



**547 East Genesee Street Site Development
SEQRA Review
(for Planning Board Recommendation)**

for

MILLSTONE DEVELOPMENT, LLC

Prepared by



**NAPIERALA
CONSULTING**
PROFESSIONAL ENGINEER, P.C.
SITE • DESIGN • ENGINEERING

110 FAYETTE STREET
MANLIUS, NEW YORK 13104

Telephone: (315) 682-5580
Fax: (315) 682-5544

April 23, 2020

April 23, 2020

Jane Rice, Chairperson
Village of Fayetteville Planning Board
425 East Genesee Street
Fayetteville, NY 13066

**Re: 547 East Genesee Street Development Proposal
ZBA Area Variance Request – Planning Board Referral**

Dear Jane (and Board Members),

We sincerely hope all is well as our nation and the world is working through these unprecedented times associated with the COVID 19 Pandemic crisis. We appreciate the efforts that the Village Board is doing to get back up and running with meetings and presentations. Thank you.

Just prior to the March meeting the project team submitted information to the planning board covering the 5 points of clarification regarding the planning board's SEQRA review of the project regarding traffic, stormwater, comprehensive plan, lighting and environmental. At that March meeting the board asked for time to review the submitted information.

Since March the project team has met with the NYSDOT Regional Office to discuss the project and proposed mitigation of the Route 5 impacts and as a result received acceptance of the TIS. As well the grocery store tenant has modified it's building footprint (with the same gross footage but in a more square configuration). The development team has as well reviewed the board's comments from the past months and reconfigured the site such that the front of the store faces east as advised by the board's comments.

As such this resubmittal includes the following:

- Updated Site Layout & Grading Plans
- NYSDOT acceptance of the project TIS (along with updates to the TIS)
- Complete Response to GHD comments of February 19, 2020

Looking forward to reviewing all with the board at the virtual meeting on May 4.

Thank you and stay health and be safe.

Respectfully submitted,

NAPIERALA CONSULTING
Professional Engineer, P.C.

Matthew R. Napierala

Matthew R. Napierala, P.E.
Managing Engineer / President



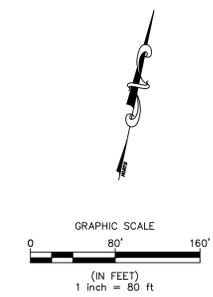
Updated SITE PLANS





PROJECT SITE INFORMATION		
ADDRESS	547 GENESEE STREET (NYS ROUTE 5)	
TAX MAP ID NO.	009-04-19.1	
BOUNDARY SURVEY	PROPERTY LINE INFORMATION TAKEN FROM SURVEY BY O'BRIEN & GERE ENGINEERS, INC.	
TOTAL SITE AREA	32.92 ACRES	
LAND USE	GROCERY STORE, ASSISTED LIVING FACILITY, MEDICAL/OFFICE & RESIDENTIAL UNITS	
BUILDING SIZE	56,550 SF GROCERY, 42,750 SF ASSISTED LIVING, 3,500 MEDICAL/OFFICE	
ZONING INFORMATION - GROCERY STORE		
ZONING DISTRICT	INDUSTRIAL (I)	
	REQUIRED	PROVIDED*
BUILDING HEIGHT	35'	25'
LOT COVERAGE	35%	15%
FRONT YARD SETBACK	35'	369'
REAR YARD SETBACK	25'	260'
SIDE YARD SETBACK	10'	55'
BUFFER ZONE	30'	55'
PARKING DIMENSIONS	10'x20'	10'x20'
PARKING AISLE WIDTH	24'	24' TO 28' VAR
PARKING SPACES	1 SP/200 SF 283 PARKING SPACES	283 PARKING SPACES
ZONING INFORMATION - ASSISTED LIVING FACILITY		
ZONING DISTRICT	INDUSTRIAL (I)	
	REQUIRED	PROVIDED*
BUILDING HEIGHT	35'	31.5'
LOT COVERAGE	35%	15%
FRONT YARD SETBACK	35'	562'
REAR YARD SETBACK	25'	91'
SIDE YARD SETBACK	10'	84'
BUFFER ZONE	30'	60'
PARKING DIMENSIONS	10'x20'	10'x20'
PARKING AISLE WIDTH	24'	24' TO 28' VAR
PARKING SPACES	1 SP/2 UNITS (32) 1 SP/EMPLOYEE (15)	64 UNITS = 32 SP 17 EMP = 17 SP 49 TOTAL SPACES
ZONING INFORMATION - MEDICAL OFFICE		
ZONING DISTRICT	INDUSTRIAL (I)	
	REQUIRED	PROVIDED*
BUILDING HEIGHT	35'	25'
LOT COVERAGE	35%	12%
FRONT YARD SETBACK	35'	35'
REAR YARD SETBACK	25'	75'
SIDE YARD SETBACK	10'	15'
BUFFER ZONE	30'	N/A
PARKING DIMENSIONS	10'x20'	10'x20'
PARKING AISLE WIDTH	24'	24'
PARKING SPACES	1 SP/2 UNITS (5) 1 SP/EMPLOYEE (10)	28 TOTAL SPACES

* NOTED DIMENSIONS BASED ON PRELIMINARY SUBDIVISION LAYOUT OF THE PROPERTY



PROJECT TITLE:
**COMMERCIAL DEVELOPMENT
547 GENESEE ST (ROUTE 5)**

VILLAGE OF FAYETTEVILLE ONONDAGA COUNTY, NY

PREPARED FOR:
MILLSTONE DEVELOPMENT GROUP, LLC.
125 HIGH ROCK AVENUE
SARATOGA SPRINGS, NY 12866

SHEET TITLE:
OVERALL LAYOUT

NO.	REVISION/ISSUE	DATE

PREPARED BY:
NAPIERALA CONSULTING
PROFESSIONAL ENGINEER P.C.
STATE OF NEW YORK LICENSE NO. 062733
110 FAYETTE STREET
MANHATTAN, NEW YORK 10014
email: MNA.P@NAPCON.COM
PH: (315) 682-5580 FAX: (315) 682-5544

**PRELIMINARY
FOR CONCEPT
REVIEW ONLY**

PLAN SEAL BY:
NYS REGISTRATION # 062733

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PROJECT NO. 19-1826

DATE 23 APR 2020

SCALE 1" = 80'

C-4



TRAFFIC

Millstone Development Group, LLC
125 High Rock Ave.
Saratoga Springs, NY 12866
(518) 306-3747
Fax (518) 934-8813

April 23, 2020

Jane Rice, Planning Board Chairperson
Village of Fayetteville Planning Board
425 Genesee St. East
Fayetteville, NY 13066

Re: 547 Genesee St. East

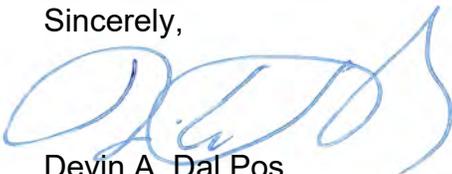
Dear Chairperson Rice,

Included in our supplemental information package to the Village of Fayetteville Planning Board, as a follow up to requested information, is a TIS Review memo from Jeffrey Deep to Elizabeth Parmley with NYSDOT's review comments and agreement on Mitigation measures which would nullify any significant impacts to traffic.

We agree with the Mitigation measures that we proposed and are agreed to by NYSDOT. We reserve the right to coordinate with NYSDOT, who has jurisdiction over the improvements, as to the timing and incorporation of those measures, which may include phasing of them in conjunction with project development milestones. This may result in portions of the mitigation measures be constructed when the Sr. Housing/Memory Care and the outparcel are developed.

Please let us know if you have any questions. With the highest regards, I remain...

Sincerely,



Devin A. Dal Pos
Member

TO: Elizabeth Parmley, Traffic Safety & Mobility Group, Region 3
FROM: Jeffrey Deep, Traffic Safety & Mobility Group, Region 3
SUBJECT: TIS Review – Proposed Mix Use Development
LOCATION: 547 Route 5
Village of Fayetteville, Onondaga County
DATE: April 9, 2020

Background of Development:

This January 2020 TIS prepared by GTS Consulting was submitted as part of the 547 East Genesee St development, which recommends major mitigation for full development conditions.

The site is the former O’Brien & Gere facility on the north side of East Genesee St between the existing Circle K gas station and U.S. Postal Service. The site was previously reviewed for a December 2017 TIS submitted by SRF for a multiuse development including: multifamily housing, high-turnover restaurant, general office building, shopping center, and commercial space. The estimated trips were 153 AM peak hour trip and 209 PM peak trips. NYSDOT’s review concluded that a TWLTL was required from “Fayetteville Square” eastbound, with a dedicated left turn lane at the development’s driveway.

The new proposal includes a 56,550 SF supermarket, 3,500 SF medical building, and a memory care facility with 64 beds. The resulting AM and PM peak hour trips are 240 and 548, respectively. Access to Route 5 is proposed via a right-in right-out at the existing location of the eastern driveway and a new three-color signalized full access driveway at the existing west drive across from Tracy Lumber. The signalized driveway includes a proposed 200’ EB left turn lane and dual exiting lanes, including a 150’ SB left turn lane. Other proposed mitigation includes signal timing changes at the intersection of Route 5 and Route 257 and coordinating the new signal during the PM peak.

Description of Roadway:

Route 5 at this location is a two-lane section that travels east-west, with one lane in each direction and an AADT of 9,110. There is sidewalk on both sides of the road, extending either direction of the property. The post speed limit is 30 mph with an 85th percentile of 41 mph EB and 38.5 mph WB.

Crash History:

Crash history was provided by the consultant. The consultant's summary is as follows:

A crash analysis was completed for East Genesee Street from Salt Springs Road to Huntleigh Avenue as well as the Route 257/Salt Springs Road intersection using history reports obtained for a three-year period from June 2016 through May 2019. Over the three-year period, there were 77 total crashes in the study area.

Thirty-One (31) crashes occurred at the East Genesee Street / Route 257 intersection including 22 rearend, 3 left turn, 3 overtaking, 2 right angle, and one fixed object.

Fifteen (15) crashes occurred at the Route 257 / Salt Springs Road intersection including 12 rearend, 1 left turn, 1 overtaking, and one sideswipe.

One (1) right angle crash occurred at the East Genesee Street / Salt Springs Road intersection.

There were twenty (20) midblock crashes along East Genesee Street in the study area including 10 rearend, 2 left turn, 2 right angle, 3 overtaking, 2 backing, and 1 right turn crash.

There was one (1) midblock overtaking crash on Route 257.

There were 9 parking lot crashes in the data reviewed.

Sixty (78%) of the crashes were property damage only or non-reportable.

There were 17 injuries and no fatalities.

Field Observations:

A field visit was conducted the morning of 2/27/2020 and evening of 2/26/2020 during the peak hours. All of the approaches were driven with all movements being made at the intersections.

Permissive left turn movements that do not have a protected phase suffer the greatest during the peak hours, as shown in the capacity analysis. With heavy opposing traffic, unprotected left turns typically require the vehicle to clear the intersection at the end of the phase, only allowing 1-2 cars per cycle.

The short leg of Route 257 between Route 5 and Salt Springs Rd creates the potential for queueing into the intersection. However, no blockages were witness; in general motorist did not enter the intersection if the movement could not be completed.

During the AM peak, Route 5 WB traffic queues back to the east Circle K driveway, blocking lefts in and causing EB queueing. This further defends the need for a TWLTL due to the proposed additional traffic.

Limited pedestrian activity was observed during the field visits at the location of the proposed access.

Intersection control Analysis:

An intersection control analysis was performed to identify the need of a signal and turn lane at this proposed access. The consultant's findings were confirmed by separate analysis. The summary is below:

Traffic Control Signal Warrant:

Signal Warrants #2 and #3 are met under the build condition.

SIGNAL WARRANT	DETERMINATION
Warrant 1 – Eight-Hour Vehicular Volume	NOT MET
Warrant 2 – Four-Hour Vehicular Volume	MET
Warrant 3 – Peak Hour	MET
Warrant 4 – Pedestrian Volume	NOT MET
Warrant 5 – School Crossing	NOT APPLICABLE
Warrant 6 – Coordinated Signal System	NOT APPLICABLE
Warrant 7 – Crash Experience	NOT MET
Warrant 8 – Roadway Network	NOT APPLICABLE
Warrant 9 – Intersection Near a Grade Crossing	NOT APPLICABLE

Left Turn Lane Analysis:

Per AASHTO 2011, a left turn lane is warranted during both the AM and PM peak hours.

