (site A on Exhibit III.B-3), would not be eligible for the existing MFR-H district because it does not meet the 10-acre minimum lot size.

Development Under Existing Zoning

If the Site was developed with ten single-family homes, as permitted with existing zoning, the demand for police services would be significantly less than the demand generated by the Proposed Action because the projected population for

⁵ Model Factors for Social Impact Analysis (Police), Development Impact Assessment Handbook. Urban Land Institute, 1994.

the single-family homes would be 37 residents instead of the 241 residents estimated for the Proposed Action.

c) Mitigation Measures

The additional population anticipated from the residences and new grocery store is not anticipated to create a significant adverse impact to the Town or State Police. Adequate emergency access will be provided. No mitigation measures are proposed.

3. Fire and Emergency Services

a) Existing Conditions

The Site is within the Somers Volunteer Fire Department (VFD) district, which covers a 33.3 square mile response area. The Fire Department provides both fire and emergency medical services to its district. The Department provides two EMTs to cover medical calls and has a contract with Westchester Emergency Medical Services. According to a letter provided by the Somers Fire District⁶, the Somers VFD is comprised of 100 volunteer firefighters and 10 volunteer EMTs. The Fire District staff is composed of one full-time staff member, two part-time staff members and four contract employees. The Fire Department currently has 7 fire engines, a van, a hazmat trailer, a tanker, a rescue boat, a rescue vehicle, 2 brush vehicles, a rehab bus, a trailer, a service vehicle, 4 SUVs and 4 ambulances.

The closest station to the Site is the Somers Fire house, located at 270 Route 202, approximately 75 feet from the proposed Site entrance on Route 202. (See Exhibit III.I-1, Community Facilities, for location of fire stations in Somers). The Department averages 700 fire calls and 1,600 EMS calls per year. The VFD states that the “average response time depends on the time of day, road conditions and apparatus responding due to nature of alarm.”⁶

The Site is currently vacant, but it does have frontage on Route 100 and Route 202, as well as from the shopping center. Adequacy of access to individual proposed uses (for fire apparatus and emergency vehicles) is described below.

According to the Somers Bureau of Fire Prevention⁷: “The Bureau of Fire Prevention consists of the Chief and two Deputy Chiefs. The Chief is the Town Building Inspector and the Deputy Chiefs are recommended to the Town Board by the Board of Fire Commissioners of the Fire District and must have at least five years of active service.” The Bureau regulates the following: hazardous materials,

⁶ Letter from the Fire District Manager dated October 15, 2014, see Appendix C.

⁷ Letter from Bureau of Fire Prevention dated January 28, 2014, see Appendix C.



fire alarms, extinguishing equipment, and means and adequacies of exits in case of fire. The Bureau works to prevent fires and investigates fires that have occurred. According to the Fire Department, “The Somers Volunteer Fire Department and the Fire Prevention Bureau work closely together. The Department’s Assistant Chief serves on the Fire Prevention Bureau. The Bureau reviews plans and works with the Building Department on Code Enforcement.”⁶

The Site is currently vacant, so does not have firefighting capabilities (see below for discussion of water supply, capacity and pressure for fire-fighting purposes).

b) Anticipated Impacts

Demand for Fire Fighting and Emergency Services

As described above, the addition of 80 new multi-family residential units would likely create approximately 241 residents at the Site. If all residents were new to Somers, the population of the Town would increase approximately 1.2%, based on the Town’s 2010 population of 20,434. This increase would likely result in a proportionate increase in demand for fire and emergency medical services. The fire service increases include an increase of 0.398 fire personnel, 602.5 square feet of facility space, and 0.0482 additional vehicle. The emergency medical services (EMS) increases include an additional 8.8 EMS calls per year, 0.04 EMS Full-Time personnel, and 0.01 EMS vehicle⁸. Thus, these impacts would not be significant. The addition of a new grocery store would also likely generate some additional demand for fire and emergency services. According to the Fire Department “Potential impact for demand for both fire & emergency medical services obviously is dictated by the increase in population and traffic at that site.”⁶

Fire Department Questions

A letter from the Fire Department dated 10/15/14 (see Appendix C) inquires whether the town homes and grocery store will be sprinkled and if hydrants will be available. Hydrants will be available but the buildings will not have sprinklers. The Applicant will comply with all applicable building codes. The letter also inquired if there would be a special needs population living in the proposed residential community. While some special needs individuals may reside in the residential units (as in the general population), there is no plan for an organized home for special needs individuals nor is the project designed or marketed specifically for that population.

⁸ Model Factors for Social Impact Analysis (Fire and Emergency Medical Services), Development Impact Assessment Handbook. Urban Land Institute, 1994



Adequacy of Site Access

The Fire Department would have access to the residential units via the proposed driveway from Route 100. Access to the new grocery store would be from the new access road off Route 202. Specific turning radius for emergency vehicles, including fire trucks has been considered in the project design, and will be illustrated on the site plans during the site plan approval process. The Fire Department letter dated 10/15/14 states that they will determine adequacy of site access upon site plan review.⁶

Source of Water Supply, Pressure, Storage

Fire Flow will be calculated based on ISO Standards. Since the closest distance between buildings is between 11 and 30 feet, the fire flow needed is 1,000 gpm. As per the same standards, the same flow rate should be sustained at least 2 hours. Therefore, 120,000 gallons of available water supply is required. This will be part of the project's water supply provided by Heritage Hills. No fire water supply storage facility is required on site, since water supply will be provided by Heritage Hills Water Works Corporation.

Development of Sites Eligible for Rezoning Under Their Existing Zoning and Potential Mapping of Existing MFR-H District

As described in Chapter III.B., Zoning, only one other site in the Somers Hamlet would be eligible for the proposed MFR-DH floating zone. This site, however, is eligible only for commercial development within the MFR-DH district. The addition of more retail uses on this site would not likely generate significant additional demand for fire and EMS services. This site (site A on Exhibit III.B-3), would not be eligible for the existing MFR-H district because it does not meet the 10-acre minimum lot size.

If the Site were developed using the MFR-H (see Chapter IV, Alternatives), the 287 person site population in 109 units would not create a significant increase or decrease in demand for fire and emergency services, compared with the Proposed Action.

If the Site was developed with ten single-family homes, as permitted with existing zoning (see Chapter IV, Alternatives), the demand for fire and emergency services would be significantly less than the demand generated by the Proposed Action because the projected population for the single-family homes would be 37 residents instead of the 241 residents estimated for the Proposed Action.



c) Mitigation Measures

The additional population anticipated from the residences and new grocery store is not anticipated to create a significant adverse impact to the Somers Fire department or EMS services. Adequate emergency access will be provided. No other mitigation measures are proposed.

