For Office Use Only:

File Number		SPRT Meeting	
Related File Number		Application Fee	
Pre-consultation Meeting		Conservation Authority Fee	
Application Submitted		OSSD Form Provided	
Complete Application		Planner	
Public Notice Sign			

Check the type of planning application(s) you are submitting.

- [ ] Official Plan Amendment
- [ ] Zoning By-Law Amendment
- [ ] Draft Plan of Subdivision/Vacant Land Condominium
- [ ] Condominium Exemption
- [x] Site Plan Application
- [ ] Consent/Severance
- [ ] Minor Variance
- [ ] Extension of a Temporary Use By-law
- [ ] Part Lot Control
- [ ] Cash-in-Lieu of Parking
- [ ] Renewable Energy Project or Radio Communication Tower

Property Assessment Roll Number: 40407085100

A. Applicant Information

Name of Owner Kyle Kowtaluk

It is the responsibility of the owner or applicant to notify the planner of any changes in ownership within 30 days of such a change.

Address 129 Queensway E

Town and Postal Code Simcoe

Phone Number 519 428 6790

Cell Number

Email

Name of Agent	MC Engineering
Address	Box 1002
Town and Postal Code	Simcoe
Phone Number	519 428 6790
Cell Number	
Email	ryanmorrison75@hotmail.com

Please specify to whom all communications should be sent. Unless otherwise directed, all correspondence, notices, etc., in respect of this application will be forwarded to the agent noted above.

○ Owner ◉ Agent

Names and addresses of any holder of any mortgagees, charges or other encumbrances on the subject lands:

??

B. Location, Legal Description and Property Information

1. Legal Description (include Geographic Township, Concession Number, Lot Number, Block Number and Urban Area or Hamlet):

Municipal Civic Address: 129 Queensway E Simcoe

Present Official Plan Designation(s): CSC (Shopping Central Commercial)

Present Zoning: CSC

2. Is there a special provision or site specific zone on the subject lands?

○ Yes ◉ No If yes, please specify:

3. The date the subject lands was acquired by the current owner: ??
4. Present use of the subject lands:

Parking Lot

5. Please describe **all existing** buildings or structures on the subject lands and whether they are to be retained, demolished or removed. If retaining the buildings or structures, please describe the type of buildings or structures, and illustrate the setback, in metric units, from front, rear and side lot lines, ground floor area, gross floor area, lot coverage, number of storeys, width, length, height, etc. on your attached sketch which must be included with your application:

6. If known, the date existing buildings or structures were constructed on the subject lands: _____
7. If an addition to an existing building is being proposed, please explain what will it be used for (e.g. bedroom, kitchen, bathroom, etc.). If new fixtures are proposed, please describe.

8. Please describe **all proposed** buildings or structures/additions on the subject lands. Describe the type of buildings or structures/additions, and illustrate the setback, in metric units, from front, rear and side lot lines, ground floor area, gross floor area, lot coverage, number of storeys, width, length, height, etc. on your attached sketch which must be included with your application:

   shown on site plan

9. If known, the date the proposed buildings or structures will be constructed on the subject lands:

   2023 / 2024

10. Are any existing buildings on the subject lands designated under the *Ontario Heritage Act* as being architecturally and/or historically significant? Yes ◯ No ◉

    If yes, identify and provide details of the building:

11. If known, the length of time the existing uses have continued on the subject lands:

12. Existing use of abutting properties:

    Bank, Gas Bar, Superstore

13. Are there any easements or restrictive covenants affecting the subject lands?
◯ Yes ◉ No If yes, describe the easement or restrictive covenant and its effect:

C. Purpose of Development Application

Note: Please complete all that apply.

1. Please explain what you propose to do on the subject lands/premises which makes this development application necessary:

   site plan control

2. Please explain why it is not possible to comply with the provision(s) of the Zoning By-law/and or Official Plan:

3. Does the requested amendment alter all or any part of the boundary of an area of settlement in the municipality or implement a new area of settlement in the municipality? ◯ Yes ◯ No If yes, describe its effect:

4. Does the requested amendment remove the subject land from an area of employment? ◯ Yes ◯ No If yes, describe its effect:

5. Does the requested amendment alter, replace, or delete a policy of the Official Plan? ◯ Yes ◯ No If yes, identify the policy, and also include a proposed text of the policy amendment (if additional space is required, please attach a separate sheet):

6. Description of land intended to be severed in metric units:
   Frontage: _____
   Depth: _____
   Width: _____
   Lot Area: _____
   Present Use: _____
   Proposed Use: _____
   Proposed final lot size (if boundary adjustment): _____
   Description of land intended to be retained in metric units:
   Frontage: _____
   Depth: _____
   Width: _____
   Lot Area: _____
   Present Use: _____
   Proposed Use: _____
7. Description of proposed right-of-way/easement:
   Frontage: _____
   Depth: _____
   Width: _____
   Area: _____
   Proposed use: _____
   _____
8. Name of person(s), if known, to whom lands or interest in lands to be transferred, leased or charged (if known):
   _____

*All information is listed on Site Plan drawing

9. **Site Information**	**Existing**	**Proposed**
Please indicate unit of measurement, i.e. m, m^2 or %, etc.		
Lot frontage		
Lot depth		
Lot width		
Lot area		
Lot coverage		
Front yard		
Rear yard		
Left Interior side yard		
Right Interior side yard		
Exterior side yard (corner lot)		
Landscaped open space		
Entrance access width		
Exit access width		
Size of fencing or screening		
Type of fencing		

10. **Building Size**

Number of storeys		
Building height		
Total ground floor area		
Total gross floor area		
Total useable floor area		

11. **Off Street Parking and Loading Facilities**

Number of off street parking spaces		
Number of visitor parking spaces		
Number of accessible parking spaces		
Number of off street loading facilities		

12. **Multiple Family Residential (if applicable)**

Number of buildings existing: _____

Number of buildings proposed: _____

Is this a conversion or addition to an existing building? ◯ Yes ◯ No

If yes, describe: _____

Type

Number of Units

Floor Area per Unit in m^2

Bachelor	_____	_____
One bedroom	_____	_____
Two bedroom	_____	_____
Three bedroom	_____	_____
Townhouse	_____	_____

Other facilities provided (e.g. play facilities, underground parking, games room, swimming pool etc.):

13. **Commercial/Industrial Uses (if applicable)**

Number of buildings existing: nil

Number of buildings proposed: two

Is this a conversion or addition to an existing building? ◯ Yes ◉ No

If yes, describe:

Indicate the gross floor area by the type of use (e.g. office, retail, storage, etc.):

Bldg #1 Resturant 224 m2 Bldg #2 Two offices, one car wash, one fast food all 197.

Seating Capacity (for assembly halls, etc.): _____

Total number of fixed seats: _____

Describe the type of business(es) proposed: _____

Total number of staff proposed initially: _____

Total number of staff proposed in five years: _____

Maximum number of staff on the largest shift: _____

Is open storage required: ◯ Yes ◯ No

Is a residential use proposed as part of, or accessory to commercial/industrial use?