AM peak: 191 EB thru + 86 EB left = 31% left turns with 646 WB opposing
PM peak: 587 EB thru + 175 EB left = 23% left turns with 468 WB opposing

Turn lane length:

TIS recommends a 200' EB left turn lane. It's not specified why a length of 200' was used, but it is adequate for storage and comparable to turn lanes in the area.

The Synchro analysis gives an 95th percentile queue length of m37' (m signifies that it is metered by the adjacent signal).

Sim Traffic average queue length = 55' and 95th percentile is 92' and max length is 110'.

Two-Way-Left-Turn-Lane (TWLTL)

Route 5 between Route 257 and the proposed development:

It is estimated that Route 5 through volume will increase 17% in the AM peak hour and 20% during the PM peak. (2021 Background vs. Build Conditions)

Route 5 between Huntleigh Ave and the proposed development:

It is estimated that Route 5 through volume will increase 11% in the AM peak hour and 14% during the PM peak. (2021 Background vs. Build Conditions)

Based on the crash analysis above, the TIS indicates that this section of Route 5 has a crash rate higher than the statewide rate for similar facilities. In addition to the increase in through volume, the new signal will create westbound platooning and eastbound queueing, making it more difficult for vehicles to make left turns. The proposed widening at the new signal will create an undesirable roadway geometry by reducing Route 5 for only roughly 500-foot between the two three lane sections, creating a "bowtie" effect.

The June 2018 SMTC *Fayetteville Route 5 Transportation and Land Use Analysis* Final Report also studied a TWLTL at this location; stating that it would be "appropriate and beneficial". The report's justification includes the crash history, speed limit, length, and the driveway density is more than twice the HDM's consideration for a TWLTL. The report concludes the TWLTL summary with "This should be coordinated with the redevelopment of the former OBG Tech property."

Considering the above and NYSDOT's previous stance, a TWLTL should be constructed on Route 5 from "Fayetteville Square" to at least the proposed signalized access.

SYNCHRO analysis:

The consultant provided a SYNCHRO analysis to help show the existing level-of-service compared to the proposed conditions and the effect this development has on the adjacent roadway system. Minor corrections were made to the models and the LOS was tabulated below.

Intersection	AM Peak Hour				PM Peak Hour			
	2020 Existing	2021 Background	2020 Build Existing Timing	2021 Build Revised Timing	2020 Existing	2021 Background	2020 Build Existing Timing	2021 Build Revised Tming
Route 5 @ Salt Springs Road								
EB Through	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)
EB Right	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)
WB Through	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)
Route 5 @ Route 257	D (40.2)	D (40.9)	D (43.8)	D (40.9)	D (39.2)	D (40.5)	D (51.7)	D (44.0)
EB Left	C (27.4)	C (27.6)	C (28.9)	C (33.4)	C (25.6)	C (25.7)	C (29.2)	C (24.3)
EB Through/Right	C (27.7)	C (27.8)	C (29.0)	C (30.1)	D (48.7)	D (49.0)	E (55.7)	D (50.8)
WB Left	C (21.6)	C (21.6)	C (22.8)	C (24.4)	F (100.1)	F (151.7)	F (272.0)	F (205.7)
WB Through/Right	D (44.5)	D (45.0)	D (45.9)	D (50.9)	D (41.1)	D (41.2)	D (49.3)	D (40.7)
NB Left	D (48.0)	D (49.7)	E (60.5)	D (47.6)	C (20.9)	C (21.6)	C (23.6)	C (31.9)
NB Through/Right	A (8.5)	A (8.6)	A (8.6)	A (7.8)	A (5.0)	A (5.0)	A (5.0)	A (6.5)
SB Left	D (54.2)	D (54.2)	E (60.1)	D (51.5)	E (62.4)	E (62.1)	F (81.6)	D (49.5)
SB Through/Right	E (66.3)	E (66.6)	E (66.5)	D (54.2)	E (66.2)	E (66.5)	E (67.6)	D (43.9)
Route 257 @ Salt Springs Road	C (28.8)	C (29.2)	C (34.4)	C (26.5)	D (40.8)	D (41.7)	E (61.6)	D (38.2)
EB Left	C (25.0)	C (25.0)	C (25.0)	C (26.8)	D (49.7)	D (50.0)	D (52.5)	D (48.2)
EB Through/Right	C (23.0)	C (23.1)	C (22.7)	C (23.9)	D (35.4)	D (35.5)	C (34.3)	C (31.4)
WB Left/Right	B (11.6)	B (11.6)	B (12.2)	B (14.4)	B (14.3)	B (14.2)	B (14.3)	C (20.0)
NB Through/Right	D (48.5)	D (49.0)	E (55.2)	D (42.0)	D (39.2)	D (39.6)	D (45.7)	D (37.9)
SB Left/Through	D (43.3)	D (44.5)	E (64.5)	C (27.6)	F (82.9)	F (87.6)	F (181.0)	E (66.4)
Route 5 @ Proposed Access	-	-	B (13.9)	B (13.9)	-	-	B (11.2)	B (11.8)
EB Left	-	-	A (4.3)	A (4.3)	-	-	A (6.6)	A (5.9)
EB Through/Right	a (0)	a (0)	A (3.2)	A (3.2)	a (0)	a (0)	A (6.6)	A (8.4)
WB Left/Through/Right	a (0)	a (0)	B (18.9)	B (18.9)	a (0)	a (0)	B (12.2)	B (12.2)
NB Left/Through/Right	b (13.6)	b (13.7)	A (0.3)	A (0.3)	c (16.9)	c (17.0)	A (0.2)	A (0.2)
SB Left/Through	-	-	C (29.3)	C (29.3)	-	-	D (36.3)	D (36.6)
SB Right	-	-	A (6.4)	A (6.4)	-	-	A (6.4)	A (6.4)
Route 5 @ Existing Access								
EB Left/Through	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)
WB Through/Right	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)
SB Left/Right	b (13.1)	b (13.2)	b (13.9)	b (13.9)	c (23.3)	c (23.4)	b (12.1)	b (12.1)
Route 5 @ Post Office Exit								
EB Through	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)
WB Through	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)	a (0)
SB Left/Right	b (13.8)	b (13.8)	b (14.7)	b (14.7)	c (16.6)	c (16.6)	c (21.7)	c (21.7)

The SYNCHRO results indicate the proposed development may have a significant negative impact to the existing road network during the PM peak hour. Under the current signal timing at Route 257 @ Route 5 and Salt Springs Road, multiple approaches will have a failing level of service; including a 272s WB left delay. With the consultants proposed timing changes, only one approach will have a significant delay; that is the WB left with a LOS F (206s) compared to the future no build condition of LOS F (152s). This is not a heavy maneuver, with 35 vehicles in the background and an increase of 36 under the full build consider. NYSDOT has previously optimized this timing, so it is uncertain if the proposed changes are feasible.

A supplemental Queue Length Analysis was provided by GTS. The summary shows that during the AM peak hour all existing, future, and build queue lengths can be accommodated in the available storage. However, the PM peak shows three approaches, highlights below, having insufficient storage. The East Genesee St @ Route 257 WB Left is of less concern because there is a gore area prior to it, allowing for the additional storage. The two other inadequate lengths are related to the short distance between the two intersections. This short leg is shown to already be insufficient and the additional traffic will worsen the queue lengths and the potential for blocking the intersections.

Intersection	Available Storage	2020 Existing	2021 Background	2021 Build	2021 Salt Springs Modification
East Genesee Street @ Salt Springs Road					
EB Through	-	-	-	-	-
EB Right	-	-	-	-	-
WB Through	-	-	-	-	-
East Genesee Street @ Route 257					
EB Left	200	18	18	18	9
EB Through/Right	-	562	566	608	454
WB Left	135	58	60	155	17
WB Through/Right	1,325	427	429	415	672
NB Left	115	210	218	288	193
NB Through/Right	115	28	28	44	162
SB Left	175	116	116	122	111
SB Through/Right	-	217	220	180	127
Route 257 @ Salt Springs Road					
EB Left	230	60	60	57	26
EB Through/Right	380	379	381	355	278
WB Left/Right	-	78	79	85	-
NB Through/Right	-	359	360	387	268
SB Left/Through	115	151	152	225	58

Per our request, the consultant analyzed a possible future connector road from Route 5 to Salt Springs Road along the west edge of the Tracy Lumber property. This road would utilize the proposed development's traffic signal. Furthermore, Salt Springs Rd would be converted to one way, eastbound, from the Connector Rd to Route 257. This would eliminate the southbound left turns from Route 257 to Salt Spring Road and westbound movements at the intersection. Doing so will allow for the reallocation of the WB green time to other phases. Adding protective/permitted left

turns on all approaches of the Route 5 / 257 intersection with the additional green time eradicates all current and build failing levels-of-service. Additional details can be found in the 3/17/20 Memorandum by GTS Consulting.

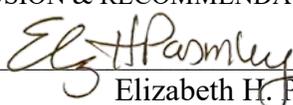
Conclusion and Recommendations:

The proposed development will not have a significant negative impact during the AM peak hour. During the PM peak, existing issues will worsen; specifically, permissive left turns. Current failing levels-of-service will lengthen in excess of 200 seconds. Queue lengths will exceed the available storage on Route 257 between Route 5 and Salt Springs Road, increasing the likelihood of blocking the intersection. Improvements to mitigate the development’s impact to the Route 5 @ Route 257 and Route 257 @ Salt Springs Road intersections was limited to signal timing optimization.

A future connector road from the new signal on Route 5 to Salt Springs Road would likely have substantial benefits by eliminating failing levels-of-service and reducing heavy queue lengths. This is not proposed mitigation and would need further analysis if proposed in the future. The SMTC report also covers the benefits of this connection and its inclusion in the Village’s Comprehensive Plan.

Mitigation:

- A new traffic signal be installed for the proposed full access driveway, including:
 - Eastbound left turn lane.
 - Dual exiting lanes.
 - Signalized pedestrian crossings
 - Access management in the proximity to the signal needs to be evaluated, including closing the Circle K eastern driveway, alignment with Tracy Lumber and reduction of the open cut.
- Widen Route 5 to construct a Two-Way-Left-Turn-Lane from “Fayetteville Square” to the new signalized left turn lane.
- NYSDOT has optimize the signal timing at Route 257 @ Route 5 and Salt Springs Road. It is unlikely that additional changes can be made to offset the development, but optimization can be evaluated after completion.

CONCLUSION & RECOMMENDATION: <input checked="" type="checkbox"/> AGREE <input type="checkbox"/> DISAGREE
 _____ Elizabeth H. Parmley, P.E.
4/13/2020 _____ Date



1396 White Bridge Road
Chittenango, NY 13037

Tel: (315) 391-5110 Fax: (315) 687-6267

Memorandum

Date: March 17, 2020

To: Mr. Devin Dal Pos – Laker Development

**Re: Proposed Fayetteville Development – Future Roadway Modification Review
Fayetteville, NY**

At our meeting with NYSDOT on Thursday, March 12th, Betsy Parmley requested that I review potential modifications to the East Genesee Street / Route 257 / Salt Springs Road intersection that could address both existing and future operational deficiencies. As discussed, this is not specific mitigation associated with the proposed mixed use development at 547 East Genesee Street, but rather an evaluation for future consideration by both NYSDOT and the Village of Fayetteville.

Based on my review, I recommend consideration be given to developing a future roadway connection between Salt Springs Road and East Genesee Street through the Tracy Lumber property at the proposed traffic signal across from the proposed mixed development use development. The following modifications were incorporated into this scenario:

- Construct a two lane connector roadway between East Genesee Street and Salt Springs Road along the western boundary of the Tracy Lumber site.
- Modify the intersection of the East Genesee Street/Site Driveway/Connector Road intersection to include one left turn bay and one shared through/right lane on each approach with protected permitted left turn phasing on each approach.
- Maintain free flow traffic operations on Salt Springs Road at the connector road intersection with stop control on the southbound approach.
- Convert Salt Springs Road to one way eastbound exiting the Route 257 intersection.
- Eliminate the southbound left turn movement from Route 257 onto Salt Springs Road.
- Add protected/permitted left turn phasing on all approaches at the East Genesee Street / Route 257 intersection. The signal at Salt Springs Road would operate with an eastbound through phase during the East Genesee Street east/west phase, and a northbound/southbound green phases during all other phases on East Genesee Street.