4. Solid Waste

a) Existing Conditions

The Site is currently vacant, therefore it generates no solid waste, and solid waste regulations are therefore not applicable.

Town and County Solid Waste and Recycling Regulations

All refuse and recycling in the Town is provided by private collectors. All private collectors must be licensed as per Chapter 109 of the Town Code, and must collect garbage and recycling materials. Collection services must be at a minimum:

- Twice-per-week refuse collection at the curbside; or
- Once-per-week refuse collection on premises for residences with a driveway; and
- One-per-week collection at curbside; commercial collection; mixed and single-stream recyclables collection⁹.

Also, bulk pick-up must be made available either as part of regular service, or for an additional fee.

Westchester County enacted the Source Separation Law in 1992. This law requires all residential waste generators to separate recyclable materials from their garbage. Non-residential waste generators are also required to ensure the separate collection of recyclables by either a municipal or private hauler. Mandated recyclables include specific types of paper, glass, plastic, leaves, and motor oil and used vehicular batteries¹⁰.

b) Anticipated Impacts

Based on NYSDEC standard residential solid waste multipliers, new residents would generate approximately 5 lbs per person per day of solid waste. Given a projected Site population of 241 persons (see Chapter III.H., Demographics), the

⁹ Somers Town Code Section 109-6.B.

¹⁰ Westchester County Source Separation Law

residences would produce approximately 439,825 lbs per year (equal to 241 persons x 5 lbs/day x 365 days/year); or 219 tons per year.

The grocery store is estimated to produce approximately 6,000 lbs per week, or 312,000 lbs (or 156 tons) per year in solid waste, not including recyclables.

Potential increase in solid waste and recyclable material generation with the Project, based on use, is described in Table III.I-6, below.

**Table III.I-6
Solid Waste Generation**

	Solid waste generated (lbs per month)
<i>Proposed Action</i>	
80 MF Residential Units (Townhomes) ¹	36,652 lbs
19,000 sf Grocery Store ²	26,000 lbs
<i>Total</i>	<i>62,652 lbs</i>
<i>Existing Zoning</i>	
10 Single Family Homes ¹	5,627 lbs
<i>Site Development with MFR-H District</i>	
109 MFR-H Residential Units (Townhomes) ¹	43,050 lbs
<i>Site A Developed with MFR-DH District</i>	
26,332 sf Commercial Use ³	4,005 lbs
<i>Site A Developed with Existing Zoning</i>	
Existing Shopping Strip	Not available
<i>Site A Developed with MFR-H District</i>	
Site not eligible for MFR-H District	Not applicable

¹ Based on NYSDEC standard residential solid waste multipliers, 5 lbs per person per day.

² Based on estimate provided by potential grocery tenant.

³ Based on Urban Land Institute retail solid waste multiplier, .001 tons per day per employee.

As shown in the table above, the Proposed Action would generate more solid waste with the proposed MFR-DH zoning¹¹ than if the Site was developed with only residential uses as implied with the existing zoning and site development with MFR-H alternatives. Although the grocery store would create additional solid waste, it is a benefit to the community.

As described in Chapter III.B., Zoning, only one other site in the Somers Hamlet would be eligible for the proposed MFR-DH floating zone. This site, however, is eligible only for commercial development within the MFR-DH district. The addition of more retail uses on this site would not likely generate significant additional solid waste, as shown in the table above. This site (Site A on Exhibit III.B-3), would not be eligible for the existing MFR-H district because it does not

¹¹ DEIS Scope calls for a discussion of disposal of medical waste, however the current proposal will not include medical waste of any kind.



meet the 10-acre minimum lot size. This site is currently developed under existing zoning with a small commercial strip. It is not known how much solid waste is currently generated by this site.

Method of Solid Waste Storage/Collection

In the residential units, solid waste and recyclable storage will be kept in containers in the individual garages. Collection will be in accordance with town and County solid waste and recycling regulations, and will be conducted by private carters, as part of the residential units' common fees. There will not be a centrally located garbage collection area.

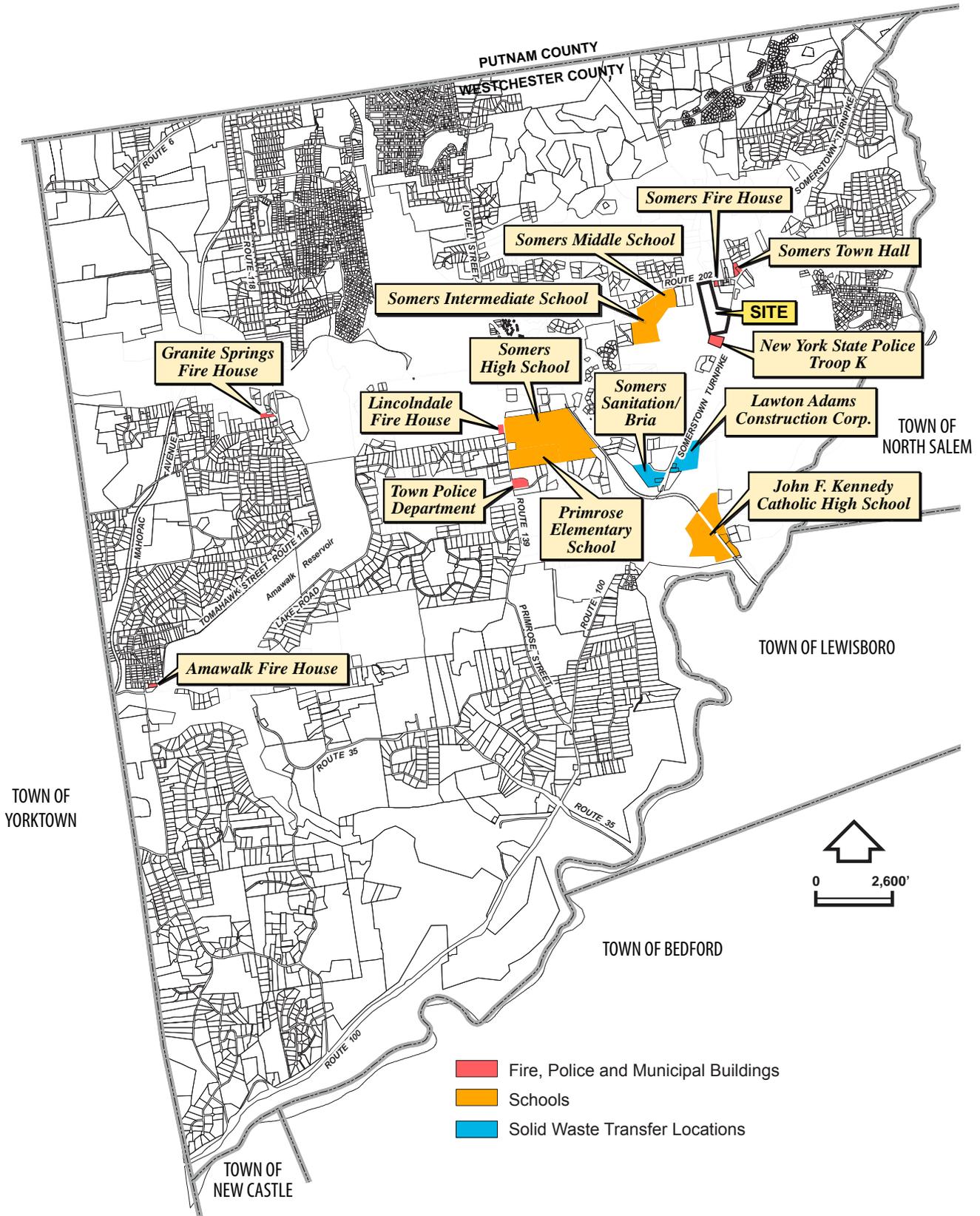
At the grocery store, solid waste and recyclable storage will be in sealed dumpsters, located off the along the access to the rear of the building or in the parking lot in an enclosed area screened from view with fencing and/or plantings. Exact dumpster location will be determined during the site plan approval process. The waste in these dumpsters will likely need to be collected once a week since the grocery store will have an extensive recycling program. The grocery store will utilize trash compacters and dumpsters for cardboard disposal.