◯ Yes ◯ No If yes please describe:

14. **Institutional (if applicable)**

Describe the type of use proposed: _____

Seating capacity (if applicable): _____

Number of beds (if applicable): _____

Total number of staff proposed initially: _____

Total number of staff proposed in five years: _____

Maximum number of staff on the largest shift: _____

Indicate the gross floor area by the type of use (e.g. office, retail, storage, etc.):

15. **Describe Recreational or Other Use(s) (if applicable)**

D. Previous Use of the Property

1. Has there been an industrial or commercial use on the subject lands or adjacent lands? (●) Yes ( ) No ( ) Unknown
   If yes, specify the uses (example: gas station, petroleum storage, etc.):

   gas bar, bank, retail

2. Has the grading of the subject lands been changed through excavation or the addition of earth or other material? ( ) Yes (●) No ( ) Unknown

3. Is there reason to believe the subject lands may have been contaminated by former uses on the site or adjacent sites? ( ) Yes (●) No ( ) Unknown

4. Provide the information you used to determine the answers to the above questions:

   historical data

5. If you answered yes to any of the above questions in Section D, a previous use inventory showing all known former uses of the subject lands, or if appropriate, the adjacent lands, is needed. Is the previous use inventory attached? ( ) Yes ( ) No

E. Provincial Policy

1. Is the requested amendment consistent with the provincial policy statements issued under subsection 3(1) of the *Planning Act, R.S.O. 1990, c. P. 13*? (✓) Yes ( ) No

   If no, please explain:

2. It is owner's responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals, including the Endangered Species Act, 2007. Have the subject lands been screened to ensure that development or site alteration will not have any impact on the habitat for endangered or threatened species further to the provincial policy statement subsection 2.1.7? (✓) Yes ( ) No

   If no, please explain:

3. Have the subject lands been screened to ensure that development or site alteration will not have any impact on source water protection? (✓) Yes ( ) No

   If no, please explain:

   Note: If in an area of source water WHPA A, B or C please attach relevant information and approved mitigation measures from the Risk Manager Official.

4. Are any of the following uses or features on the subject lands or within 500 metres of the subject lands, unless otherwise specified? Please check boxes, if applicable.

Livestock facility or stockyard (submit MDS Calculation with application)

☐ On the subject lands or ☐ within 500 meters – distance _____

Wooded area

☐ On the subject lands or ☐ within 500 meters – distance _____

Municipal Landfill

☐ On the subject lands or ☐ within 500 meters – distance _____

Sewage treatment plant or waste stabilization plant

☐ On the subject lands or ☐ within 500 meters – distance _____

Provincially significant wetland (class 1, 2 or 3) or other environmental feature

☐ On the subject lands or ☐ within 500 meters – distance _____

Floodplain

☐ On the subject lands or ☐ within 500 meters – distance _____

Rehabilitated mine site

☐ On the subject lands or ☐ within 500 meters – distance _____

Non-operating mine site within one kilometre

☐ On the subject lands or ☐ within 500 meters – distance _____

Active mine site within one kilometre

☐ On the subject lands or ☐ within 500 meters – distance _____

Industrial or commercial use (specify the use(s))

☐ On the subject lands or ☐ within 500 meters – distance _____

Active railway line

☐ On the subject lands or ☐ within 500 meters – distance _____

Seasonal wetness of lands

☐ On the subject lands or ☐ within 500 meters – distance _____

Erosion

☐ On the subject lands or ☐ within 500 meters – distance _____

Abandoned gas wells

☐ On the subject lands or ☐ within 500 meters – distance _____

F. Servicing and Access

1. Indicate what services are available or proposed:

Water Supply

- (•) Municipal piped water
- ( ) Communal wells
- ( ) Individual wells
- ( ) Other (describe below)

_____

Sewage Treatment

- (•) Municipal sewers
- ( ) Communal system
- ( ) Septic tank and tile bed
- ( ) Other (describe below)

_____

Storm Drainage

- (•) Storm sewers
- ( ) Open ditches
- ( ) Other (describe below)

_____

2. Have you consulted with Public Works & Environmental Services concerning storm water management?

(•) Yes ( ) No

3. Has the existing drainage on the subject lands been altered?

( ) Yes (•) No

4. Does a legal and adequate outlet for storm drainage exist?

(•) Yes ( ) No

5. How many water meters are required? 5

6. Existing or proposed access to subject lands:

◯ Municipal road	◉ Provincial highway
◯ Unopened road	◯ Other (describe below)

Name of road/street:
Queensway

G. Other Information

1. Does the application involve a local business? ◉ Yes ◯ No
   If yes, how many people are employed on the subject lands?
   40 total
2. Is there any other information that you think may be useful in the review of this application? If so, explain below or attach on a separate page.

H. Supporting Material to be submitted by Applicant

In order for your application to be considered complete, folded hard copies (number of paper copies as directed by the planner) and an **electronic version (PDF) of the site plan drawings, additional plans, studies and reports** will be required, including but not limited to the following details:

1. Concept/Layout Plan
2. All measurements in metric
3. Key map
4. Scale, legend and north arrow
5. Legal description and municipal address
6. Development name
7. Drawing title, number, original date and revision dates
8. Owner's name, address and telephone number
9. Engineer's name, address and telephone number
10. Existing and proposed easements and right of ways
11. Zoning compliance table – required versus proposed
12. Parking space totals – required and proposed
13. Loading spaces, facilities and routes
14. All dimensions of the subject lands
15. Dimensions and setbacks of all buildings and structures
16. Gross, ground and useable floor area
17. Lot coverage
18. Floor area ratio
19. Building entrances and grades
20. Names of adjacent streets
21. Driveways, curbs, drop curbs, pavement markings, widths, radii and traffic directional signs
22. Fire access and routes
23. Location, dimensions and number of parking spaces (including visitor and accessible) and aisles
24. Location of mechanical room
25. Refuse disposal and storage areas including any related screening
26. Winter snow storage location
27. Landscape areas with dimensions
28. Natural features, watercourses and trees
29. Fire hydrants and utilities location
30. Fencing, screening and buffering – size, type and location
31. All hard surface materials
32. Light standards and wall mounted lights

33. Signs
34. Sidewalks and walkways with dimensions
35. Pedestrian access routes into site and around site
36. Bicycle parking
37. Professional engineer's stamp

In addition, the following additional plans, studies and reports, including but not limited to, **may** also be required as part of the complete application submission:

☐ Zoning Deficiency Form

☐ On-Site Sewage Disposal System Evaluation Form

☐ Architectural Plan

☐ Buildings Elevation Plan

☐ Cut and Fill Plan

☐ Erosion and Sediment Control Plan

☐ Grading and Drainage Control Plan (around perimeter and within site) (existing and proposed)

☐ Landscape Plan

☐ Photometric (Lighting) Plan

☐ Plan and Profile Drawings

☐ Site Servicing Plan

☐ Storm water Management Plan

☐ Street Sign and Traffic Plan

☐ Street Tree Planting Plan

☐ Tree Preservation Plan

☐ Archaeological Assessment

☐ Environmental Impact Study

☐ Functional Servicing Report

☐ Geotechnical Study / Hydrogeological Review

☐ Minimum Distance Separation Schedule

☐ Noise or Vibration Study

☐ Record of Site Condition

☐ Storm water Management Report

☐ Traffic Impact Study – please contact the Planner to verify the scope of the study required

Standard condominium exemptions will require the following supporting materials:

☐ Plan of standard condominium (2 paper copies and 1 electronic copy)

☐ Draft condominium declaration

Your development approval might also be dependent on Ministry of Environment and Climate Change, Ministry of Transportation or other relevant federal or provincial legislation, municipal by-laws or other agency approvals.