The attached concept plan for the proposed mixed use development shows the relocated signalized entrance that would allow for the future roadway connection.

The 2021 build traffic volumes from the traffic impact study were redistributed with the above roadway modifications and have been attached.

Capacity analysis of the potential modification scenario was completed using a coordinated 100 second signal cycle length during the morning peak hour and a coordinated 90 second cycle length during the evening peak hour. The results of the analysis indicate that all traffic movements would operate at acceptable Levels of Service D or better during both peak hours. The queue results indicate that there may be some increased queues on East Genesee Street, particularly in the westbound direction, during both peak hours.



Memorandum – Mr. Devin Dal Pos – March 17, 2020

**Re: Proposed Fayetteville Development – Future Roadway Modification Review
Fayetteville, NY**

The detailed LOS, queue summaries and capacity analysis printouts have been attached.

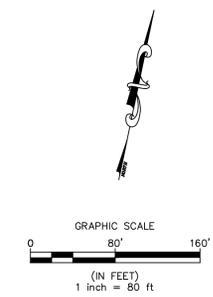
Please let me know if you have any questions or additional concerns.

Prepared by - Gordon Stansbury – GTS Consulting



PROJECT SITE INFORMATION		
ADDRESS	547 GENESEE STREET (NYS ROUTE 5)	
TAX MAP ID NO.	009-04-19.1	
BOUNDARY SURVEY	PROPERTY LINE INFORMATION TAKEN FROM SURVEY BY O'BRIEN & GERE ENGINEERS, INC.	
TOTAL SITE AREA	32.92 ACRES	
LAND USE	GROCERY STORE, ASSISTED LIVING FACILITY, MEDICAL/OFFICE & RESIDENTIAL UNITS	
BUILDING SIZE	56,550 SF GROCERY, 442,750 SF ASSISTED LIVING, 3,500 MEDICAL/OFFICE	
ZONING INFORMATION - GROCERY STORE		
ZONING DISTRICT	INDUSTRIAL (I)	
	REQUIRED	PROVIDED*
BUILDING HEIGHT	35'	25'
LOT COVERAGE	35%	15%
FRONT YARD SETBACK	35'	502'
REAR YARD SETBACK	25'	145'
SIDE YARD SETBACK	10'	123'
BUFFER ZONE	30'	84'
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PARKING AISLE WIDTH	24'	24' TO 28' VAR
PARKING SPACES	1 SP/200 SF 283 PARKING SPACES	283 PARKING SPACES
ZONING INFORMATION - ASSISTED LIVING FACILITY		
ZONING DISTRICT	INDUSTRIAL (I)	
	REQUIRED	PROVIDED*
BUILDING HEIGHT	35'	31.5'
LOT COVERAGE	35%	15%
FRONT YARD SETBACK	35'	562'
REAR YARD SETBACK	25'	91'
SIDE YARD SETBACK	10'	84'
BUFFER ZONE	30'	60'
PARKING DIMENSIONS	10'x20'	10'x20'
PARKING AISLE WIDTH	24'	24' TO 28' VAR
PARKING SPACES	1 SP/2 UNITS (32) 1 SP/EMPLOYEE (15)	64 UNITS = 32 SP 17 EMP. = 17 SP 49 TOTAL SPACES
ZONING INFORMATION - MEDICAL OFFICE		
ZONING DISTRICT	INDUSTRIAL (I)	
	REQUIRED	PROVIDED*
BUILDING HEIGHT	35'	25'
LOT COVERAGE	35%	12%
FRONT YARD SETBACK	35'	35'
REAR YARD SETBACK	25'	75'
SIDE YARD SETBACK	10'	15'
BUFFER ZONE	30'	N/A
PARKING DIMENSIONS	10'x20'	10'x20'
PARKING AISLE WIDTH	24'	24'
PARKING SPACES	1 SP/2 UNITS (5) 1 SP/EMPLOYEE (10)	28 TOTAL SPACES

* NOTED DIMENSIONS BASED ON PRELIMINARY SUBDIVISION LAYOUT OF THE PROPERTY



PRELIMINARY FOR CONCEPT REVIEW ONLY

PROJECT NO. 19-1826
DATE 16 MAR 2020
SCALE 1" = 80'

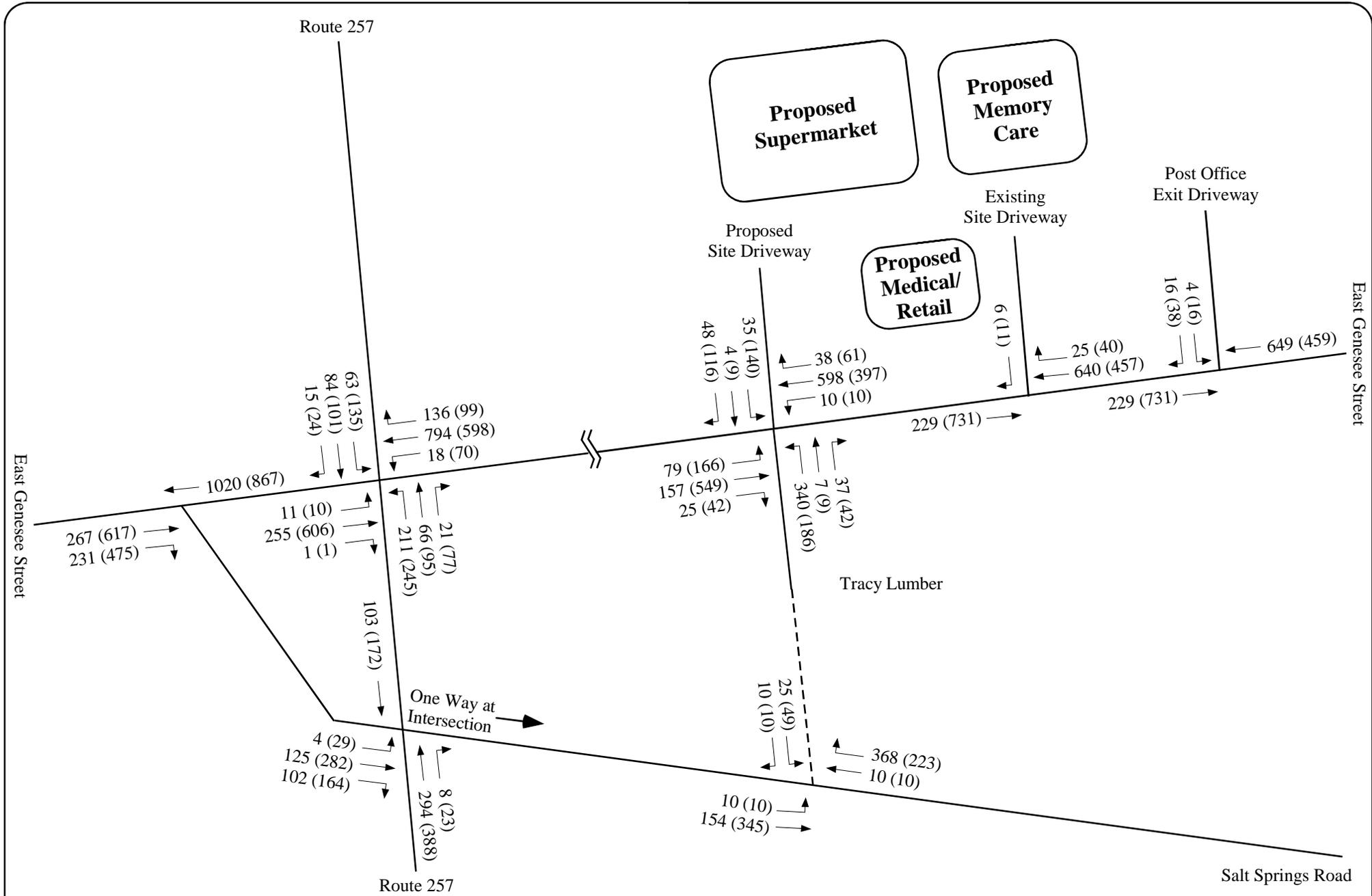
PROJECT TITLE: COMMERCIAL DEVELOPMENT 547 GENESEE ST (ROUTE 5)
VILLAGE OF FAYETTEVILLE ONONDAGA COUNTY, NY
PREPARED FOR: MILLSTONE DEVELOPMENT GROUP, LLC.
125 HIGH ROCK AVENUE SARATOGA SPRINGS, NY 12866

SHEET TITLE: CONCEPT PLAN

NO.	REVISION/ISSUE	DATE

PREPARED BY: NAPIERALA CONSULTING PROFESSIONAL ENGINEER, P.C.
STATE OF NEW YORK LICENSE NO. 069733
110 FAYETTE STREET MANHATTAN, NEW YORK 10014
email: MNA@NAPCON.COM
PHONE: (315) 682-5860 FAX: (315) 682-5544

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SHEET SK-15



Proposed Mixed Use Development - 547 East Genesee Street - Fayetteville, NY

2021 Build Traffic Volumes - With One Way Eastbound Salt Springs Road, No Route 257 Southbound Left
Weekday Morning (Evening) Peak Hour



Not to Scale

Proposed Mixed Use Development – 547 East Genesee Street – Fayetteville, NY
Intersection Level of Service Summary
Morning Peak Hour

Intersection	2020 Existing	2021 Background	2021 Build	2021 Salt Springs Modification
East Genesee Street @ Salt Springs Road				
EB Through	a(0)	a(0)	a(0)	a(0)
EB Right	a(0)	a(0)	a(0)	a(0)
WB Through	a(0)	a(0)	a(0)	a(0)
East Genesee Street @ Route 257	D(39)	D(40)	D(41)	D(40)
EB Left	C(30)	C(31)	C(33)	A(8)
EB Through/Right	C(28)	C(28)	C(30)	B(15)
WB Left	C(22)	C(22)	C(24)	A(9)
WB Through/Right	D(48)	D(49)	D(51)	D(49)
NB Left	D(41)	D(42)	D(48)	D(54)
NB Through/Right	A(8)	A(8)	A(8)	B(17)
SB Left	D(53)	D(53)	D(52)	C(31)
SB Through/Right	E(65)	E(65)	D(54)	D(55)
Route 257 @ Salt Springs Road	C(28)	C(28)	C(27)	B(20)
EB Left	C(25)	C(25)	C(27)	B(12)
EB Through/Right	C(24)	C(24)	C(24)	B(11)
WB Left/Right	B(11)	B(11)	B(14)	-
NB Through/Right	D(47)	D(47)	D(42)	C(30)
SB (Left)/Through	D(40)	D(41)	C(28)	A(8)
East Genesee Street @ Tracy Lumber / Proposed Access			B(14)	C(29)
EB Left	-	-	A(4)	C(24)
EB Through/Right	a(0)	a(0)	A(3)	A(8)
WB Left	-	-	-	B(15)
WB (Left)/Through/(Right)	a(0)	a(0)	B(19)	C(29)
NB Left	-	-	-	D(45)
NB (Left)/(Through)/Right	b(14)	b(14)	A(1)	B(13)
SB Left/(Through)	-	-	C(29)	C(27)
SB Through/Right	-	-	A(6)	C(22)
East Genesee Street @ Existing Access				
EB (Left)/Through	a(0)	a(0)	a(0)	a(0)
WB Through/(Right)	a(0)	a(0)	a(0)	a(0)
SB (Left)/Right	b(13)	b(13)	b(14)	b(14)
East Genesee Street @ Post Office Exit				
EB Through	a(0)	a(0)	a(0)	a(0)
WB Through	a(0)	a(0)	a(0)	a(0)
SB Left/Right	b(14)	b(14)	b(15)	b(15)
Salt Springs Road @ Future Connection				
EB Left/Through	-	-	-	a(1)
WB Through/Right	-	-	-	a(0)
SB Left/Right	-	-	-	b(11)

B(12) – Signalized Level of Service (Average Delay per Vehicle in Seconds)
a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds)

Proposed Mixed Use Development – 547 East Genesee Street – Fayetteville, NY
Intersection Level of Service Summary
Evening Peak Hour