c) Mitigation Measures

By maintaining proper storage techniques and regular collection of solid waste and recyclables by licensed carters, no adverse impacts are anticipated, and therefore no mitigation is proposed. The design will contain measures to control visual impacts and odors at the grocery store disposal facilities.

Solid waste and recyclables will be collected and disposed of by private carters, and will be scheduled at early (off-peak shopping) hours to avoid traffic conflicts with shoppers.

No Town services or facilities would be required for solid waste disposal from the Project. In accordance with local regulations, the Project would participate in the Town and County recycling programs.



Source: NYS GIS Clearinghouse

SOMERS CROSSING
Somers, New York

**Community Facilities
and Services**

Exhibit
III.I-1

J. Open Space and Recreation

1. Existing Conditions

a) Public Open Space and Recreation Facilities in Somers

Public parks, recreation areas and open spaces in the Town of Somers are described below and illustrated on Exhibit III.J-1, Parks, Recreation and Open Space. As shown on Exhibit III.J-1, parks and recreation areas within 0.5 mile walking distance of the Site include: Bailey Park, Firemen's Field and portions of the Heritage Hills golf course (which is open to the public with a membership).

Town Parks:

The Town of Somers owns 825 acres of land in six public parks (see Exhibit III.J-1 for locations), including:

- **Bailey Park** is approximately 0.5 acre in size and located in the center of the Somers Hamlet next to the Elephant Hotel (Town House). The "village green" park has a gazebo and is used for special events including concerts and fairs. Bailey Park is within walking distance (0.5 mile) of the Site.
- **West Somers Park** is a 4-acre neighborhood park in Granite Springs, with fishing available in a pond in the park.
- **Reis Park** is approximately 82 acres and located on Primrose Street. Reis House and its barns are located at the northwest corner of the park. Reis Park has ball fields, tennis courts, soccer fields, basketball courts, a playground, a picnic pavilion, restrooms and trails.
- **Van Tassell Park** is on 20 acres adjacent to Reis Park, added in 1993. This park has a recreation center and playground, baseball, basketball, soccer and softball facilities.
- **Koegel Park** is approximately 68 acres. It is designated as a passive recreation park; primarily used for hiking and nature study. There is a caretaker's cottage on the site, along with a picnic area and parking.
- **Angle Fly Preserve:** In 2005, the Angle Fly Preserve was created on 654 acres of forest, wetlands, meadows and the Angle Fly Brook, with several agencies contributing funds for the open space purchase. The Town of Somers is responsible for the operation and maintenance of 370 acres of this preserve, which contains a parking area and nature trails.

Other Recreation Facilities Used by the Town:

- **Firemen's Field** is 3.5 acres located just west of the Site on Route 202.



Although it is not owned by the Town, it is used by the Town for soccer fields.

- **St. Joseph's Field** is located at the northeast corner of town, on land owned by NYCDEP. This 1.75 acres is used by the Town for youth softball and baseball.

Westchester County Parks:

- **Muscoot Farm:** The 777-acre Muscoot Farm contains an interpretive farm and a museum. The property has more than 7 miles of marked hiking trails.
- **Lasdon Park, Arboretum and Veteran's Memorial:** The 234-acre Lasdon Park on Route 35 has formal gardens, woodlands, a museum and memorials honoring Westchester veterans.
- **North County Trailway:** The North County Trailway is a marked and paved bicycle trail that runs north-south through northern Westchester County (including through the length of Somers) and north into Putnam County where it continues as the Putnam Trailway.

b) Requirements for Provision of Open Space

The Somers Town Code prescribes a recreation fee of \$11,500 per newly created single family residential building lot. Reductions are given for multifamily dwelling units with less than four bedrooms (Section 55 of Town Code). The Multifamily Residence (MFR) Districts are required to provide a recreation area for their residents, including: 300 square feet of recreation lot area per density unit and include common active recreational facilities (Section 170-13.A(14)). The MFR Districts also require that all portions of any multifamily development not used for recreation, buildings, parking or other permitted or accessory uses, must be designed and maintained as permanent open space. In some cases where the town agrees, a fee could be provided in lieu of recreation facilities.

2. Anticipated Impacts

The proposed residential units are anticipated to generate up to 241 residents (See Chapter III.H, Demographics). If all residents were new to Somers, the population of the Town would increase by approximately 1.2%. Therefore, a proportionate increase in demand for and usage of public parks, open space and recreational facilities in the Town would likely occur, which includes between 1.205 to 1.928 additional acres of community park land and 0.006 recreation, health, welfare and cultural full-time personnel, projected from multipliers indicated in the Urban Land Institute's Development Impact Assessment

Handbook¹ This increase is not considered significant because the Town owns approximately 825 acres of public parkland, including recreation facilities, but not including additional public parkland owned by the County and recreation fields at Fireman's Field and St. Joseph's Field. Applying Urban Land Institute multipliers to the Town as a whole, the Town would need to provide 263 to 420 acres of public parkland for all Town residents (52,490 residents as per 2010 Census); much less than the 825 acres currently provided.