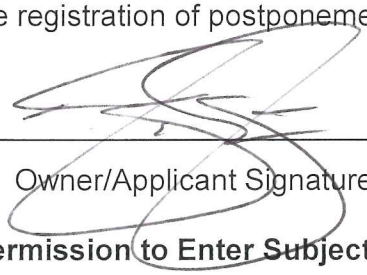
All final plans must include the owner's signature as well as the engineer's signature and seal.

I. Development Agreements

A development agreement may be required prior to approval for site plan, subdivision and condominium applications. Should this be necessary for your development, you will be contacted by the agreement administrator with further details of the requirements including but not limited to insurance coverage, professional liability for your engineer, additional fees and securities.

J. Transfers, Easements and Postponement of Interest

The owner acknowledges and agrees that if required it is their solicitor's responsibility on behalf of the owner for the registration of all transfer(s) of land to the County, and/or transfer(s) of easement in favour of the County and/or utilities. Also, the owner further acknowledges and agrees that it is their solicitor's responsibility on behalf of the owner for the registration of postponements of any charges in favour of the County.



Owner/Applicant Signature

May 5, 2023.

Date

K. Permission to Enter Subject Lands

Permission is hereby granted to Norfolk County officers, employees or agents, to enter the premises subject to this application for the purposes of making inspections associated with this application, during normal and reasonable working hours.

Owner/Applicant Signature

May 5, 2023.

Date

L. Freedom of Information

For the purposes of the *Municipal Freedom of Information and Protection of Privacy Act*, I authorize and consent to the use by or the disclosure to any person or public body any information that is collected under the authority of the *Planning Act, R.S.O. 1990, c. P. 13* for the purposes of processing this application.

Owner/Applicant Signature

May 5, 2023.
Date

M. Owner's Authorization

If the applicant/agent is not the registered owner of the lands that is the subject of this application, the owner must complete the authorization set out below.

I/We Kyle Kowtaluk am/are the registered owner(s) of the lands that is the subject of this application for site plan approval.

I/We authorize Ryan Morrison to make this application on my/our behalf and to provide any of my/our personal information necessary for the processing of this application. Moreover, this shall be your good and sufficient authorization for so doing.

Owner

May 5, 2023.
Date

Owner

Date

N. Declaration of Applicant and Agent

I hereby apply for development approval and declare that all of the above statements and the statements contained in all of the exhibits transmitted herewith are accurate and true. I understand that site plan approval is required before a building permit can be issued.

Applicant Signature

MAY 5 2023
Date

Agent Signature

MAY 5 2023
Date

O. Declaration

I, RYAN MORRISON of SIMCOE ON

solemnly declare that:

all of the above statements and the statements contained in all of the exhibits transmitted herewith are true and I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of *The Canada Evidence Act*.

Declared before me at:

SIMCOE RAB

Owner/Applicant Signature

In Norfolk County

This 5 day of May

A.D., 20 23

A Commissioner, etc.

Jodi Lynn Pfaff-Schimus, a
Commissioner, etc., Province of Ontario.
for the Corporation of Norfolk County.
Expires March 1, 2025.

EXISTING INFRASTRUCTURE:

M.C. ENGINEERING ASSUMES NO RESPONSIBILITY FOR THE USE OF, OR RELIANCE ON, ALL DATA OR INFORMATION PERTAINING TO EXISTING INFRASTRUCTURE AND SERVICES SHOWN (OR NOT SHOWN) WITHIN THE MUNICIPAL RIGHT-OF-WAY ON THIS DRAWING, INCLUDING, BUT NOT LIMITED TO, UNDERGROUND SEWERS, SERVICES AND STRUCTURES AND OVERHEAD UTILITIES. CONTRACTOR TO VERIFY LOCATIONS, INVERTS, HEIGHTS AND EXISTING CONDITIONS OF SAME PRIOR TO CONSTRUCTION. CONTRACTOR TO HAVE LOCATES OF ALL INFRASTRUCTURE AND SERVICES COMPLETED PRIOR TO COMMENCEMENT OF SITE WORK.

REFUSE STORAGE/GARBAGE:

TO BE LOCATED AS INDICATED. PROVIDE 1.8m HIGH WOOD ENCLOSURE.

BUILDING / SITE LIGHTING:

ALL EXTERIOR LIGHT FIXTURES TO BE DARK-SKY COMPLIANT - NO EXTERIOR LIGHTING ARRAY TO BE DIRECTED OFF PROPERTY TO ROAD ALLOWANCE OR ADJACENT PROPERTIES. ALL LIGHTING ARRAY DIRECTIONS TO SHINE INTERNALLY TOWARD SUBJECT PROPERTY. REFER TO ELECTRICAL DRAWINGS FOR BUILDING / SITE LIGHTING FIXTURE LOCATIONS, FIXTURE TYPES AND STYLES AND SPECIFICATIONS.

MUNICIPAL SERVICES:

THIS SITE IS SERVICED BY ITS OWN WELL AND SEPTIC SYSTEM - THERE ARE NO EXISTING MUNICIPAL SERVICES ON THIS SITE, THEREFORE NO EXISTING MUNICIPAL SERVICES WILL BE UTILIZED / IMPACTED.

LANDSCAPING:

THERE ARE NO PROPOSED PLANTINGS.
THE BUILDING IS A FOOD PROCESSING FACILITY AND WILDLIFE INCLUDING BIRDS AND INSECTS ARE DISCOURAGED.
AREAS TO BE GRASSED ARE INDICATED.

ROADWAY RESTORATION NOTES:

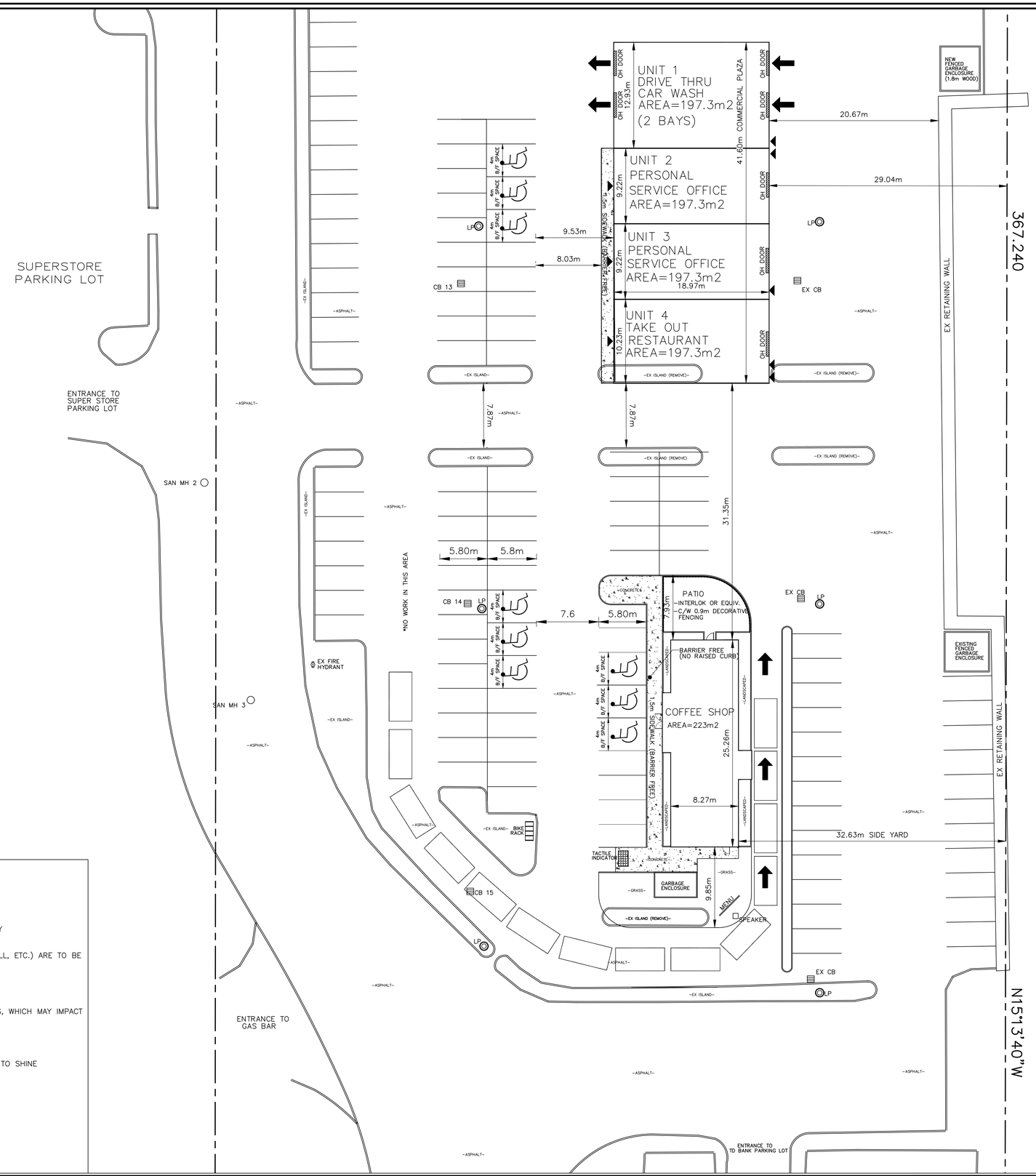
1. CONTRACTOR TO OBTAIN ALL NECESSARY ROAD CUT PERMITS PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC AT ALL TIMES. IF TEMPORARY ROAD CLOSURES ARE NECESSARY, THEN CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH NORFOLK COUNTY
3. CONTRACTOR SHALL LOCATE AND PROTECT ALL UTILITIES.
4. ALL CUTS TO EXISTING ASPHALT AND CONCRETE SHALL BE CLEAN SAW CUTS ONLY.
5. BACKFILL FOR ALL SERVICE TRENCHES FROM EDGE OF ASPHALT TO BACK OF SIDEWALK SHALL BE GRANULAR 'B'
6. BACKFILL FOR ALL SERVICE TRENCHES FROM BACK OF SIDEWALK TO STREET LINE SHALL BE SELECT NATIVE MATERIAL.
7. ALL BEDDING AND BACKFILL SHALL BE COMPACTED TO MIN. 98% SPMDD
8. CURBS AND SUBDRAINS SHALL BE RESTORED TO MATCH EXISTING CONDITIONS TO THE SATISFACTION OF NORFOLK COUNTY
9. BOULEVARDS, SHALL BE RESTORED WITH NO.1 NURSERY SOD ON MINIMUM 100mm IMPORTED TOPSOIL TO THE SATISFACTION OF NORFOLK COUNTY.

LEGEND

- PROPERTY LINE
- STORM SEWER
- SANITAY SEWER
- WATER SERVICE / WATER MAIN
- SILT FENCE, REQUIRED LOCATION
- 84.02 — PROPOSED GRADE ELEVATION
- 233.28 — EXISTING GRADE ELEVATION
- FIRE HYDRANT
- MAN DOOR / ENTRANCE

GENERAL NOTES

1. PRIMARY UNITS ARE METRIC. DIMENSIONS ARE METERS.
2. REQUIRED SERVICES & SERVICE CONNECTIONS NOT SHOWN ON DRAWING TO BE THE RESPONSIBILITY OF THE CONTRACTOR/OWNER.
3. EXACT SIZES, LOCATIONS & ELEVATIONS OF ALL EXISTING SERVICES (FIBER OPTIC, WATER, GAS, BELL, ETC.) ARE TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY SITEWORK.
4. ANY FILL PLACED ON SITE MUST BE COMPACTED TO TO A MIN. 98% STANDARD PROCTOR DENSITY.
5. EXISTING TOPOGRAPHY TO REMAIN UNLESS OTHERWISE NOTED.
6. ANY DISCREPANCY(S) BETWEEN INFORMATION ON THIS SITE DRAWING AND ACTUAL FIELD CONDITIONS, WHICH MAY IMPACT THE PROPOSED DEVELOPMENT, ARE TO BE REPORTED TO THE SENIOR CONSULTANT / P.ENG.
7. EXACT LOCATION / SIZE OF ADDITIONAL LANDSCAPING AREAS BY OWNER.
8. EXTERNAL LIGHTING: PROPOSED LIGHTING TO BE WALL PACKS ONLY (LED). ARRAY DIRECTION NOT TO SHINE TOWARD ROAD ALLOWANCE OR TOWARDS ADJACENT PROPERTIES.
9. SITE BENCHMARK IS TOP OF GREEN LID WHERE INDICATED, ELEVATION = 233.28m
10. ASPHALT SPECIFICATION (ALL ASPHALT):
    SPECIFICATION: 40mm HL3 / 50mm HL8 OVER 150mm GRAN. A / 300mm GRAN. B
11. PARKING SPACE DIMENSIONS:
    -PARKING SPACES DRAWN TO SCALE AT 3m x 5.8m
    -BARRIER FREE PARKING SPACES DRAWN TO SCALE AT 4m x 6m



THE FOLLOWING DRAWINGS AND NOTES TO BE CONSIDERED AS PART OF THE CONSTRUCTION DRAWINGS:

-ANY DISCREPANCY BETWEEN THIS DRAWING AND ACTUAL FIELD CONDITIONS WHICH MAY IMPACT WORK IS TO BE REPORTED TO M C ENGINEERING PRIOR TO COMMENCEMENT OF WORK.

-DIMENSIONS ARE METRIC

NO. REVISION	DESCRIPTION	DATE	BY
2	ISSUED FOR REVIEW	MAY 1 2023	RM
1	ISSUED FOR PRE-CONSULT	JUNE 14 2022	RM
0	ISSUED FOR REVIEW	JAN 6 2022	RM

DO NOT SCALE DRAWINGS; THESE DRAWINGS SHOW INTENT OF THE DESIGN ONLY OR EXISTING CONDITIONS AND MAY NOT REFLECT EXACT LOCATIONS.

PROJECT NORTH

LICENSED PROFESSIONAL ENGINEER May 1/23 C.E. ESCALANTE PROVINCE OF ONTARIO

M C ENGINEERING P.O. Box 1002, Simcoe, Ont. N3Y 5B3
Tel: 519-428-6790 Fax: 519-426-8960
E-mail: mail@mcengineering.net
A DIVISION OF 392583 ALBERTA LTD.