Intersection	2020 Existing	2021 Background	2021 Build	2021 Salt Springs Modification
East Genesee Street @ Salt Springs Road				
EB Through	a(0)	a(0)	a(0)	a(0)
EB Right	a(0)	a(0)	a(0)	a(0)
WB Through	a(0)	a(0)	a(0)	a(0)
East Genesee Street @ Route 257	D(41)	D(42)	D(44)	D(37)
EB Left	C(25)	C(25)	C(24)	A(9)
EB Through/Right	D(47)	D(47)	D(51)	C(28)
WB Left	F(152)	F(162)	F(206)	A(7)
WB Through/Right	D(40)	D(40)	D(41)	D(40)
NB Left	C(25)	C(26)	C(32)	D(48)
NB Through/Right	A(5)	A(5)	A(7)	D(42)
SB Left	E(67)	E(68)	D(50)	C(31)
SB Through/Right	E(76)	E(76)	D(44)	D(53)
Route 257 @ Salt Springs Road	D(42)	D(42)	D(38)	C(21)
EB Left	D(54)	D(54)	D(48)	B(15)
EB Through/Right	C(35)	C(35)	C(31)	B(20)
WB Left/Right	B(15)	B(15)	C(20)	-
NB Through/Right	D(39)	D(39)	D(38)	C(24)
SB (Left)/Through	F(87)	F(88)	E(66)	B(14)
East Genesee Street @ Tracy Lumber / Proposed Access			B(12)	B(18)
EB Left	-	-	A(6)	A(7)
EB Through/Right	a(0)	a(0)	A(8)	A(7)
WB Left			-	B(16)
WB (Left)/Through/(Right)	a(0)	a(0)	B(12)	C(24)
NB Left			-	C(32)
NB (Left)/(Through)/Right	c(17)	c(17)	A(1)	B(18)
SB Left/(Through)	-	-	D(36)	C(28)
SB (Through)/Right	-	-	A(6)	B(20)
East Genesee Street @ Existing Access				
EB (Left)/Through	a(0)	a(0)	a(0)	a(0)
WB Through/(Right)	a(0)	a(0)	a(0)	a(0)
SB (Left)/Right	c(23)	c(24)	b(12)	b(12)
East Genesee Street @ Post Office Exit				
EB Through	a(0)	a(0)	a(0)	a(0)
WB Through	a(0)	a(0)	a(0)	a(0)
SB Left/Right	c(17)	c(17)	c(20)	c(20)
Salt Springs Road @ Future Connection				
EB Left/Through	-	-	-	a(1)
WB Through/Right	-	-	-	a(0)
SB Left/Right	-	-	-	b(13)

B(12) – Signalized Level of Service (Average Delay per Vehicle in Seconds)
a(9) – Unsignalized Level of Service (Average Delay per Vehicle in Seconds)

Proposed Mixed Use Development – 547 East Genesee Street – Fayetteville, NY
Queue Summary
Morning Peak Hour

Intersection	Available Storage	2020 Existing	2021 Background	2021 Build	2021 Salt Springs Modification
East Genesee Street @ Salt Springs Road					
EB Through	-	-	-	-	-
EB Right	-	-	-	-	-
WB Through	-	-	-	-	-
East Genesee Street @ Route 257					
EB Left	200	19	19	21	8
EB Through/Right	-	176	177	225	148
WB Left	135	16	16	35	7
WB Through/Right	1,325	553	555	686	935
NB Left	115	517	528	283	163
NB Through/Right	115	49	49	50	36
SB Left	175	56	56	72	69
SB Through/Right	-	168	170	158	115
Route 257 @ Salt Springs Road					
EB Left	230	10	10	11	7
EB Through/Right	380	170	171	183	111
WB Left/Right	-	72	73	77	-
NB Through/Right	-	322	323	317	228
SB Left/Through	115	86	88	59	24
East Genesee Street @ Tracy Lumber / Proposed Access					
EB Left	200	-	-	16	63
EB Through/Right	1,325	0	0	32	70
WB Left	200	-	-	-	14
WB (Left)/Through/(Right)	-	0	0	295	568
NB Left	200	-	-	-	312
NB (Left)/(Through)/Right	-	3	3	0	34
SB Left/(Through)/(Right)	- / 150	-	-	43	38
SB (Through)/Right	150 / -	-	-	24	41
East Genesee Street @ Existing Access					
EB (Left)/Through	205	0	0	0	0
WB Through/(Right)	-	0	0	0	0
SB (Left)/Right	-	0	0	3	3
East Genesee Street @ Post Office Exit					
EB Through	325	0	0	0	0
WB Through	-	0	0	0	0
SB Left/Right	-	5	5	5	5
Salt Springs Road @ Future Connection					
EB Left/Through	-	-	-	-	0
WB Through/Right	-	-	-	-	0
SB Left/Right	-	-	-	-	5

Storage Length and Queues Shown in Feet
Queue Length = 95% Queue Results from Synchro Analysis

Proposed Mixed Use Development – 547 East Genesee Street – Fayetteville, NY
Queue Summary
Evening Peak Hour

Intersection	Available Storage	2020 Existing	2021 Background	2021 Build	2021 Salt Springs Modification
East Genesee Street @ Salt Springs Road					
EB Through	-	-	-	-	-
EB Right	-	-	-	-	-
WB Through	-	-	-	-	-
East Genesee Street @ Route 257					
EB Left	200	18	18	18	9
EB Through/Right	-	562	566	608	454
WB Left	135	58	60	155	17
WB Through/Right	1,325	427	429	415	672
NB Left	115	210	218	288	193
NB Through/Right	115	28	28	44	162
SB Left	175	116	116	122	111
SB Through/Right	-	217	220	180	127
Route 257 @ Salt Springs Road					
EB Left	230	60	60	57	26
EB Through/Right	380	379	381	355	278
WB Left/Right	-	78	79	85	-
NB Through/Right	-	359	360	387	268
SB Left/Through	115	151	152	225	58
East Genesee Street @ Tracy Lumber / Proposed Access					
EB Left	200	-	-	37	28
EB Through/Right	1,325	0	0	334	217
WB Left	200	-	-	-	14
WB (Left)/Through/(Right)	-	0	0	190	334
NB Left	200	-	-	-	144
NB (Left)/(Through)/Right	-	3	3	0	40
SB Left/(Through)	- / 150	-	-	114	111
SB (Through)/Right	150 / -	-	-	31	61
East Genesee Street @ Existing Access					
EB (Left)/Through	205	0	0	0	0
WB Through/(Right)	-	0	0	0	0
SB (Left)/Right	-	3	3	3	3
East Genesee Street @ Post Office Exit					
EB Through	325	0	0	0	0
WB Through	-	0	0	0	0
SB Left/Right	-	20	20	25	25
Salt Springs Road @ Future Connection					
EB Left/Through	-	-	-	-	0
WB Through/Right	-	-	-	-	0
SB Left/Right	-	-	-	-	10

Storage Length and Queues Shown in Feet
Queue Length = 95% Queue Results from Synchro Analysis

Lanes, Volumes, Timings
2: Route 257 & East Genesee Street

03/17/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	255	1	18	794	136	211	66	21	63	84	15
Future Volume (vph)	11	255	1	18	794	136	211	66	21	63	84	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	135		0	0		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	1863	0	1770	1822	0	1770	1796	0	1770	1820	0
Flt Permitted	0.075			0.476			0.537			0.695		
Satd. Flow (perm)	140	1863	0	887	1822	0	1000	1796	0	1295	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					12			13			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			1240			189			681	
Travel Time (s)		8.4			28.2			4.3			15.5	
Peak Hour Factor	0.69	0.69	0.69	0.94	0.94	0.94	0.92	0.92	0.92	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	371	0	19	990	0	229	95	0	72	112	0
Enter Blocked Intersection	No	No	No	No	No	No						
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		4.0	4.0		5.0	4.0	
Minimum Split (s)	9.5	11.5		9.5	11.5		9.5	9.0		9.5	9.5	
Total Split (s)	12.0	56.0		12.0	56.0		14.0	18.0		14.0	18.0	
Total Split (%)	12.0%	56.0%		12.0%	56.0%		14.0%	18.0%		14.0%	18.0%	
Maximum Green (s)	7.5	50.5		7.5	50.5		8.5	13.0		9.5	12.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.0		3.5	3.5	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	

Lanes, Volumes, Timings
2: Route 257 & East Genesee Street

03/17/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		5.5	5.0		4.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		2.0	2.0		3.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	62.1	54.5		61.5	54.3		19.9	13.6		18.9	9.7	
Actuated g/C Ratio	0.62	0.54		0.62	0.54		0.20	0.14		0.19	0.10	
v/c Ratio	0.08	0.37		0.03	1.00		0.87	0.37		0.25	0.62	
Control Delay	7.5	14.9		8.8	48.9		52.8	16.3		31.1	54.6	
Queue Delay	0.0	0.0		0.0	0.0		0.9	0.9		0.0	0.0	
Total Delay	7.5	14.9		8.8	48.9		53.6	17.2		31.1	54.6	
LOS	A	B		A	D		D	B		C	D	
Approach Delay		14.6			48.2			43.0			45.4	
Approach LOS		B			D			D			D	
Queue Length 50th (ft)	3	127		4	-489		51	15		36	65	
Queue Length 95th (ft)	8	148		m7	#935		#163	m36		69	115	
Internal Link Dist (ft)		288			1160			109			601	
Turn Bay Length (ft)	200			135						175		
Base Capacity (vph)	210	1015		622	993		264	270		306	233	
Starvation Cap Reductn	0	0		0	0		3	57		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.08	0.37		0.03	1.00		0.88	0.45		0.24	0.48	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 40.2
 Intersection Capacity Utilization 77.2%
 Analysis Period (min) 15

Intersection LOS: D
 ICU Level of Service D

- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Route 257 & East Genesee Street

#2 #3 Ø1 12 s	#2 Ø2 (R) 56 s	#2 #3 Ø3 14 s	#2 #3 Ø4 18 s
#2 #3 Ø5 12 s	#2 #3 Ø6 (R) 56 s	#2 #3 Ø7 14 s	#2 #3 Ø8 18 s

Lanes, Volumes, Timings
3: Route 257 & Salt Springs Road

03/17/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	125	102	0	0	0	0	294	8	0	103	0
Future Volume (vph)	4	125	102	0	0	0	0	294	8	0	103	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	1736	0	0	0	0	0	1855	0	0	1863	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1736	0	0	0	0	0	1855	0	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60						2				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		438			520			873			189	
Travel Time (s)		10.0			11.8			19.8			4.3	
Peak Hour Factor	0.81	0.81	0.81	0.85	0.85	0.85	0.80	0.80	0.80	0.74	0.74	0.74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	280	0	0	0	0	0	378	0	0	139	0
Enter Blocked Intersection	No	No	No	No	No	No						
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1						1			1	
Detector Template												
Leading Detector (ft)	50	50						50			50	
Trailing Detector (ft)	0	0						0			0	
Detector 1 Position(ft)	0	0						0			0	
Detector 1 Size(ft)	50	50						50			50	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Turn Type	Split	NA						NA			NA	
Protected Phases	6!	6!						1 5 3 8!			1 5 3 8!	
Permitted Phases								4 7			4 7	
Detector Phase	6	6						1 5 3 8			1 5 3 8	
Switch Phase												
Minimum Initial (s)	6.0	6.0										
Minimum Split (s)	11.5	11.5										
Total Split (s)	56.0	56.0										
Total Split (%)	56.0%	56.0%										
Maximum Green (s)	50.5	50.5										
Yellow Time (s)	3.5	3.5										
All-Red Time (s)	2.0	2.0										

Lanes, Volumes, Timings
 3: Route 257 & Salt Springs Road

03/17/2020

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7	Ø8
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Enter Blocked Intersection							
Lane Alignment							
Median Width(ft)							
Link Offset(ft)							
Crosswalk Width(ft)							
Two way Left Turn Lane							
Headway Factor							
Turning Speed (mph)							
Number of Detectors							
Detector Template							
Leading Detector (ft)							
Trailing Detector (ft)							
Detector 1 Position(ft)							
Detector 1 Size(ft)							
Detector 1 Type							
Detector 1 Channel							
Detector 1 Extend (s)							
Detector 1 Queue (s)							
Detector 1 Delay (s)							
Turn Type							
Protected Phases	1	2	3	4	5	7	8
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	6.0	4.0	4.0	5.0	5.0	4.0
Minimum Split (s)	9.5	11.5	9.5	9.5	9.5	9.5	9.0
Total Split (s)	12.0	56.0	14.0	18.0	12.0	14.0	18.0
Total Split (%)	12%	56%	14%	18%	12%	14%	18%
Maximum Green (s)	7.5	50.5	8.5	12.5	7.5	9.5	13.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.0
All-Red Time (s)	1.0	2.0	2.0	2.0	1.0	1.0	2.0