The proposed new grocery store would not generate any additional demand for Town open space and recreational facilities.

Approximately 10.58 acres of the Site (including most of the regulated wetlands and buffers) will be preserved as natural open space. Within this passive open space, a walking trail will be installed, with no impervious surfaces or tree clearing proposed. This trail will make a connection through the Site from Route 202 to Route 100, and will be open to the public. (See Exhibit II-5, Concept Plan). The natural open space will be preserved and restricted as open space by covenants and restrictions in perpetuity, and maintained by a homeowners association (HOA). The intent for the trail is that it would be open to the public. Whether the land ultimately remains privately owned by the HOA or is becomes publicly owned will be determined later in the SEQRA process.

The proposed plan does not include an active recreation facility as is required for the other MFR districts (300 square feet of lot area per density unit). The Applicant proposes payment of a fee-in-lieu. Pedestrian connections are proposed between the residential community and Towne Centre at Somers.

The loss of some existing private open space is an unavoidable impact of the project. Loss of other private open space in the area is not anticipated, based on the ownership and characteristics of the private lands in the area, including IBM and Heritage Hills.

The Town of Somers collects a recreation fee for new residential development, which contributes to a town-wide fund for open space, parks and recreation facilities. The fee per new single family residential lot is currently \$11,500. In this case, pursuant to Town Code §55 and Town Code §170-114D, the recreation fee for multi-family dwelling units is 85% of the adopted recreation fee per newly created building lot for dwelling units with 3 bedrooms, and 70% for dwelling units for 2 bedrooms. Therefore the fee per 3 bedroom residential unit would be \$9,775 ($\$11,500 \times 85\%$) and for 2 bedroom residential unit would be \$8,050

¹ Model Factors for Social Impact Analysis (Open Space), Development Impact Assessment Handbook. Urban Land Institute, 1994.



(\$11,500 x 70%). Therefore, the fee collected by the Town from the Applicant would be \$695,750 (30 units x \$9,775) + (50 units x \$8,050).

Existing Zoning

If developed under existing zoning, the Site would generate approximately 37 residents. Under application of potential mapping of existing MFR-H floating district, the Site would generate approximately 259 residents. Impacts would be similar if the Site was developed with MFR-H, and less if developed with existing zoning. (See Chapter IV, Alternatives).

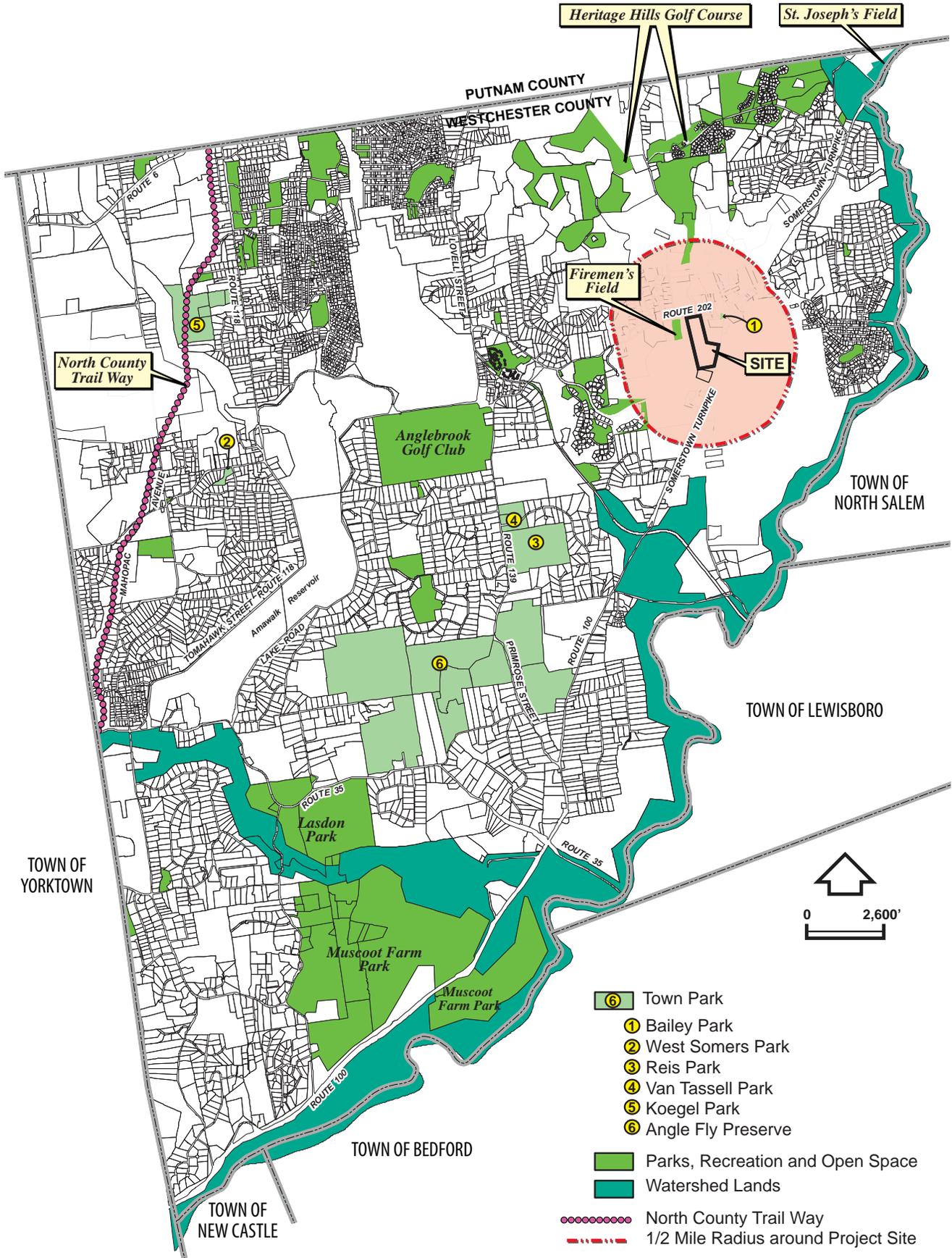
Cumulative Impacts/Other Sites Eligible for MFR-DH

As described in Chapter III.B., Zoning, only one other site in the Somers Hamlet would be eligible for the proposed MFR-DH floating zone. This site, however, is eligible only for commercial development within the MFR-DH district. The addition of more retail uses on this site would not generate additional demand for open space. This site (Site A on Exhibit III.B-3), would not be eligible for the existing MFR-H district because it does not meet the 10-acre minimum lot size.