PROJECT NAME

SITE PLAN
PROPOSED PLAZA
OWNER:
KYLE KOWTALUK
129 QUEENSWAY EAST, SIMCOE, ONTARIO,
(Zellers Parking Lot)
NORFOLK COUNTY

SHEET TITLE: SITE PLAN

SCALE	1:250 METRIC
DRAWN BY	R MORRISON
CHECKED BY	M.E.M.
DATE	JAN 2022
FILE NAME	7505

PROJECT NO. 7505

DWG. NO.	REV. NO.
SP1	2

GENERAL NOTES:

1. PRIMARY UNITS ARE METRIC. DIMENSIONS ARE METERS.
2. PROPER SILTATION MEASURES TO TAKE PLACE. SILT CONTROLS, I.E. SILT FENCING AROUND ALL CONSTRUCTION AREAS ARE TO BE IN PLACE PRIOR TO THE START OF SITE WORKS, AND BE MAINTAINED FOR THE DURATION OF CONSTRUCTION (SILT FENCING TO BE PROPERLY SECURED C/W T BAR POSTS IN GROUND & C/W FILTER FABRIC) FENCING TO BE INSTALLED AROUND ALL CONSTRUCTION AREAS. [REFER TO REFER TO OPSD 219.130].
3. ANY DISCREPANCY(S) BETWEEN INFORMATION ON THIS SITE DRAWING AND ACTUAL FIELD CONDITIONS, WHICH MAY IMPACT ON THE PROPOSED DEVELOPMENT, ARE TO BE REPORTED TO THE SENIOR CONSULTANT / P.ENG.
4. REQUIRED SERVICES & SERVICE CONNECTIONS NOT SHOWN ON DRAWING TO BE THE RESPONSIBILITY OF THE CONTRACTOR/OWNER.
5. ALL NECESSARY RELOCATIONS OR REMOVALS OF EXISTING PHYSICAL SITE FEATURES INCLUDING U/G SERVICES TO BE THE RESPONSIBILITY OF THE CONTRACTOR/OWNER.
6. EXACT LOCATIONS & ELEVATIONS OF ALL EXISTING SERVICES (SANITARY SEWER, WATER, GAS, BELL, ETC.), GRADES, MATERIAL LENGTHS, ELEVATIONS, INVERTS, ETC. TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY SITEWORK.
7. ANY FILL PLACED ON SITE MUST BE COMPACTED TO TO A MIN. 98% STANDARD PROCTER DENSITY.
8. ALL DISTURBED LANDSCAPE AREAS ARE TO BE RE-SODDED
9. THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S BONDED CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS NORMALLY REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS, BUT NOT LIMITED TO THE FOLLOWING:
   - ROAD CUT PERMITS
   - SEWER PERMITS
   - RELOCATION OF SERVICES
10. THIS DRAWING TO BE READ IN CONJUNCTION WITH ANY AND ALL OTHER DOCUMENTS SUBMITTED FOR MUNICIPAL APPROVAL(S).
11. RIGID INSULATION (2 LAYERS OF 1" STYROFOAM) IS TO BE PROVIDED OVER ALL NEW STORM PIPE WHERE COVER DOES NOT EXCEED 1.2m.
12. ALL EXCESS EXCAVATED MATERIAL WILL BE REMOVED FROM THE SITE.
13. THE EXISTING DRAINAGE PATTERN WILL BE MAINTAINED EXCEPT WHERE NOTED. PROPOSED ELEVATIONS SHOW GENERAL INTENT OF GRADING PLAN.
14. ALL WORK WITHIN THE MUNICIPAL RIGHT-OF-WAY TO BE COMPLETED TO THE SATISFACTION OF THE CITY OF WOODSTOCK. A ROAD EXVAVATION PERMIT FROM THE CITY IS REQUIRED PRIOR TO WORKING WITHIN THE ROAD ALLOWANCE.
15. ALL SURFACE DRAINAGE FOR THE SUBJECT SITE IS TO BE SELF-CONTAINED.

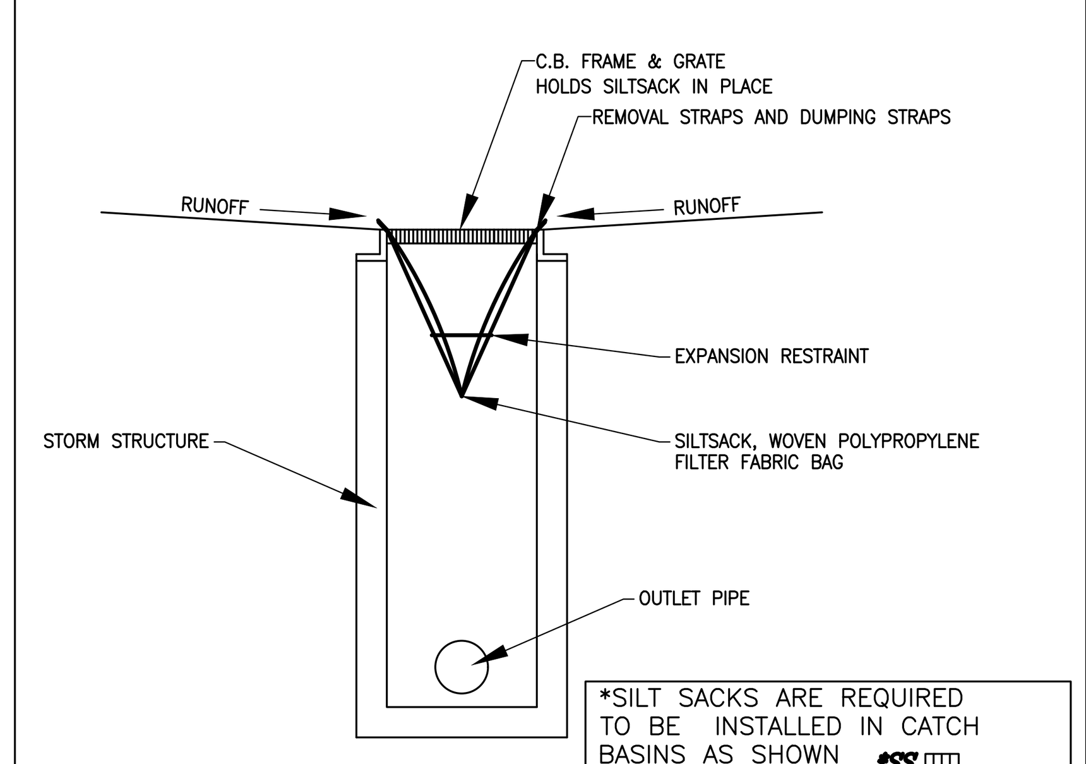
SILT FENCE NOTES:

1. SILT FENCE SHALL GENERALLY BE PLACED A MINIMUM OF 1.5m BEYOND TOE OF SLOPE, 3m PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.
2. ALL ENDS SHALL BE "J" HOOKED TO TRAP SEDIMENT.
3. IN AREAS WITH TWO SLOPES, SILT FENCE SHALL BE USED TO ERECT A DAM AND TRAP SEDIMENT AT THE BASE OF THE STEEPER SLOPE.
4. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 150mm BELOW GROUND, AND KEYED IN 100mm. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC. MAXIMUM DRAINAGE AREA TRIBUTARY TO 30m OF SILT FENCE SHALL BE 0.1 ha.
5. SILT FENCE SHALL BE REMOVED WHEN THE AREA HAS BEEN STABILIZED.
6. AT TIME OF REMOVAL OF THE SILT FENCE, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
8. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
9. SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.
10. SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

1. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICE WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND DIRECTION OF THE COUNTY.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
3. SILT FENCE AS PER OPSD 219.130
4. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE CITY.
5. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
6. ALL EROSION CONTROL DEVICES ARE TO BE INSPECTED AND MAINTAINED WEEKLY AND AFTER EACH RAINFALL.
7. ALL AREAS OF WORK WHICH WILL REMAIN DISTURBED FOR A PERIOD OF THIRTY DAYS OR MORE MUST BE STABILIZED TO THE SATISFACTION OF THE COUNTY.
8. ALL MATERIAL STOCKPILES ARE TO BE LOCATED WITHIN THE BOUNDARY OF THE INDICATED SILT FENCE. ADDITIONAL SILT FENCE IS TO BE ERECTED AROUND ANY PROPOSED STOCKPILES.
9. CATCH BASINS TO HAVE SILT TRAPS INSTALLED FOR THE DURATION OF CONSTRUCTION.
   INSTALL SILT TRAPS IN THE FOLLOWING CATCH BASINS:
   - CB6, CB7, CB8, & CB9
   - CB12, CB13, CB14, & CB15

TEMPORARY SILT SACKS



*SILT SACKS ARE REQUIRED TO BE INSTALLED IN CATCH BASINS AS SHOWN

- INSPECT EVERY WEEK (MIN)
- SILTSACK SHOULD NEVER BE OVER HALF FULL
- FULL BAG CAN BE REMOVED, DUMPED, CLEANED AND REUSED
(TO REMOVE INSERT 25mm REBAR INTO FLAP POCKETS)
(TO DUMP INSERT 25mm REBAR INTO BOTH DUMPING STRAPS

MAINTENANCE SCHEDULE
- INSPECT AFTER EVERY MAJOR RAINFALL EVENT.

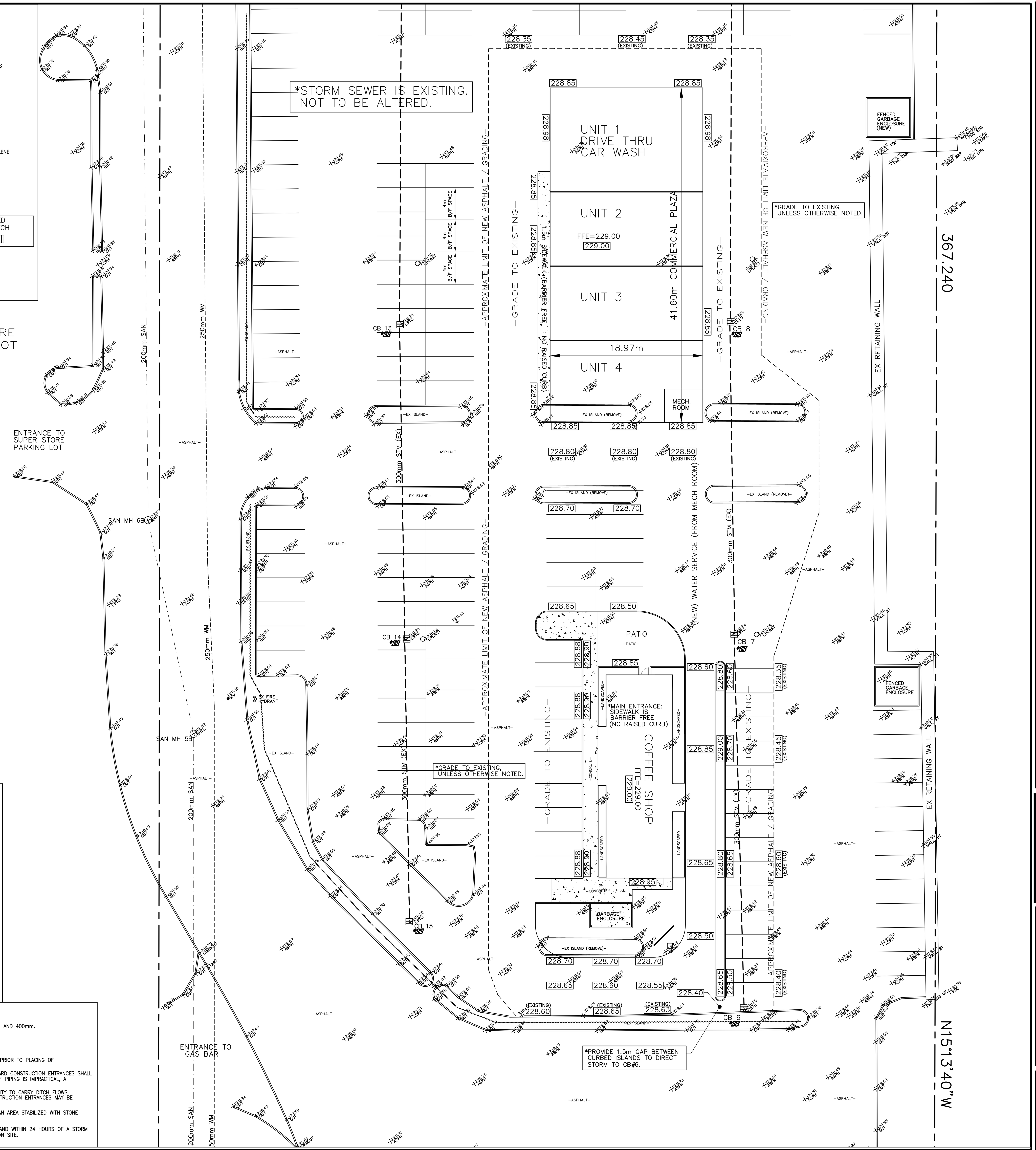
LEGEND

(line)	PROPERTY LINE
(line)	STORM SEWER
(dashed line)	SANITAY SEWER
(line)	WATER SERVICE / WATER MAIN
(line)	SILT FENCE, REQUIRED LOCATION
84.02	PROPOSED GRADE ELEVATION
83.98	EXISTING GRADE ELEVATION
(symbol)	FIRE HYDRANT
(symbol)	MAN DOOR / ENTRANCE

CONSTRUCTION ENTRANCE/ MUD MAT NOTES:

DENOTES CONSTRUCTION MUD MAT REFER TO 1 ON SP1

1. STONE SIZE – USE CLEAN STONE WITH GRADATION BETWEEN 50mm AND 400mm.
2. LENGTH – 9m (MIN)
3. THICKNESS – 450mm OF 75mm CRUSHED STONE
4. WIDTH – 6m (MIN)
5. GEOTEXTILE UNDER STONE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE AS DIRECTED BY THE ENGINEER. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. PROPOSED DRAINAGE PIPES SHALL BE SIZED WITH SUFFICIENT CAPACITY TO CARRY DITCH FLOWS. ALTERNATIVE WAYS OF TRANSPORTING DITCH DRAINAGE ACROSS CONSTRUCTION ENTRANCES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
8. WHEN WASHING OF VEHICLE IS NECESSARY, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.