Lanes, Volumes, Timings
3: Route 257 & Salt Springs Road

03/17/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0										
Total Lost Time (s)	5.5	5.5										
Lead/Lag	Lag	Lag										
Lead-Lag Optimize?	Yes	Yes										
Vehicle Extension (s)	2.0	2.0										
Recall Mode	C-Min	C-Min										
Act Effct Green (s)	54.5	54.5						34.6			34.6	
Actuated g/C Ratio	0.54	0.54						0.35			0.35	
v/c Ratio	0.01	0.29						0.59			0.22	
Control Delay	12.0	11.0						29.8			8.2	
Queue Delay	0.0	0.0						0.3			0.7	
Total Delay	12.0	11.0						30.1			8.8	
LOS	B	B						C			A	
Approach Delay		11.0						30.1			8.8	
Approach LOS		B						C			A	
Queue Length 50th (ft)	1	69						190			20	
Queue Length 95th (ft)	7	111						228			24	
Internal Link Dist (ft)		358			440			793			109	
Turn Bay Length (ft)	230											
Base Capacity (vph)	964	973						625			626	
Starvation Cap Reductn	0	0						0			262	
Spillback Cap Reductn	148	0						35			0	
Storage Cap Reductn	0	0						0			0	
Reduced v/c Ratio	0.01	0.29						0.64			0.38	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 19.7
 Intersection Capacity Utilization 37.1%
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 3: Route 257 & Salt Springs Road

#2 #3 Ø1	#2 Ø2 (R)	#2 #3 Ø3	#2 #3 Ø4
12 s	56 s	14 s	18 s
#2 #3 Ø5	#2 #3 Ø6 (R)	#2 #3 Ø7	#2 #3 Ø8
12 s	56 s	14 s	18 s

Lanes, Volumes, Timings
 3: Route 257 & Salt Springs Road

03/17/2020

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7	Ø8
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	2.0	2.0	2.0	3.0	3.0	2.0
Recall Mode	None	C-Min	None	None	None	None	None
Act Effect Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							
Approach LOS							
Queue Length 50th (ft)							
Queue Length 95th (ft)							
Internal Link Dist (ft)							
Turn Bay Length (ft)							
Base Capacity (vph)							
Starvation Cap Reductn							
Spillback Cap Reductn							
Storage Cap Reductn							
Reduced v/c Ratio							
Intersection Summary							

Lanes, Volumes, Timings
4: New Connection & East Genesee Street

03/17/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	157	25	10	598	38	340	7	37	35	4	48
Future Volume (vph)	79	157	25	10	598	38	340	7	37	35	4	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	200		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	1825	0	1770	1846	0	1770	1628	0	1770	1604	0
Flt Permitted	0.134			0.617			0.396			0.725		
Satd. Flow (perm)	250	1825	0	1149	1846	0	738	1628	0	1350	1604	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			4			41			52	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1240			291			627			266	
Travel Time (s)		28.2			6.6			14.3			6.0	
Peak Hour Factor	0.80	0.80	0.80	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	227	0	11	723	0	378	49	0	38	56	0
Enter Blocked Intersection	No	No	No	No	No	No						
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		1	2		1	2		1	2	
Detector Template				Left			Left			Left		
Leading Detector (ft)	70	70		20	70		20	70		20	70	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	30	30		20	30		20	30		20	30	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	40	40			40			40			40	
Detector 2 Size(ft)	30	30			30			30			30	
Detector 2 Type	Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2			6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		6	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	10.0		10.0	10.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	8.0	15.0		15.0	15.0		10.0	11.0		10.0	11.0	

Lanes, Volumes, Timings
4: New Conection & East Genesee Street

03/17/2020

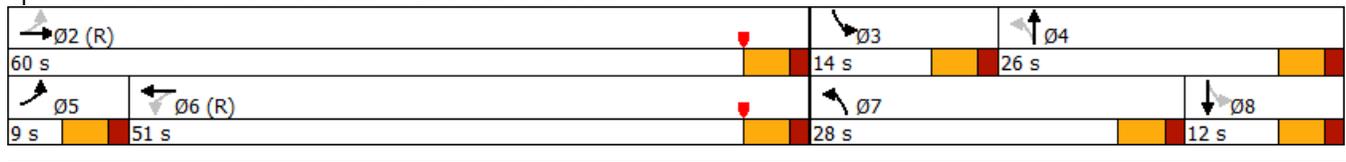
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	9.0	60.0		51.0	51.0		28.0	26.0		14.0	12.0	
Total Split (%)	9.0%	60.0%		51.0%	51.0%		28.0%	26.0%		14.0%	12.0%	
Maximum Green (s)	4.0	55.0		46.0	46.0		23.0	21.0		9.0	7.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effct Green (s)	58.6	58.6		51.0	51.0		31.4	23.7		12.2	6.4	
Actuated g/C Ratio	0.59	0.59		0.51	0.51		0.31	0.24		0.12	0.06	
v/c Ratio	0.45	0.21		0.02	0.77		0.82	0.12		0.20	0.37	
Control Delay	24.1	8.3		15.0	28.8		45.1	13.2		26.5	21.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.1	8.3		15.0	28.8		45.1	13.2		26.5	21.8	
LOS	C	A		B	C		D	B		C	C	
Approach Delay		13.1			28.6			41.4			23.7	
Approach LOS		B			C			D			C	
Queue Length 50th (ft)	24	53		4	394		200	4		16	2	
Queue Length 95th (ft)	63	70		14	#568		#312	34		38	41	
Internal Link Dist (ft)		1160			211			547			186	
Turn Bay Length (ft)	200			200			200			150		
Base Capacity (vph)	219	1075		586	944		475	424		229	160	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.45	0.21		0.02	0.77		0.80	0.12		0.17	0.35	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 28.6
 Intersection Capacity Utilization 76.2%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 4: New Conection & East Genesee Street



Lanes, Volumes, Timings
5: East Genesee Street & Existing Site Access

03/17/2020

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	229	640	25	0	6
Future Volume (vph)	0	229	640	25	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1853	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	1853	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		291	115		239	
Travel Time (s)		6.6	2.6		5.4	
Peak Hour Factor	0.80	0.80	0.88	0.88	0.50	0.50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	286	755	0	0	12
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 45.2% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
 5: East Genesee Street & Existing Site Access

03/17/2020

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	229	640	25	0	6
Future Vol, veh/h	0	229	640	25	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	88	88	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	286	727	28	0	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.22
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.318
Pot Cap-1 Maneuver	0	-	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	424
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	424
HCM Lane V/C Ratio	-	-	0.028
HCM Control Delay (s)	-	-	13.7
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Lanes, Volumes, Timings
 6: East Genesee Street & Post Office Exit Driveway

03/17/2020

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	229	649	0	4	16
Future Volume (vph)	0	229	649	0	4	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1863	0	1645	0
Flt Permitted					0.990	
Satd. Flow (perm)	0	1863	1863	0	1645	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		115	1553		145	
Travel Time (s)		2.6	35.3		3.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.79	0.79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	249	705	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 44.2% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
 6: East Genesee Street & Post Office Exit Driveway

03/17/2020

Intersection

Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	
Traffic Vol, veh/h	0	229	649	0	4	16
Future Vol, veh/h	0	229	649	0	4	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	249	705	0	5	20

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	954 705
Stage 1	-	-	-	-	705 -
Stage 2	-	-	-	-	249 -
Critical Hdwy	-	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	0	-	-	0	287 436
Stage 1	0	-	-	0	490 -
Stage 2	0	-	-	0	792 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	287 436
Mov Cap-2 Maneuver	-	-	-	-	287 -
Stage 1	-	-	-	-	490 -
Stage 2	-	-	-	-	792 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	395
HCM Lane V/C Ratio	-	-	0.064
HCM Control Delay (s)	-	-	14.7
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Lanes, Volumes, Timings
 12: Salt Springs Road & New Connection

03/17/2020

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	154	10	368	25	10
Future Volume (vph)	10	154	10	368	25	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1857	1619	0	1729	0
Flt Permitted		0.997			0.965	
Satd. Flow (perm)	0	1857	1619	0	1729	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		709	1608		627	
Travel Time (s)		16.1	36.5		14.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	182	420	0	39	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 33.3% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
 12: Salt Springs Road & New Connection

03/17/2020

Intersection

Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	10	154	10	368	25	10
Future Vol, veh/h	10	154	10	368	25	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	171	11	409	28	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	420	0	0	409	216
Stage 1	-	-	-	216	-
Stage 2	-	-	-	193	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1139	-	-	599	824
Stage 1	-	-	-	820	-
Stage 2	-	-	-	840	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1139	-	-	592	824
Mov Cap-2 Maneuver	-	-	-	592	-
Stage 1	-	-	-	811	-
Stage 2	-	-	-	840	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1139	-	-	-	644
HCM Lane V/C Ratio	0.01	-	-	-	0.06
HCM Control Delay (s)	8.2	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lanes, Volumes, Timings
2: Route 257 & East Genesee Street

03/17/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	606	1	70	598	99	245	95	77	135	101	24
Future Volume (vph)	10	606	1	70	598	99	245	95	77	135	101	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	135		0	0		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	1863	0	1770	1824	0	1770	1738	0	1770	1809	0
Flt Permitted	0.097			0.200			0.508			0.429		
Satd. Flow (perm)	181	1863	0	373	1824	0	946	1738	0	799	1809	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					12			37			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		368			1240			189			681	
Travel Time (s)		8.4			28.2			4.3			15.5	
Peak Hour Factor	0.94	0.94	0.94	0.87	0.87	0.87	0.90	0.90	0.90	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	646	0	80	801	0	272	192	0	159	147	0
Enter Blocked Intersection	No	No	No	No	No	No						
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	6.0		5.0	6.0		4.0	4.0		5.0	4.0	
Minimum Split (s)	9.5	11.5		9.5	11.5		9.5	9.0		9.5	9.5	
Total Split (s)	12.0	45.0		12.0	45.0		16.0	17.0		16.0	17.0	
Total Split (%)	13.3%	50.0%		13.3%	50.0%		17.8%	18.9%		17.8%	18.9%	
Maximum Green (s)	7.5	39.5		7.5	39.5		10.5	12.0		11.5	11.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.0		3.5	3.5	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	

Lanes, Volumes, Timings
2: Route 257 & East Genesee Street

03/17/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		5.5	5.0		4.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		2.0	2.0		3.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effect Green (s)	49.5	41.4		49.5	41.3		21.6	11.6		21.5	10.0	
Actuated g/C Ratio	0.55	0.46		0.55	0.46		0.24	0.13		0.24	0.11	
v/c Ratio	0.05	0.75		0.25	0.95		0.84	0.75		0.52	0.70	
Control Delay	8.5	27.9		6.6	40.2		43.0	31.9		30.6	53.2	
Queue Delay	0.0	0.0		0.0	0.0		4.8	9.5		0.0	0.0	
Total Delay	8.5	27.9		6.6	40.2		47.8	41.5		30.6	53.2	
LOS	A	C		A	D		D	D		C	D	
Approach Delay		27.5			37.1			45.2			41.5	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	2	306		11	372		54	56		67	74	
Queue Length 95th (ft)	9	#454		m17	#672		#193	m#162		111	127	
Internal Link Dist (ft)		288			1160			109			601	
Turn Bay Length (ft)	200			135						175		
Base Capacity (vph)	233	856		323	844		322	263		324	240	
Starvation Cap Reductn	0	0		0	0		21	46		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.75		0.25	0.95		0.90	0.88		0.49	0.61	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 36.6
 Intersection Capacity Utilization 79.5%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Route 257 & East Genesee Street

#2 #3 Ø1 12 s	#2 Ø2 (R) 45 s	#2 #3 Ø3 16 s	#2 #3 Ø4 17 s
#2 #3 Ø5 12 s	#2 #3 Ø6 (R) 45 s	#2 #3 Ø7 16 s	#2 #3 Ø8 17 s