3. Mitigation Measures

No significant adverse impacts are anticipated to open space and recreation, therefore, no mitigation measures are proposed. Approximately 40 percent of the Site will remain in open space, and a walking trail is proposed (in the passive open space, shown on the concept plan), which is proposed to be open to the public and will adequately facilitate pedestrian use. Alternative Plan C1, Exhibit IV-4A indicates pedestrian connections directly to the adjacent shopping center, with impervious pathways suitable for pedestrians, and bicycles connecting the two properties.





Source: NYS GIS Clearinghouse

SOMERS CROSSING
Somers, New York

**Parks, Recreation and
Open Space**

Exhibit
III.J-1

K. Utilities

1. Water Supply

a) Existing Conditions

The Project Site is adjacent to the Heritage Hills Water District service area (see location relative to the Site on Exhibit III.K-1, Water Districts in the Site Vicinity). The closest connection point to the Heritage Hills water main is on the Route 202 frontage north of the Site.

The Site is currently vacant, and therefore does not use any water supply. As described in Chapter III.E, Water Resources, and in the *Hydrogeologic Assessment* in Appendix D¹, two test wells remain that were completed on the Site for a previously proposed development (drilled in 1986 by P.F. Beal & Sons, Inc.) and are identified as Well #1 (TW-1) and Well #2 (TW-2), as shown on Exhibit II-3, Site Survey and on Exhibit II-4, Site Constraints. The existing well off-site on the Towne Centre and a 100-foot radius around that well is also indicated on this exhibit.

Heritage Hills water system is a gravity water system pressurized by an atmospheric storage tank, steel, above ground with a 1,000,000 gallon capacity (90'-0" diameter x 24'-0" high with a 22'-9" high water level). Tank bottom elevation is approximately 725.0. The water distribution system for the Heritage Hills consists of five wells pumping against the storage tank water levels and approximately 28.7 miles of various sizes water pipes. Heritage Hills water system is 100% metered serving population of 4,700 and having 2,643 water service connections.

The Heritage Hills wells (off-site) will not be influenced by the proposed action. A hydrant test was performed by Camo Pollution and witnessed by Bibbo Associates, LLP on December 17, 2014. There are adequate residual pressures and required flows to service this proposed development. The test results showed that the static pressure at the Heritage Hills entrance (which is the proposed water distribution system connection point) is 70 psi. During the flow test at the hydrant, the system provided 1,100 gpm at the 62 psi residual pressure.

¹ The LBG Hydrogeology report referenced in the DEIS (Appendix D) has been reviewed and accepted as referenced throughout the DEIS, except as modified by the Project Engineer site specific to the Somers Crossing Project DEIS.



b) Anticipated Impacts

The water supply for the Project is proposed to be from a connection to the Heritage Hills system. The Proposed Action includes installation of a potable water transmission pipe that would connect both the proposed residential community and grocery store to the Heritage Hills Water Works Corporation. Ownership of the water line would be private, and maintenance would be the responsibility of the property owner. (See Exhibit III.K-2, Utilities, and engineering plans for proposed location of the new sanitary and potable water transmission lines). Preliminary discussions have taken place with the Applicant and the Heritage Hills Water Works Corporation and Heritage Hills Sewage Works Corporation.

To meet the water demand requirements of the project, connection to the existing Heritage Hills Water Works Corporation for both the residential and grocery store development components is proposed. The average daily water demand for the Proposed Action is described in the project engineer's demand calculations in Appendix I and summarized in the table below:

Table III.K-1
Average Daily Water Demand for Project
(potable and irrigation)

Proposed Use	Average Daily Water Demand (gallons per day)
50 two-bedroom townhouse units ¹	16,720 gpd
30 three-bedroom townhouse units ²	
New grocery store (potable and operational) ³	1,520 gpd
Irrigation of landscaped areas of the Site	19,197 gpd
Total	37,437 gpd

¹ 220 gpd/unit

² 330 gpd/unit as per NYSDEC 3/5/14

³ 0.10 gpd/square foot

Source: Bibbo Associates, LLP (See calculations and standards in Appendix I)

The demand required by the proposed action is as follows:

Based on Insurance Services Office (ISO) standards, it is determined that the fire demand for the proposed action is 1,000 gallons per minute, average daily domestic demand is 18,240 gpd (using the 20% reduction based on the use of water conservation fixtures), peak hour domestic demand is 50.68 gallons per



minute as per the NYSDEC March 5, 2014 Edition and irrigation is 106.65 gpm totaling to 1,157 gpm. This number is rounded up to 1,200 gpm. For additional information refer to the determination of the water supply demands calculations. Average Daily Demand is calculated based on the most current NYSDEC Standards and considers 110 gpm/bedroom for the townhomes. A peak hour factor of 4.0 is used based on the size of the water system and on engineering judgment. Fire flow is determined based on the ISO standards and considers construction class, exposure distance of 11'-30', resulting 1,000 gpm needed fire flow.

Standards for the design of the water system are based on: AWWA for piping materials, Westchester County Department of Health (WCDH) for the separation distances and frost coverages, NYSDEC Design Standards for Intermediate Sized Wastewater Treatment Systems dated March 5, 2014 and the Ten State Standards.

The Site's maximum daily demand for the Proposed Action is 74,874 gpd. A public water-supply source must be able to supply the maximum daily water demand requirements of a proposed development, which is defined by the regulatory agencies as twice the average water demand. Therefore, the combined maximum daily water demand for the proposed development is 74,874 gpd (37,437 gpd x 2).

Based on information obtained from Heritage Hills of Westchester, which is supplied by water from five wells, the Heritage Hills Water District (HHWD) in Somers is permitted an average daily taking of 600,000 gpd. The average daily usage of the Heritage Hills Water District for 2008 was approximately 363,500 gpd and 2014 Average Daily Flow reported by the operator – Camo Pollution – is 281,944 gallons per day. There are five wells feeding the Heritage Hills water system, the combined well pumping rate is 945 gpm if the wells are pumping simultaneously. If the wells are working together or pumping in cycles is unknown at this time. As of November 2013, the Average Day Withdrawal rate is 0.38 MGD (63.33% of the permitted withdrawal rate) and Maximum Day Withdrawal is 0.598 MGD. The permitted withdrawal is 0.6 MGD. Maximum Daily Usage is also unknown at this time.