THE FOLLOWING DRAWINGS AND NOTES TO BE CONSIDERED AS PART OF THE CONSTRUCTION DRAWINGS:
- ANY DISCREPANCY BETWEEN THIS DRAWING AND ACTUAL FIELD CONDITIONS WHICH MAY IMPACT WORK IS TO BE REPORTED TO M C ENGINEERING PRIOR TO COMMENCEMENT OF WORK.
- DIMENSIONS ARE METRIC

NO. REVISION	DESCRIPTION	DATE	BY
2	ISSUED FOR REVIEW	MAY 1 2023	RM
1	ISSUED FOR PRE-CONSULT	JUNE 14 2022	RM
0	ISSUED FOR REVIEW	JAN 6 2022	RM

DO NOT SCALE DRAWINGS; THESE DRAWINGS SHOW INTENT OF THE DESIGN ONLY OR EXISTING CONDITIONS AND MAY NOT REFLECT EXACT LOCATIONS.

PROJECT NORTH

LICENSED PROFESSIONAL ENGINEER
May 1/23
C.E. ESCALANTE
PROVINCE OF ONTARIO

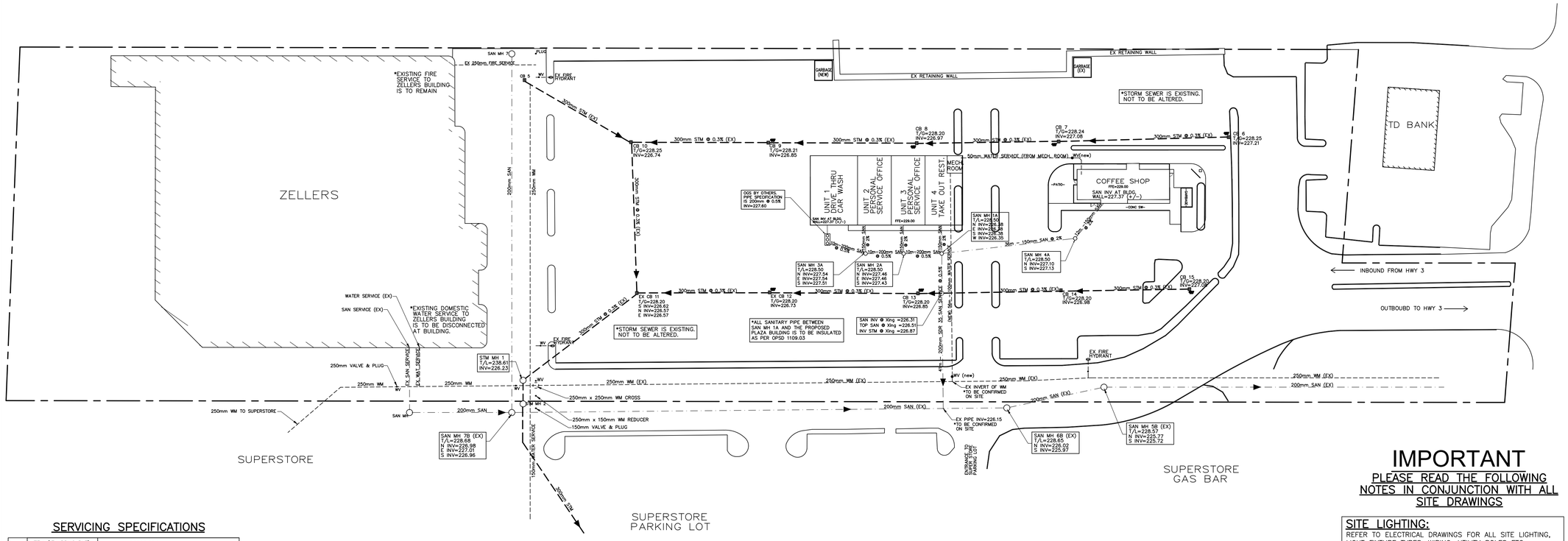
M C ENGINEERING P.O. Box 1002, Simcoe, Ont. N3Y 5B3
Tel: 519-428-6790 Fax: 519-426-8960
E-mail: mail@mcengineering.net
A DIVISION OF 392583 ALBERTA LTD.

PROJECT NAME

SITE PLAN
PROPOSED PLAZA
OWNER:
KYLE KOWTALUK
129 QUEENSWAY EAST, SIMCOE, ONTARIO,
(Zellers Parking Lot)
NORFOLK COUNTY

SHEET TITLE: GRADING AND DRAINAGE PLAN

SCALE	1:250 METRIC
DRAWN BY	R MORRISON
CHECKED BY	M.E.M.
DATE	JAN 2022
FILE NAME	7505
PROJECT NO.	7505
DWG. NO.	SP2
REV. NO.	2



SERVICING SPECIFICATIONS

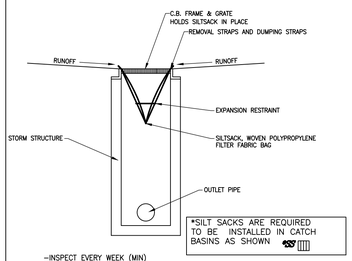
	ITEM (IF APPLICABLE)	DESCRIPTION
(A)	STORM SEWER	PVC SDR 35 (HDPE RIBBED PIPE NOT TO BE USED)
(B)	WATER SERVICE	100mm DR18 PVC (TO PLAZA) 50mm COPPER (TO COFFEE SHOP)
(C)	WATERMAIN / FIREMAIN	• PVC DR 18 CLASS 150 • INSTALL A REDUCED PRESSURE DOUBLE BACKFLOW PREVENTOR (RPZ) • REFER TO MECHANICAL DRAWINGS FOR ALL INTERIOR PLUMBING, PLUMBING FIXTURES AND PIPING.
(D)	WATER METER	• A WATER METER SHALL BE INSTALLED IMMEDIATELY INSIDE THE BUILDING; ALL FLOWS TO THE PROPERTY SHALL PASS THROUGH THE WATER METER. • THE OWNER OF THE PROPERTY SHALL BE HELD LIABLE FOR ALL WATER CHARGES.
(E)	SANITARY SEWER	• PVC SDR 35 SANITARY PIPE • REFER TO MECHANICAL DRAWINGS FOR ALL INTERIOR PLUMBING, PLUMBING FIXTURES AND PIPING.
(F)	CATCH BASINS	OPSD 705.020 & OPSD 705.010
(G)	MANHOLES	OPSD 701.010
(H)	SITE LIGHTING FIXTURES	REFER TO ELECTRICAL DRAWINGS FOR BUILDING / SITE LIGHTING FIXTURES AND FIXTURE LOCATIONS AND SPECIFICATIONS. NO EXTERIOR LIGHTING ARRAY TO BE DIRECTED OFF PROPERTY TO ROAD ALLOWANCE OR ADJACENT PROPERTIES. ALL LIGHTING ARRAY DIRECTIONS TO SHINE INTERNALLY TOWARD SUBJECT PROPERTY.
(I)	BUILDING / SITE HYDRO ELECTRICAL / COMMUNICATIONS	REFER TO ELECTRICAL DRAWINGS FOR BUILDING/ SITE HYDRO ELECTRICAL AND COMMUNICATIONS (BELL/ROGERS ETC.) CONDUIT SERVICES, LOCATIONS, EQUIPMENT, FIXTURE TYPES AND SPECIFICATIONS.
(J)	BUILDING / SITE NATURAL GAS LINES, FIXTURES AND EQUIPMENT	REFER TO MECHANICAL DRAWINGS FOR NATURAL GAS SERVICES, LOCATIONS, EQUIPMENT, FIXTURE TYPES AND SPECIFICATIONS.
(K)	ROOF RAIN WATER LEADERS	ROOF RAIN WATER LEADERS TO BE DIRECTED TO STORM SEWER

*THE CONTRACTOR MUST VERIFY LOCATIONS OF ALL UNDERGROUND SERVICING INCLUDING BELL, GAS, HYDRO, FIBRE OPTIC, ETC. PRIOR TO COMMENCEMENT OF WORK.