Lanes, Volumes, Timings
3: Route 257 & Salt Springs Road

03/17/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	282	164	0	0	0	0	388	23	0	172	0
Future Volume (vph)	29	282	164	0	0	0	0	388	23	0	172	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	1760	0	0	0	0	0	1848	0	0	1863	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1760	0	0	0	0	0	1848	0	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42						4				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		438			561			873			189	
Travel Time (s)		10.0			12.8			19.8			4.3	
Peak Hour Factor	0.95	0.95	0.95	0.86	0.86	0.86	0.82	0.82	0.82	0.75	0.75	0.75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	470	0	0	0	0	0	501	0	0	229	0
Enter Blocked Intersection	No	No	No	No	No	No						
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1						1			1	
Detector Template												
Leading Detector (ft)	50	50						50			50	
Trailing Detector (ft)	0	0						0			0	
Detector 1 Position(ft)	0	0						0			0	
Detector 1 Size(ft)	50	50						50			50	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Turn Type	Split	NA						NA			NA	
Protected Phases	6!	6!						1 5 3 8!			1 5 3 8!	
Permitted Phases								4 7			4 7	
Detector Phase	6	6						1 5 3 8			1 5 3 8	
Switch Phase												
Minimum Initial (s)	6.0	6.0										
Minimum Split (s)	11.5	11.5										
Total Split (s)	45.0	45.0										
Total Split (%)	50.0%	50.0%										
Maximum Green (s)	39.5	39.5										
Yellow Time (s)	3.5	3.5										
All-Red Time (s)	2.0	2.0										

Lanes, Volumes, Timings

3: Route 257 & Salt Springs Road

03/17/2020

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7	Ø8
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Enter Blocked Intersection							
Lane Alignment							
Median Width(ft)							
Link Offset(ft)							
Crosswalk Width(ft)							
Two way Left Turn Lane							
Headway Factor							
Turning Speed (mph)							
Number of Detectors							
Detector Template							
Leading Detector (ft)							
Trailing Detector (ft)							
Detector 1 Position(ft)							
Detector 1 Size(ft)							
Detector 1 Type							
Detector 1 Channel							
Detector 1 Extend (s)							
Detector 1 Queue (s)							
Detector 1 Delay (s)							
Turn Type							
Protected Phases	1	2	3	4	5	7	8
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	6.0	4.0	4.0	5.0	5.0	4.0
Minimum Split (s)	9.5	11.5	9.5	9.5	9.5	9.5	9.0
Total Split (s)	12.0	45.0	16.0	17.0	12.0	16.0	17.0
Total Split (%)	13%	50%	18%	19%	13%	18%	19%
Maximum Green (s)	7.5	39.5	10.5	11.5	7.5	11.5	12.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.0
All-Red Time (s)	1.0	2.0	2.0	2.0	1.0	1.0	2.0

Lanes, Volumes, Timings
3: Route 257 & Salt Springs Road

03/17/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0										
Total Lost Time (s)	5.5	5.5										
Lead/Lag	Lag	Lag										
Lead-Lag Optimize?	Yes	Yes										
Vehicle Extension (s)	2.0	2.0										
Recall Mode	C-Min	C-Min										
Act Effct Green (s)	41.4	41.4						38.1			38.1	
Actuated g/C Ratio	0.46	0.46						0.42			0.42	
v/c Ratio	0.04	0.57						0.64			0.29	
Control Delay	14.6	19.9						24.0			9.9	
Queue Delay	0.0	0.0						0.3			4.3	
Total Delay	14.6	19.9						24.2			14.2	
LOS	B	B						C			B	
Approach Delay		19.5						24.2			14.2	
Approach LOS		B						C			B	
Queue Length 50th (ft)	10	178						206			42	
Queue Length 95th (ft)	26	278						268			58	
Internal Link Dist (ft)		358			481			793			109	
Turn Bay Length (ft)	230											
Base Capacity (vph)	813	831						760			764	
Starvation Cap Reductn	0	0						0			452	
Spillback Cap Reductn	129	0						35			0	
Storage Cap Reductn	0	0						0			0	
Reduced v/c Ratio	0.05	0.57						0.69			0.73	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 20.5
 Intersection Capacity Utilization 55.0%
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 3: Route 257 & Salt Springs Road

#2 #3 Ø1	#2 Ø2 (R)	#2 #3 Ø3	#2 #3 Ø4
12 s	45 s	16 s	17 s
#2 #3 Ø5	#2 #3 Ø6 (R)	#2 #3 Ø7	#2 #3 Ø8
12 s	45 s	16 s	17 s

Lanes, Volumes, Timings

3: Route 257 & Salt Springs Road

03/17/2020

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø7	Ø8
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	2.0	2.0	2.0	3.0	3.0	2.0
Recall Mode	None	C-Min	None	None	None	None	None
Act Effect Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							
Approach LOS							
Queue Length 50th (ft)							
Queue Length 95th (ft)							
Internal Link Dist (ft)							
Turn Bay Length (ft)							
Base Capacity (vph)							
Starvation Cap Reductn							
Spillback Cap Reductn							
Storage Cap Reductn							
Reduced v/c Ratio							
Intersection Summary							

Lanes, Volumes, Timings
4: New Connection & East Genesee Street

03/17/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	549	42	10	397	61	186	9	42	140	9	116
Future Volume (vph)	166	549	42	10	397	61	186	9	42	140	9	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	200		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	1842	0	1770	1825	0	1770	1632	0	1770	1604	0
Flt Permitted	0.238			0.393			0.513			0.720		
Satd. Flow (perm)	443	1842	0	732	1825	0	956	1632	0	1341	1604	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			10			47			129	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1240			291			627			266	
Travel Time (s)		28.2			6.6			14.3			6.0	
Peak Hour Factor	0.92	0.92	0.92	0.84	0.84	0.84	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	643	0	12	546	0	207	57	0	156	139	0
Enter Blocked Intersection	No	No	No	No	No	No						
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	2		1	2		1	2		1	2	
Detector Template				Left			Left			Left		
Leading Detector (ft)	70	70		20	70		20	70		20	70	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	30	30		20	30		20	30		20	30	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	40	40			40			40			40	
Detector 2 Size(ft)	30	30			30			30			30	
Detector 2 Type	Cl+Ex	Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2			6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		6	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	10.0		10.0	10.0		5.0	6.0		5.0	6.0	
Minimum Split (s)	8.0	15.0		15.0	15.0		10.0	11.0		10.0	11.0	

Lanes, Volumes, Timings
 4: New Conection & East Genesee Street

03/17/2020

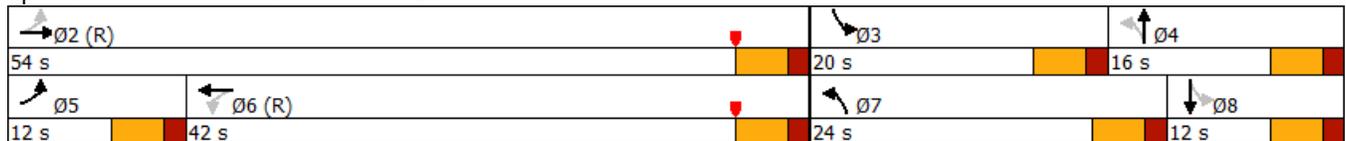
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	54.0		42.0	42.0		24.0	16.0		20.0	12.0	
Total Split (%)	13.3%	60.0%		46.7%	46.7%		26.7%	17.8%		22.2%	13.3%	
Maximum Green (s)	7.0	49.0		37.0	37.0		19.0	11.0		15.0	7.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	54.0	54.0		41.1	41.1		22.1	9.0		19.7	6.7	
Actuated g/C Ratio	0.60	0.60		0.46	0.46		0.25	0.10		0.22	0.07	
v/c Ratio	0.47	0.58		0.04	0.65		0.57	0.28		0.43	0.58	
Control Delay	7.4	7.0		16.2	24.2		32.3	17.8		28.3	19.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.4	7.0		16.2	24.2		32.3	17.8		28.3	19.7	
LOS	A	A		B	C		C	B		C	B	
Approach Delay		7.1			24.0			29.1			24.2	
Approach LOS		A			C			C			C	
Queue Length 50th (ft)	14	50		4	232		96	5		70	5	
Queue Length 95th (ft)	m28	217		14	334		144	40		111	61	
Internal Link Dist (ft)		1160			211			547			186	
Turn Bay Length (ft)	200			200			200			150		
Base Capacity (vph)	383	1108		333	838		441	242		399	247	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.58		0.04	0.65		0.47	0.24		0.39	0.56	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 17.6
 Intersection Capacity Utilization 74.4%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 4: New Conection & East Genesee Street



Lanes, Volumes, Timings
 5: East Genesee Street & Existing Site Access

03/17/2020

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	731	457	40	0	11
Future Volume (vph)	0	731	457	40	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1842	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	1863	1842	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		291	115		239	
Travel Time (s)		6.6	2.6		5.4	
Peak Hour Factor	0.92	0.92	0.84	0.84	0.75	0.75
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	795	592	0	0	15
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 41.8% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
 5: East Genesee Street & Existing Site Access

03/17/2020

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Traffic Vol, veh/h	0	731	457	40	0	11
Future Vol, veh/h	0	731	457	40	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Yield
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	84	84	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	795	544	48	0	15

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	6.22
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.318
Pot Cap-1 Maneuver	0	-	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	539
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	539
HCM Lane V/C Ratio	-	-	0.027
HCM Control Delay (s)	-	-	11.9
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Lanes, Volumes, Timings
6: East Genesee Street & Post Office Exit Driveway

03/17/2020

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	731	459	0	16	38
Future Volume (vph)	0	731	459	0	16	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1863	1863	0	1660	0
Flt Permitted					0.985	
Satd. Flow (perm)	0	1863	1863	0	1660	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		115	1553		145	
Travel Time (s)		2.6	35.3		3.3	
Peak Hour Factor	0.92	0.92	0.84	0.84	0.67	0.67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	795	546	0	81	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 48.5%
 Analysis Period (min) 15
 ICU Level of Service A

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	
Traffic Vol, veh/h	0	731	459	0	16	38
Future Vol, veh/h	0	731	459	0	16	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	84	84	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	795	546	0	24	57

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	1341 546
Stage 1	-	-	-	-	546 -
Stage 2	-	-	-	-	795 -
Critical Hdwy	-	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	0	-	-	0	168 538
Stage 1	0	-	-	0	580 -
Stage 2	0	-	-	0	445 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	168 538
Mov Cap-2 Maneuver	-	-	-	-	168 -
Stage 1	-	-	-	-	580 -
Stage 2	-	-	-	-	445 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	326
HCM Lane V/C Ratio	-	-	0.247
HCM Control Delay (s)	-	-	19.6
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	1

Lanes, Volumes, Timings
 12: Salt Springs Road & New Connection

03/17/2020

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	345	10	223	49	10
Future Volume (vph)	10	345	10	223	49	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1861	1622	0	1747	0
Flt Permitted		0.999			0.960	
Satd. Flow (perm)	0	1861	1622	0	1747	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		668	1608		627	
Travel Time (s)		15.2	36.5		14.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	394	259	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 36.2% ICU Level of Service A
 Analysis Period (min) 15

HCM 6th TWSC
 12: Salt Springs Road & New Connection

03/17/2020

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	10	345	10	223	49	10
Future Vol, veh/h	10	345	10	223	49	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	383	11	248	54	11

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	259	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1306	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1306	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1306	-	-	-	539
HCM Lane V/C Ratio	0.009	-	-	-	0.122
HCM Control Delay (s)	7.8	0	-	-	12.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4



Response to GHD Comments

April 22, 2020

Village of Fayetteville Planning Board
425 East Genesee Street
Fayetteville, NY 13066

**Re: Initial Site Concept Plan and Documentation Preliminary Review
547 East Genesee Street Development Proposal**

Dear Board Members,

The following letter is a line by line response to the GHD comment letter dated February 19, 2020 regarding the previous submittal. Please note since this time there have been site plan modifications and proposed building changes both in response to review comments and to satisfy the future tenant needs.

1. Site Plan SK-4.

- A. Identify potential delivery (trailer) truck types to service the proposed development and verify minimum turning radius required to serve trucks for parking, loading/unloading areas, and ingress and egress lanes.

The grocery store will require truck deliveries from a WB-62 tractor trailer, which has a minimum turning radius of 46 feet. Within the AutoCAD design platform a virtual tractor trailer truck has been “driven” through the site to verify the truck route and the internal radii to assure the truck can maneuver through the site.