Based on the 2008 data for Heritage Hills, there is sufficient surplus water to meet the average and peak water demand requirements of the Proposed Action. According to Heritage Hills Water Works Corporation, they have the ability to meet the combined water demands of all potential and proposed uses. The water connection pipe between the project and the Heritage Hills Water Works shall be designed for delivery of 1,200 gpm. The connection to the proposed development



has been analyzed in regard to the fire flows plus average daily domestic flows occurring in the proposed development at its effects on the Heritage Hills water distribution system. Since the controlling flow is the fire flow, the evaluation is based on the fire flow and not on the peak flows. Assumption is made that the 14" and 12" diameter pipes connecting Heritage Hills to the proposed development are the only pipes feeding both systems. Therefore, the Heritage Hills average daily flow for 2014 of 281,944 gpd or 195.8 gpm has been added to the Somers Crossing fire flow and domestic flow of 1,200 gpm totaling approximately 1,400 gpm. The pressure reducing valve's inlet side would experience 4.50 psi pressure drop due to 1,400 gpm flow. It is noted however that addition to the storage tank capacity of 1,000,000 gallons, approximately 39,850 gallons of water available within the 14" and 12" pipes considered in this analysis. The 1,000,000 gallon storage tank needs to be completely drained 22' below the tank base elevation to reduce the operating pressure to 20 psi at the Condo 11 and 12 of the Heritage Hills.

2 hours of ISO required fire flow and domestic flow of 1,200 gpm would be 144,000 gallons which is 14.4% of the total tank volume and drops the tank high water level by 3.03 feet or 1.31 psi. See "Heritage Hills Hydraulic Analysis" diagram in Appendix I.

Site Utilities Plan (in the engineering plan set and Exhibit III.K-2) indicates the existing water supply system for the development. The Site Utilities Plan specifies the distribution system materials, preliminary sizes, horizontal separation distances from other utilities, hydrant locations. Detailed Plans and Profiles of the water distribution system will be prepared, as required by the Westchester County Health Department (WCHD), during the site plan design process, and will be complied with the AWWA, Ten State Standards and the requirements of the WCHD.

The existing test wells on the residential portion of the Site will be abandoned in accordance with all applicable laws and regulations after completion of the Proposed Action and connection of all project components to the Heritage Hills water district.

Average Daily Flow for the proposed action is 18,240 gpd, Heritage Hills water system average Daily Flow for 2014 is 281,944 gpd, requiring 6.42% increase to accommodate the Somers Crossing project. Heritage Hills water system treatment process consists of chlorine disinfection, iron and manganese treatment and PH adjustment. There will be no additional treatment or chemical treatment storage infrastructure necessary to serve the Somers Crossings Project.



Fire Demand

Fire Flow will be calculated based on ISO Standards. Since the closest distance between buildings is between 11-30 feet, the required fire flow is 1,000 gpm. As per the same standards, the same flow rate should be sustained at least 2 hours. Therefore, 120,000 gallons of available water supply is required.

Based on ISO standards fire flow of 1,000 gpm, peak hour domestic demand is 50.68 gallons per minute and irrigation is 106.65 gpm totaling to 1,157 gpm. This number is rounded up to 1,200 gpm. ISO Standards review water systems based on a minimum residual pressure of 20 psi. As per the hydrant test performed by Camo Pollution and witnessed by Bibbo Associates on December 17, 2014, there is adequate residual pressure and required flows to service this development. Refer to the water system engineer's report in DEIS Appendix I for detailed evaluation.

The existing pressure reducing valve located in Heritage Hills can be readjusted or rebuilt to an increased pressure available downstream, given the fact that there is potentially 225 psi pressure available at the inlet side. If required, during the site plan approval process, increased fire flows and pressures can be delivered to the proposed development.

A typical water/sewer cross section is provided (see Appendix I) showing the required separation distances from other utilities. Final sewer collection and water distribution system profiles will be provided as part of the Westchester County Health Department approval process. Dewatering for the utility installation is not anticipated.

c) Mitigation Measures

The Heritage Hills Water Works Corporation, as well as the Applicant's engineers' analysis, has indicated that there is adequate capacity to expand the district to accommodate the Proposed Action. Connection to the HHWD infrastructure is available at the Site's Route 202 frontage.

The Proposed Action will include water conserving fixtures such as low-flow toilets and shower heads; and irrigation time restrictions (such as evenings only or every other day). The water saving fixtures proposed are anticipated to save approximately 20% gpd (or 4,560 gpd), of the total average daily domestic water flow. This reduction is included in the water demand indicated in Table III.K-1. See also Appendix I.

Heritage Hills Water Works Corporation owns the water infrastructure assets that are not on the Project Site and is responsible for all common infrastructure. As part of the extension of its service area, Heritage Hills will ultimately own and maintain the water infrastructure on the Site. Heritage Hills Water Works Corporation will be responsible for the operation of the potable water system.

The water service area is proposed to be expanded to include limits of the 26.68-acre Site, and all applicable regulations and procedures will be followed to accomplish this in order to supply water to the Site. The new residents of Somers Crossing will add to the total users of the service area, contributing fees of use, and dividing the costs of service by a larger total number of users.

The proposed water supply system connection to the Heritage Hills system requires extension of the Heritage Hills Water District and mutual party agreements. Necessary easements, mutual party agreements, and maintenance agreements will be provided as required as the project progresses, in order to connect the water supply to the project. Maintenance of the water system within the Somers Crossings Site will be performed by the Heritage Hills Water District maintenance staff.

Expansion of the Heritage Hills water supply system to the Site will require:

- NYSDOT highway work permit for the Route 202 crossing
- NYSDEC water supply permit
- Westchester County Health Department permits.

Proposed site layout has been planned to minimize the demand for the irrigation water service by limiting the lawn areas as much as the design allows and by providing meadow growth for the areas such as stormwater detention basins.

Proposed site layout has been planned to minimize the total length of the water system extension as much as possible, by providing a loop layout for the development to provide adequate flow conditions to all the development in case of a breakage of water mains.

Operational and maintenance activities for the proposed water supply system will consist of periodic hydrant flushing and repairs, as necessary. The water distribution system layout has been designed to be located within the shoulders of the roadways as much as possible to avoid impacts to the roadways and other structures in case a repair requires excavation.