- B. Identify proposed stockpile locations for snow removed from parking lot and access roads relative to stormwater facilities.

The layout plan has been revised and provides ample green space for snow storage. A snow storage plan will be provided during site plan review.

- C. Confirm location and configurations of proposed driveway entrances along NYS Route 5 are acceptable to NYSDOT.

The Traffic Impact Study (TIS) for the project has been presented, reviewed, and thoroughly discussed with the regional NYSDOT office. The project main signalized intersection has been relocated west (from the February plans) to coincide with the Tracey Lumber driveway on the south side of Route 5 and to allow for access to the signal from the adjoining Circle K property. NYSDOT acceptance of the TIS and their mitigation recommendations are attached to this package.

- D. Advise if proposed access drives will be proposed to be dedicated to the Village of Fayetteville to take over for ownership, operations, and maintenance. If so, show proposed right-of-way/easement boundaries and provide description of the areas, and submit for review. Consider how access drives will be coordinated with any proposed future residential development of parcel 4482/210 (Lot D).

Upon discussions with the Village officials, they don’t want the internal roads to be Village Owned. There will be shared access and egress easements between the uses. There are no plans for development of the north residential parcel.

- E. Confirm/show 100-year floodplain and floodway elevations relative to the site.

The 100 year floodplain boundary is within the proximity of brook and is not within the proposed developed portion of the site. The 100-year floodplain boundary is now shown on the layout plan, SK-19.



2. Site Plan SK-6.

- A. Advise if proposed access drives in industrial zone will be proposed to be dedicated to the Village of Fayetteville as a Village street, for ownership and operations and maintenance. If so, show proposed right-of-way/easement boundaries and description of the areas, for review. Consider how access drives will be coordinated with any proposed future residential development of parcel 4482/210.

See response to comment 1.D. as stated above.

- B. Consider area for snow plow turn-around and fire truck access if access drive will be dedicated to the Village.

It is not anticipated that the site will have Village snow plows on the property. Ample routes and radii are provided for 360 degree circulation for emergency vehicles around the two large buildings..

3. Site Plan SK-7, SK-8, and SK-9.

- A. Identify proposed truck loading and unloading areas.

Loading docks/areas are now labeled on the layout plan.

- B. Identify proposed dumpster storage and pickup locations.

Dumpster locations are now labeled on the layout plan.

- C. Advise if proposed access drives in residential area to serve residential development will be proposed to be dedicated to Village of Fayetteville.

The residential component of the development has been removed from the proposal.

- D. Identify how stormwater will be conveyed through residential development area (Lot D) from the industrial development. Identify any proposed drainage easements.

The residential development is no longer a part of the proposal.

4. Site Plan SK-10

- A. Consider designated an area for snow plow and fire truck turnaround.

See response 2-B

- B. Will proposed walking trail be available for public use and be proposed to be turned over to the Village of Fayetteville? If so, provide proposed easement boundary and description for review and comment.

The walking trail is no longer proposed as part of the development.

- C. Proposed plan conflicts with plan SK-9 concept.

The site plans have been revised.

5. Site Plans SK-10A, SK-C-5, SK-C-5.1, SK-C-5.2, SK-C-5.3.

- A. A 15,000 gallon Underground Storage Tank was reportedly abandoned in place under the northwestern portion of the current building. Appears to be in an area of the site corresponding to the southwestern corner of the proposed grocery building.

Noted, the tank will be removed in accordance with the Remediation Work Plan.

- B. Proposed stormwater outfall structure appears to be right in Area 1 and the immediate vicinity of the groundwater collection trench. If that truly is the location, doesn't appear like an ideal location for that from an increased infiltration and contaminant migration potential or from an excess groundwater treatment volume potential.

The proposed stormwater discharge point has been moved to the west of Area 1 to ensure that no disturbance is needed in this location.

- C. Appears most of former building area will become future parking lots, so those could be established as protective engineering controls for those areas. Unknown what the soils under the building will



contain and how they would need to be managed, but would assume off-site disposal rather than on-site reuse.

Agreed. After discussion with Ramboll (OBG), it is preferred off-site disposal of soil be minimized and that any contaminated soils be reused on-site underneath proposed impervious surfaces.

- D. Excavation for stormwater basins and associated underground utilities do not appear to be located in an area of the site where excavation is prohibited, but soils will likely be impacted to some extent and will likely require off-site disposal. If soils are proposed to be reused on-site, they will need to be covered by an appropriate thickness of clean fill and will likely require a demarcation layer between the clean fill and underlying materials.

Noted, all excavation for stormwater facilities and utilities are shown outside of the prohibited excavation area (Area 1). Ramboll has expressed that it is preferred to minimize off-site disposal of soils. Any pervious areas on-site will be required to have a minimum of 24" of clean fill on the surface and will have a demarcation layer between clean fill and underlying materials.

- E. Groundwater should not be encountered during redevelopment work based on available information from previous sampling events.

Noted.

- F. Would any soil removal be associated with the proposed walking path or would clean material just be placed on the existing ground surface? That is in a portion of the site where excavation is apparently/potentially prohibited.

The walking trail is no longer proposed as part of the development.

6. Subdivision Initial application Report/ Special Use Permit Application.

- A. Identify proposed height of each proposed building.

The grocery store will have a maximum height of 30 feet. The memory care facility will have a maximum height of 31.5 feet at its highest peak. The outparcel building will have a maximum height of 25 feet. This has been revised on SK-20.

7. Zoning Board of Appeals Application.

- A. Advise if it is still the intent to keep the access drives private, and not be turned over to the Village.

See response to comment 1.D. as stated above.

8. Project Narrative.

- A. Proposes that the first phase of the work will be to perform the environmental cleanup as agreed to by the NYSDEC cleanup action plan. Please provide copy of the plan, or advise if the plan is still in development stage.

The environmental cleanup will be coordinated with Ramboll, who are responsible for the enacted Remediation Work Plan. Both the Groundwater Remediation System Operations and Maintenance Manual and the 2018 Periodic Review Report has been included with this submittal.

- B. Confirm with OCWA and OCDEP that they have capacity to serve the proposed developments with water and sanitary sewer service, respectively.

Ample capacity exist in the services to the subject site. This project is re-development of a 130,000 square foot manufacturing facility. The subject site is within existing district boundaries.

9. Preliminary Traffic Impact Analysis.

- A. Not reviewed.

Noted.

- B. Submit analysis to NYSDOT for review and approval and provide copy of NYSDOT review comments.



The NYSDOT acceptance of the project TIS is included with this package.

10. Remedial Investigation Work Plan.

- A. The site is currently entered into the NYS Brownfield Cleanup Program as Site #C734052 with the Applicant (Volunteer) being FOUBU Environmental Services, LLC (c/o O'Brien & Gere). It appears that this site was first addressed through the State Superfund Program and was closed, but requires continued site management through an active groundwater treatment system and long-term groundwater monitoring program. In order to determine what needs to be done from an on-going and redevelopment standpoint, we will need to receive a copy of the Site Management Plan (SMP) or Operations, Maintenance, and Monitoring Plan (or similar) that would have been established for the site.

The Groundwater Remediation System Operations and Maintenance Manual was provided to the Village in our last submittal.

- B. Has any proposed remedial work been performed and if so, provide copy of the report so we can better determine current conditions at the site and further understand what needs to be done during future redevelopment.

The 2018 Periodic Review Report from Ramboll was provided to the Village in our last submittal.

- C. States remedial work will be done in support of proposed development.

Correct.

- D. Deed restrictions in-place on-site prevent the use of groundwater or installation of groundwater production wells.

Noted, this is not anticipated to be an issue.

- E. Deed restriction also prevents excavation in Area 1, northern portion of site.

Noted, no excavation is proposed in Area 1.

- F. A Declaration of Covenants and Restrictions (deed restrictions) was filed on May 15, 2014 that prohibits the disturbance or excavation of the property which threatens the integrity of the engineering controls or which results in unacceptable human exposure to contaminated soils. Would this limit redevelopment of the site or would the temporary disturbance be acceptable given that it is capped/restored in a protective manner? We would think the latter, as long as community exposure measures were taken in the interim.

Noted , the deed restrictions are not anticipated to limit redevelopment of the site as currently planned.

- G. Deed restriction also requires Soil Vapor Intrusion evaluation/mitigation in any buildings built or redeveloped on-site.

Means of mitigating vapor intrusion in any building construction or redevelopment on-site will be addressed as part of the design and will be coordinated with the building architect and included in the SMP as per the NYSDEC requirements.

- H. Additional soil investigation and surface water/sediment sampling is proposed for the site and under the existing site building.

Correct.

11. State Superfund and Brownfield Cleanup Requirements.

- A. The groundwater treatment system will need to be maintained. Currently, all features except the groundwater collection trench seem to be located within the footprint of redevelopment with no indication of plans to accommodate.

The concept plan as proposed will accommodate the groundwater treatment building in the redevelopment. The existing groundwater recovery wells and sumps (RW-1, RW-2, and S-1) will be accommodated in a manner such that they remain useable and accessible.



- B. The groundwater monitoring well network will need to be maintained. Currently, all features except the groundwater monitoring wells in the northern wooded area appear to be located within the footprint of redevelopment with no indication of plans to accommodate.

Noted, all monitoring wells currently sampled as part of the semiannual/annual groundwater monitoring program will be preserved during and after site development.

- C. A soil vapor intrusion mitigation system will need to be designed for each building and will need to be installed, operated, and maintained in accordance with NYSDEC/NYSDOH requirements, which should be outlined in the site's SMP.

See response to comment 10.G. as stated above.

- D. All soil disposed off-site will need to be characterized and handled accordingly, based on disposal facility characterization requirements. It is unknown if potential to require hazardous disposal or not.

Noted.

- E. All soil imported to the site will need to be tested and meet site-specific criteria. Testing requirements are defined by NYSDEC in DER-10 and will likely require the analysis of samples for PFAS and 1,4-dioxane.

Noted.

- F. All documentation will need to be maintained and provided for inclusion in future Periodic Review Reports.

Noted. This will also be included in the Construction Completion Report.

12. Emerging Contaminant Sampling Summary.

- A. Sampled 3 site wells (1 bedrock and 2 overburden) for 1,4-dioxane and PFAS in November 2018.
- B. No samples detected 1,4-dioxane.
- C. Each sample detected low-level PFAS, none of which exceed the likely to be established thresholds.
- D. Samples from MW-14 under the current site building contained the greatest number and concentration of analytes, with fairly good reproducibility between that sample and the field duplicate sample taken from that well.
- E. Bedrock groundwater is approximately 40-feet below top of casing (btoc) and overburden groundwater is between 6 and 18-feet btoc.

All of this information is correct and has been noted.

13. Brownfield Cleanup Agreement.

- A. Information contained in the agreement relevant to our current review is minimal. It does reference that "the applicant shall be responsible for current on-site site management including any on-site obligations per the Site Management Plan and/or in accordance with any Department approved Operations and Maintenance and Monitoring Plans for the site." Advise if these documents exist.

The Groundwater Remediation System Operations and Maintenance Manual was provided to the Village in our last submittal.

14. Stormwater Pollution Prevention Plan (SWPPP).

A copy of the revised SWPPP will be provided to the Village.

- A. Pre-soak of percolation test holes was not mentioned for all testing procedures.

Revised.

- B. Drainage calculations were not reviewed, only drainage system concepts were reviewed.

Noted.



C. Confirm existing drainage map area limits. Figures just show a partial of the property line as the limit. **The drainage areas have been adjusted and can be seen on drainage area map EX.**

D. Confirm latest official Flood Insurance Rate Map (FIRM) was used to determine floodplain/floodway elevations.

The most recent FEMA maps from November, 2016 were utilized and are included in Appendix F.

E. Provide documentation identifying long-term operations and maintenance responsibilities of post construction stormwater facilities. Issue proposed deed restriction for the property requiring the property owner to perform cleaning, operations, maintenance and repairs, as required, to assure post construction stormwater facilities function as designed based on approved SWPPP.

A long-term stormwater operation and maintenance agreement will be drafted as part of the site plan review and SWPPP approval process. As required by the SPDES General Permit, this agreement and any corresponding easements will be filed with the deeds for the subdivided properties.

F. A revised SWPPP is required following the completion of the Remedial Investigation and approval, by the NYSDEC, of any plans for remedial work that result from the investigation.