It is the Applicant's opinion that there are no potential significant adverse impacts of the Proposed Action to water supply that require additional avoidance, minimization or mitigation.

Heritage Hills Sewage Works Corporation owns the sewer infrastructure assets that are not on the Site. Heritage Hills will own the sewer infrastructure on the Site and be responsible for the maintenance of the infrastructure. Heritage Hills Sewer District will also be responsible for the operation of the sanitary sewage system and sewage treatment plant. Agreements similar to those entered into between the Merritt Park and the Heritage Hills Sewage Works Corporation (2008) shall be required regarding maintenance and responsibility, a copy of which is included as Appendix M. Easements for pipes and appurtenances shall also be drafted once engineering is completed and locations are determined. Approvals will be obtained as necessary from NYSDOT and NYSDOH, NYSDEC, and Westchester County Departments of Health and Planning.

2. Sanitary Sewer

a) Existing Conditions

The Site is currently vacant, and therefore does not generate any sanitary sewage, and does not have any on-site sewage facilities. The following information regarding the Heritage Hills facilities is provided based on information gathered by the Project Engineer.

Existing Heritage Hills Sewer Works Corporation Facilities

The Heritage Hills wastewater treatment plant (WWTP) is permitted to a capacity per the NYSDEC of 702,000 gpd as per the existing State Pollution Discharge Elimination System (SPDES) permit (Permit # NY0026891).

The Heritage Hills sanitary system consists of complete collection system piping of 8" ± sewer, serving all units and connecting to the WWTP. The system ranges in age from 35 years to 10 years±.

**Table III.K-2
Heritage Hills WWTP Current Capacity/Usage**

Current Capacity:	(GPD)
Heritage Hills SPDES Capacity	702,000
Current Usage:	
Heritage Hills and Green Briar - Full Build Out	270,000
Somers Central School District	13,000
Merritt Park Estates	6,000
Total Current Usage:	289,000

Source: Bibbo Associates

The Applicant met with Officers of the Heritage Hills Sewage Works Corporation (spring 2014). The Heritage Hills WWTP is in complete compliance with NYSDEC SPDES permit requirements. The Heritage Hills Sewage Treatment Facility has recently undergone an upgrade to meet NYCDEP requirements for discharge into its watershed. This upgrade consisted of: the installation of an equalization tank, replacement of rapid sand filters, and installation of membrane filtration systems. The main goal of the upgrade was to ensure giardia and cryptosporidia removal and virus removal. Phosphorous removal is obtained through chemical addition.

This upgrade, which was required by, and funded by the NYCDEP, continues. An evaluation of the upgraded WWTP was completed by Delaware Operations, Inc. in October 2009 and an engineering redesign of the WWTP Plant was completed by Cedarwood Engineering Services, PLLC (an affiliate of Delaware Operations, Inc.) and was reviewed and accepted by NYCDEP on March 12, 2012. Heritage Sewage Works Corporation is informed that the reconstruction of the WWTP is currently on hold while NYCDEP pursues a resolution with Malcolm Pirnie, Inc., the engineering firm that designed the WWTP upgrade which is not working up to expectations. NYCDEP has a continuing obligation to implement the upgrade so as to properly treat 702,000 gallons per day, the permitted flows as authorized by the SPDES permit issued by the NYSDEC. Under the SPDES permit, sufficient capacity exists for treatment of flows anticipated from the proposed development. At the present time, it is not known when reconstruction of the WWTP will be completed, there is no moratorium or any denial of applications in place at this time. The average daily flow for the Heritage Hills sewer system (as of July 2009) is 270,000 gpd. The organic loading at the WWTP is 504 lbs per day of BOD, and 471 lbs per day of Total Suspended Solids (TSS). The NYSDEC permit for flow is 702,000 gpd; the design criteria for organic loading is approximately 1,500 lbs per day of BOD and Suspended Solids.

Heritage Hills 2014 average daily flow rate is 245,822 gpd according to the Sewage Treatment Plant Operator. The organic loading at the WWTP is 492 lbs per day of



BOD, and 492 lbs per day of Total Suspended Solids (TSS) in accordance with 2014 results. The NYSDEC permit for flow is 702,000 gpd; the design criteria for organic loading is approximately 1,500 lbs per day of BOD and Suspended Solids. Charts obtained for the 2014 results are included in Appendix I.

Recently, a sewage pump station was constructed for the Somers Elementary school on Route 202 which was designed to include the Somers Crossing development.

The Owner of the Heritage Hills did not indicate any non-compliant incidents.

b) Anticipated Impacts

The Applicant proposes to connect the residential project and grocery store to the Heritage Hills Sewer Works Corporation and Heritage Hills Water Works Corporation. The Proposed Action includes installation of a force main to connect the residential community to the Heritage Hills Sewer District for sanitary sewer service. Layout of proposed utilities is included in Exhibit III.K-2, Utilities. It is proposed that the Heritage Hills Sewer District be extended to include the entire Project Site, and the Proposed Action will be serviced by the HHSD Wastewater Treatment Plant (WWTP).

According to the project engineer, for sanitary sewage, the proposed development is estimated to use 18,240 gpd, including both the residential development (80 units) and the grocery store.

Adding the Somers Crossings residential development and grocery store to the projected capacity of the Heritage Hills WWTP (see Table III.K-3), there is still 394,760 gpd of excess capacity at the plant, according to the project engineer.

**Table III.K-3
Heritage Hills WWTP Capacity/Usage with Project**

Use	(GPD)
Heritage Hills WWTP Current Capacity	702,000
Total Current Usage:	289,000
Proposed Action:	
Residential development	16,720
Grocery Store	<u>1,520</u>
Subtotal	18,240
Total Current/Committed, Future/Proposed Action	307,240
Remaining Excess Capacity (702,000 – 307,240)	394,760

Source: Bibbo Associates, LLP



The wastewater disposal, collection and conveyance design will be in accordance with all applicable standards. Detail of the proposed utility system design and connections will be provided as details are refined through the Site Plan approval process. Impacts related to installation of proposed infrastructure include temporary construction impacts for that activity. Potential temporary impacts to steep slopes and wetland buffers due to installation of infrastructure are described in Chapter III.C, Topography and Slopes and Chapter III.E.3, Wetlands.