Noted, all required revisions to the SWPPP will be coordinated with the DEC following the completion of the Remedial Investigation Work Plan.

G. Revise the SWPPP to reference and conform to the current General Permit No. 0-20-001.

Revised.

H. Note that NOIs are required to be submitted to the NYSDEC electronically as part of the new General Permit.

Noted.

I. In Section 1.F: Stormwater Inspections. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

Revised.

J. In Section 1.G: Add a requirement to amend the SWPPP with as-built construction conditions in accordance with the latest General Permit.

This section has been revised to include language specifying as-built amendment notification procedures.

K. Provide an erosion and sediment control plan (drawing) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice. Provide separate plans erosion and sediment control plans for new construction and for demolition/remediation activities.

The ESC plan will be provided during site plan review.

L. In Section 3.B.1: The described locations of proposed grassed waterways do not coordinate with submitted site plans.

Revised.

M. In Section 3.B.3: The potential use and locations of subsurface drains shall be approved by the NYSDEC prior to installation. The proposed depth for subsurface drains is greater than 24 inches below grade, which is deeper than the depth of the soil samples proposed in the Remedial Investigation Work Plan (maximum 24" deep). Recommend coordinating the remedial investigation sampling plan with the proposed redevelopment facilities.

The installation of all subsurface drains (building foundation drains) will be coordinated with the Remedial Investigation Work Plan to ensure proper mitigation of potentially contaminated groundwater.

N. Referenced bioretention in the southeast corner of the site is not shown on site plans.

Revised.



- O. In Section 3.C and D: The SWPPP must require soil stabilization to be provided where soil disturbance activity has temporarily or permanently ceased. Soil stabilization must be initiated the next business day and completed within 14 days from the date that the soil disturbance activity ceased.

This note has been added to Section III C.1.

- P. In Table 1: Clarify table to only include rows that apply to this project. The table has a row generically labeled “redevelopment projects”. Since this is a redevelopment project, is it the engineer’s intent that this row applies to all soil restoration requirements for this project? In which case are the other rows not applicable?

Given the differing soil types and existing land cover types across the project site, all of the rows in the soil restoration table will be applicable in some capacity. As stated in the table, the redevelopment portion only applies to areas were existing impervious area will be converted to pervious area.

- Q. In Section 3.F.

- i. The sequence does not account for demolition and remediation activities. Revise to include this work.

Revised.

- ii. Provide temporary stabilization after mass grading activities.

Revised.

- iii. Stormwater basins are constructed last in the sequence. Specify how stormwater discharges and sediment discharges will be controlled during construction to meet General Permit requirements.

Revised.

- iv. Include construction of vehicle washing stations in the sequence.

Revised.

- v. Sequence does not provide any controls to minimize the amount of soil exposed during construction.

Revised.

- vi. Identify the timing of the initial placement of each erosion and sediment control practice and the time frames that each should remain in place.

Revised.

- vii. The sequence assumes all three (3) proposed buildings will be constructed at the same time. Include provisions in the sequence for accommodating a delay in the construction of individual buildings.

It is the intent of the applicant that the grocery building to be constructed first, followed by the outparcel (3500 SF) building and then the memory care facility. A note addressing the possibility of a delay has been added to Section 3.F prior to the construction sequence.

- R. Stormwater management evaluation.

- i. The calculation uses HSG Type B soils for all areas on site. The existing site contains a combination of HSG A and HSG C soils. However, generally, the runoff areas are HSG A. In addition, Bioretention Pond #2 and the Stormwater Detention Basin are located in HSG A soils. Bioretention Pond #1 is located in HSG C soils. Revise the calculations accordingly.

The existing conditions and proposed condition drainage area maps are now delineated based on the NRCS soil mapper for the project site. This change is reflected in the HydroCAD calculations.



- ii. The existing grading suggests that stormwater runoff from the US Post Office and United Methodist Church sites drain into the project site. Clarify the existing drainage patterns for these offsite areas and incorporate into the drainage calculations if they drain into the proposed site.

Based on observed site conditions and topography from the site, the post office area drains to a stabilized collection point within the circulatory driveway in the back of the site. The church area has several catch basins within the downhill (northern) part of the site. These structures drain away from the project site.

- iii. Treatment of the water quality volume is not provided for the portion of the grocery store site that drains directly into the detention pond. This represents a significant impervious area. Revise the site plan/SWPPP to provide treatment of the water quality volume for this area (through the proposed bioretention basins or other measures).

The layout of the site has been revised. All pavement areas now sheet flow to bioretention areas or are collected via concrete curbing and catch basins before being conveyed to mitigation areas.

- iv. The calculation of the water quality volume for the existing impervious surface must include the existing pavement to the west of the existing building. This pavement area has been entirely excluded from the existing drainage area analysis.

This has been revised in the drainage area maps and the existing WQv calculations.

- v. The calculation of the water quality volume for new impervious in drainage area DA-1A1.
 - a. The area of existing impervious should also be subtracted from the WQv Drainage Area (A). The existing calculation makes the percentage impervious artificially low.

Revised.

- a. The math to calculate Rv is incorrect.

Revised.

- vi. The calculation of the water quality volume for new impervious in drainage area DA-1A2.
 - a. The area of existing impervious should also be subtracted from the WQv Drainage Area (A). The existing calculation makes the percentage impervious artificially low.

Revised.

- vii. Calculation of the runoff reduction volume.
 - a. Note that meeting the runoff reduction volume is not required for the redevelopment portion of the site if 25% of the existing water quality volume is provided. Meeting the runoff reduction volume is required for the new development portion of the site.

Noted, this has been revised.

- b. Calculation of the new development RRv needs to include the 0.25 acres of impervious in drainage area DA-1B.

The new access driveway to the groundwater remediation building will be treated by a bioretention area, as reflected on the revised site plan.

- c. Update the Required RRv calculation for HSG A soils.

Revised.

- d. Updated the RRv provided calculations for HSG A or C soils (depending on the pond location). RRv for bioretention with underdrains and without underdrains is 40% and 80% of storage volume or WQv, whichever is less.

Revised.

- viii. Treatment of the water quality volume:



- a. The SWPPP specifies that underdrains are not provided for the bioretention ponds because they are not required in HSG A and B soils. However, pond #1 is located in HSG C soils and shall be provided with underdrains, located beneath the engineered filter soil and routed to an outlet structure.

The layout has been revised. An underdrain will be specified for any bioretention areas that are located within HSG C soils. A detail of the underdrain and outlet structure will be added to the site plans during site plan review.

- b. Landscaping is critical to the performance and function of bioretention areas, therefore, a landscaping plan must be provided for the bioretention areas.

Noted, a site specific landscaping plan will be added to the plan set during site plan review.

- c. Provide calculations to confirm that pretreatment is provided for 40% of WQv for each bioretention area (as required for cold climates) in accordance with the requirement of the Stormwater Management Design Manual.

Pretreatment for the bioretention areas will be provided for the larger bioretention area via a forebay. Grass buffer strips will be utilized for the smaller bioretention areas. Sizing calculations will be included in the SWPPP.

- d. Provide a detail for the proposed construction of the bioretention ponds. The ponds shall be designed in accordance with cold-climate design requirements.

Noted. A detail of the bioretention areas, along with all components of the stormwater mitigation system, will be added to the site plans during site plan review.

- e. Provide a fence or guardrail along edge of bioretention pond #1 to prevent snow piling within the basin.

The layout plan has been revised and the bioretention area has been relocated.

- f. Provide soil borings and soil infiltration tests in the areas of the proposed bioretention ponds confirming existing soil conditions and infiltration rates.

Noted, this will be performed as part of the site plan review.

- ix. Detention Volume.

- a. Revise stormwater runoff calculations to use HSG A soils.

Revised.

- b. The 18-inch detention basin outlet culvert has insufficient capacity and is surcharged under the 1-year, 10-year, and 100-year events.

The detention basin outlet culvert has been upsized to a 30 inch diameter.

- c. The time of concentration for proposed drainage area DA-1A should be calculated to the detention basin, not beyond the basin to the creek.

Revised.

- d. The calculations for the estimated detention volume use the incorrect depth for the rainfall, P (1.0 inches). Should be 2.05 inches.

Revised.

- e. The provided detention volume that is cited in the SWPPP uses a storage elevation (528.25') that is higher than both of the 6" and 15" outflow orifices.

The detention basin layout has been revised. Revised storage calculations will be provided in the updated SWPPP.

- f. The center-of-mass detention time for the 1-year storm is only 61.1 minutes. This does not meet the requirements for 24-hour extended detention.



The detention basin layout has been revised. Revised storage calculations will be provided in the updated SWPPP.

- g. Provide calculations for the size of the orifice required to provide 24-hour extended detention.

The detention basin layout has been revised. Revised storage calculations will be provided in the updated SWPPP.

- S. Advise if perimeter fencing will be proposed around all the stormwater basins (excluding pretreatment areas) to prevent unauthorized access.

Perimeter fencing is not proposed.

T. The SWPPP proposes excavation in Area 1, which is currently prohibited under a deed restriction.
Noted, no excavation is proposed in Area 1.

- U. The storm sewer outlet from the detention pond discharges in Area 1, near the existing groundwater collection trench and engineering controls.

The detention basin outlet culvert has been moved to discharge to the east, outside of Area 1.

- V. The SWPPP shall specify how existing excavated soils will be disposed of or re-used. If off-site disposal is required as a result of the findings of the remedial investigation, then specify how the soils will be characterized and handled.

After discussion with Ramboll (OBG), it is preferred off-site disposal of soil be minimized and that any contaminated soils be reused on-site underneath proposed impervious surfaces.

- W. This review did not consider the proposed redevelopment located in the R-1 Residential portion of the site.

The residential component of the proposal has been eliminated.

- X. The plans do not indicate how the redevelopment will accommodate the existing groundwater treatment system components or groundwater monitoring wells, which must be maintained.

The existing groundwater collection and treatment system can be protected and maintained throughout construction. This will be coordinated with both Ramboll and with NYSDEC.

Y. A soil vapor intrusion mitigation system is required for each building on site.
See response to comment 10.G. as stated above.

Z. Section 7 references an underground storage system not shown on the proposed plans.
This has been revised.

Upon development of final design drawings; Per EPA's Phase II Stormwater Rule, submit final proposed SWPPP to Village of Fayetteville in accordance with Municipal Separate Storm Sewer Systems Permit, GP-0-15-003, for review and approval.

Noted, the Village will have jurisdiction and final approval of the SWPPP.

15. SEQR Full Environmental Assessment Form- Part 1.

A. Review being performed in coordination with Village Planning Board.
Noted.

16. SEQR FAF Part 1 – Response to Village Comments.

A. Review being performed in coordination with Village Planning Board.
Noted.



17. General Comments - As subsequent plans are developed.

- A. Submit approval letter from NYSDOT for the Traffic Assessment, and proposed roadway and driveway plans. Submit copy of Highway Work Permit to Village, once issued by NYSDOT.

Noted.

- B. Submit approval letter from Onondaga County Department of Water Environment Protection for proposed sewer connection.

Noted, this is being coordinated with OCWEP.

- C. Submit plumbing plan to Onondaga County Department of Water Environment Protection, for approval.

Noted, this is being coordinated with OCWEP.

- D. Confirm if proposed developments (tenant) will require a grease trap to be installed on sanitary service connection, and confirm appropriate size of lateral piping.

The grocery store and the assisted living facility will both require grease traps. These will be shown on the utility plans during the site plan review process. Additionally, the plumbing plan will be reviewed and approved by the OCWEP.

- E. Submit all revised plans to Onondaga County Bureau of Public Health Engineering, for final approval.

Noted.

- F. Submit information on proposed electrical and natural gas (if any) services for the proposed facility.

This will be coordinated with National Grid.

- G. Submit approval letter from OCWA for new water connection. Coordinate all proposed fire hydrant locations with the Village of Fayetteville Fire Department.

Noted, hydrant locations will be coordinated with the fire department and with OCWA.

- H. Coordinate SEQR and Environmental Impact Statement with the Village of Fayetteville.

Noted.

Any and all future comments will be addressed accordingly. If you have any questions or if you need any other additional information, please contact us.

Respectfully submitted,

NAPIERALA CONSULTING
Professional Engineer, P.C.

Matthew R. Napierala

Matthew R. Napierala, P.E.
Managing Engineer / President