A typical water/sewer cross section is provided in Appendix I showing the required separation distances from other utilities. Final sewer collection and water distribution system profiles will be provided as part of the Westchester County Health Department approval process. Dewatering for the utility installation is not anticipated.

c) Mitigation Measures

The Heritage Hills Sewer District (HHSD), as well as the Applicant's engineers' analysis has indicated that there is adequate capacity to expand the sewer district to accommodate the Proposed Action. Connection to the HHSD infrastructure is available at the Site's Route 202 frontage.

Heritage Hills Sewage Works Corporation owns the sewer infrastructure assets that are not on the Site. Heritage Hills will own the sewer infrastructure on the Site and be responsible for the maintenance of the infrastructure. Heritage Hills Sewer District will also be responsible for the operation of the sanitary sewage system and sewage treatment plant. Agreements similar to those entered into between the Somers Central School District and the Heritage Hills Sewage Works Corporation (2008) shall be required regarding maintenance and responsibility, a copy of which is included as Appendix M. Easements for pipes and appurtenances shall also be drafted once engineering is completed and locations are determined. Approvals will be obtained as necessary from NYS Departments of Transportation and Health, NYSDEC, and Westchester County Departments of Health and Planning.

The sewer district is proposed to be expanded to include limits of the 26.68-acre Site. The Somers Town Board must approve the expansion of the Heritage Hills Sewage Works Corporation to incorporate the Site.

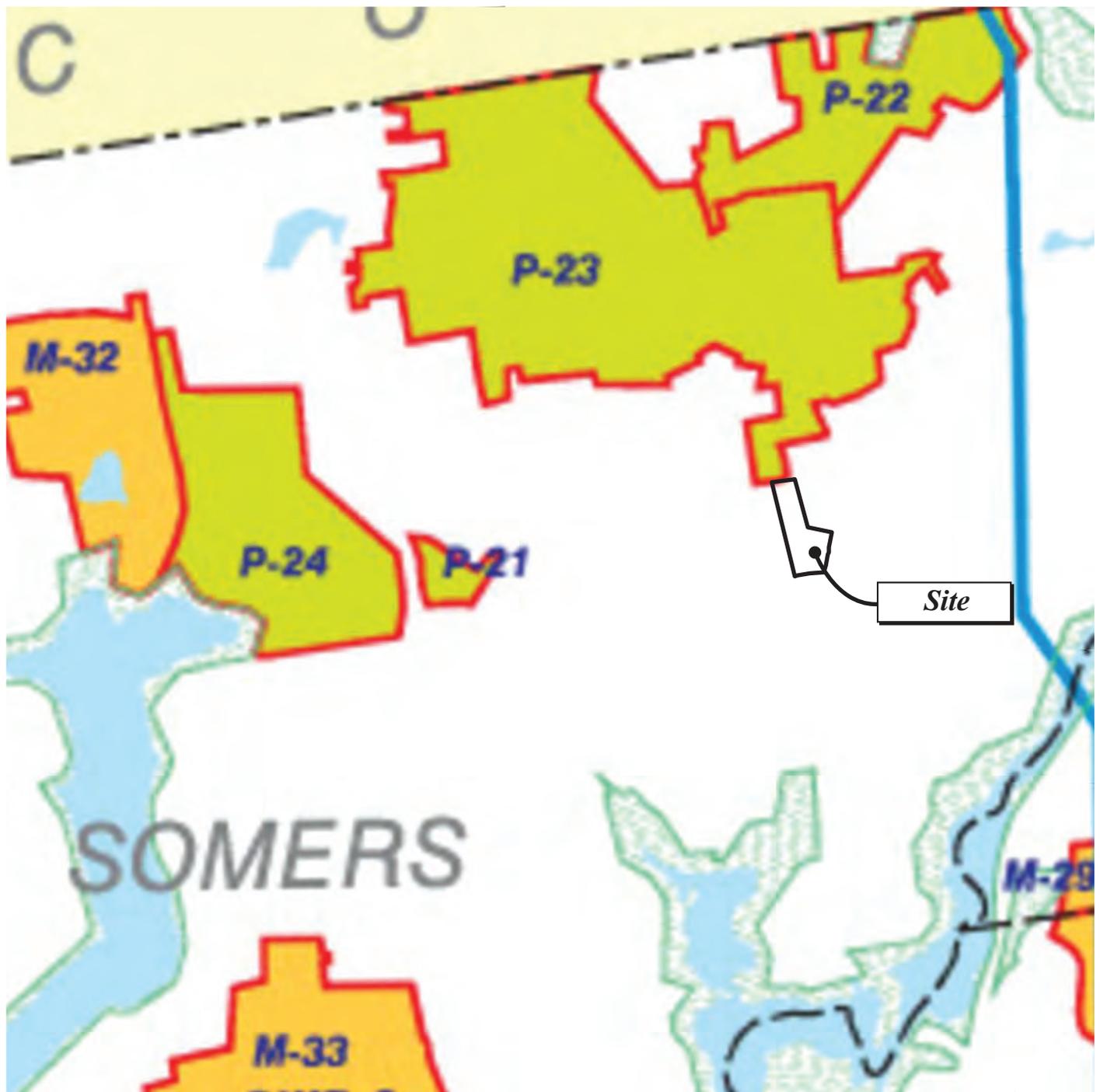
Wastewater generated from the Site is proposed to be minimized with the use of low flow fixtures and toilet facilities. The proposed length of the collection system is provided by minimizing collection pipe distances to the greatest extent practicable. There will be no additional pre-treatment, treatment or chemical

storage associated with the sewage treatment work on this project. All collection piping will be installed in accordance with the Ten States Standards.

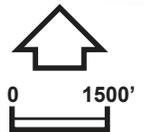
The project proposes to connect to an existing WWTP facility with a permit from NYSDEC and excess capacity to accommodate the project. There are no potential significant adverse impacts of the Proposed Action to sanitary sewer that require additional avoidance, minimization or mitigation.

Only pretreatment necessary is a grease trap for the grocery store.





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|---|-------------------------------|
|  Private Water Suppliers | P-23 Heritage Hills |
|  Municipal Water Suppliers | P-24 Lincoln Hall |
| P-21 Dykeer Water Company | M-32 Amawalk Shenorock |
| P-22 Greenbriar | M-33 Primrose |



Source: Leggette, Brashears & Graham, Inc
Westchester County Department of Planning

SOMERS CROSSING
Somers, New York

Water Districts in the Vicinity

Exhibit
III.K-1



Source: Bibbo Associates, LLP

SOMERS CROSSING
Somers, New York

VHB Engineering, Surveying and Landscape Architecture, P.C.

Proposed Utilities

Exhibit
III.K-2