ROADWAY RESTORATION NOTES:

1. CONTRACTOR TO OBTAIN ALL NECESSARY ROAD CUT PERMITS PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC AT ALL TIMES. IF TEMPORARY ROAD CLOSURES ARE NECESSARY, THEN CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH NORFOLK COUNTY.
3. CONTRACTOR SHALL LOCATE AND PROTECT ALL UTILITIES.
4. ALL CUTS TO EXISTING ASPHALT AND CONCRETE SHALL BE CLEAN SAW CUTS ONLY.
5. BACKFILL FOR ALL SERVICE TRENCHES FROM EDGE OF ASPHALT TO BACK OF SIDEWALK SHALL BE GRANULAR 'B'
6. BACKFILL FOR ALL SERVICE TRENCHES FROM BACK OF SIDEWALK TO STREET LINE SHALL BE SELECT NATIVE MATERIAL.
7. ALL BEDDING AND BACKFILL SHALL BE COMPACTED TO MIN. 98% SPMDD
8. CURBS AND SUBDRAINS SHALL BE RESTORED TO MATCH EXISTING CONDITIONS TO THE SATISFACTION OF NORFOLK COUNTY.
9. BOULEVARDS, SHALL BE RESTORED WITH NO.1 NURSERY SOD ON MINIMUM 100mm IMPORTED TOPSOIL TO THE SATISFACTION OF NORFOLK COUNTY.

TEMPORARY SILT SACKS



-INSPECT EVERY WEEK (MIN).
-SILTSACK SHOULD NEVER BE OVER HALF FULL
-FULL BAG CAN BE REMOVED, DUMPED, CLEANED AND REUSED (TO REMOVE INSERT 25mm REBAR INTO FLAP POCKETS)
(TO DUMP INSERT 25mm REBAR INTO BOTH DUMPING STRAPS

MAINTENANCE SCHEDULE
-INSPECT AFTER EVERY MAJOR RAINFALL EVENT.

IMPORTANT

PLEASE READ THE FOLLOWING NOTES IN CONJUNCTION WITH ALL SITE DRAWINGS

SITE LIGHTING:
REFER TO ELECTRICAL DRAWINGS FOR ALL SITE LIGHTING, LIGHT FIXTURE TYPES, WIRING, UTILITY POLES ETC., LOCATIONS AND SPECIFICATIONS. ALL EXTERIOR LIGHT FIXTURES TO BE DARK-SKY COMPLIANT: NO EXTERIOR LIGHTING ARRAY TO BE DIRECTED OFF PROPERTY TO ROAD ALLOWANCE OR ADJACENT PROPERTIES. ALL LIGHTING ARRAY DIRECTIONS TO SHINE INTERNALLY TOWARD SUBJECT PROPERTY.

MECHANICAL ROOM:
REFER TO MECHANICAL AND ARCHITECTURAL DRAWINGS FOR MECHANICAL ROOM LOCATION AND EQUIPMENT LAYOUT AND SPECIFICATIONS.

FROST PROTECTION:
RIGID INSULATION (2 LAYERS OF 1" STYROFOAM) IS TO BE PROVIDED OVER ALL NEW STORM PIPE WHERE COVER DOES NOT EXCEED 1.2M.

* TEMPORARY SILT SACKS:
TEMPORARY SILTATION CONTROL MEASURES, BY WAY OF SILT SACKS, ARE REQUIRED TO BE INSTALLED IN ALL CATCH BASINS & DRYWELLS. REFER TO GENERAL EROSION AND SEDIMENT CONTROL NOTES THIS PAGE AND SILT SACK DETAIL 2 ON SP5.

* ROAD RESTORATION:
ALL WORK WITHIN THE MUNICIPAL RIGHT-OF-WAY TO BE COMPLETED TO THE SATISFACTION OF NORFOLK COUNTY. MAKE GOOD ALL DAMAGED, DISTURBED AREAS, HARD SURFACES AND EQUIPMENT TO MATCH ORIGINAL. CAP OR REMOVE ALL DISCONTINUED EXISTING UNDERGROUND SITE SERVICES AS REQUIRED. MATCH EXISTING GRADES AT EXISTING BOULEVARD, SIDEWALKS, CURBING AND ROAD PAVEMENT. NEW DRIVEWAY CONSTRUCTION TO CONFORM TO NORFOLK COUNTY PROCEDURES AND STANDARDS AND O.P.S.D. 350.010

* EXISTING INFRASTRUCTURE:
M.C. ENGINEERING ASSUMES NO RESPONSIBILITY FOR THE USE OF, OR RELIANCE ON, ALL DATA OR INFORMATION PERTAINING TO EXISTING INFRASTRUCTURE AND SERVICES SHOWN (OR NOT SHOWN) WITHIN THE MUNICIPAL RIGHT-OF-WAY, ON THIS DRAWING, INCLUDING BUT NOT LIMITED TO, UNDERGROUND SEWERS, & CONDUIT, STRUCTURES AND EQUIPMENT AND OVERHEAD UTILITIES. CONTRACTOR TO VERIFY LOCATIONS, INVERTS, HEIGHTS AND EXISTING CONDITIONS OF SAME PRIOR TO CONSTRUCTION.

THE FOLLOWING DRAWINGS AND NOTES TO BE CONSIDERED AS PART OF THE CONSTRUCTION DRAWINGS:

-ANY DISCREPANCY BETWEEN THIS DRAWING AND ACTUAL FIELD CONDITIONS WHICH MAY IMPACT WORK IS TO BE REPORTED TO M C ENGINEERING PRIOR TO COMMENCEMENT OF WORK.

-DIMENSIONS ARE METRIC

NO.	REVISION	DATE	BY
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PROJECT NORTH

LICENSED PROFESSIONAL ENGINEER May 1/23 C.E. ESCALANTE PROVINCE OF ONTARIO

M C ENGINEERING P.O. Box 1002, Simcoe, Ont. N3Y 5B3
Tel: 519-428-6790 Fax: 519-426-8960
E-mail: mail@mcengineering.net
A DIVISION OF 392583 ALBERTA LTD.

PROJECT NAME

SITE PLAN
PROPOSED PLAZA
OWNER:
KYLE KOWTALUK
129 QUEENSWAY EAST, SIMCOE, ONTARIO,
(Zellers Parking Lot)
NORFOLK COUNTY

SHEET TITLE
SERVICING PLAN

SCALE	1:750 METRIC
DRAWN BY	R MORRISON
CHECKED BY	M.E.M.
DATE	JAN 2022
FILE NAME	7505

PROJECT NO. 7505

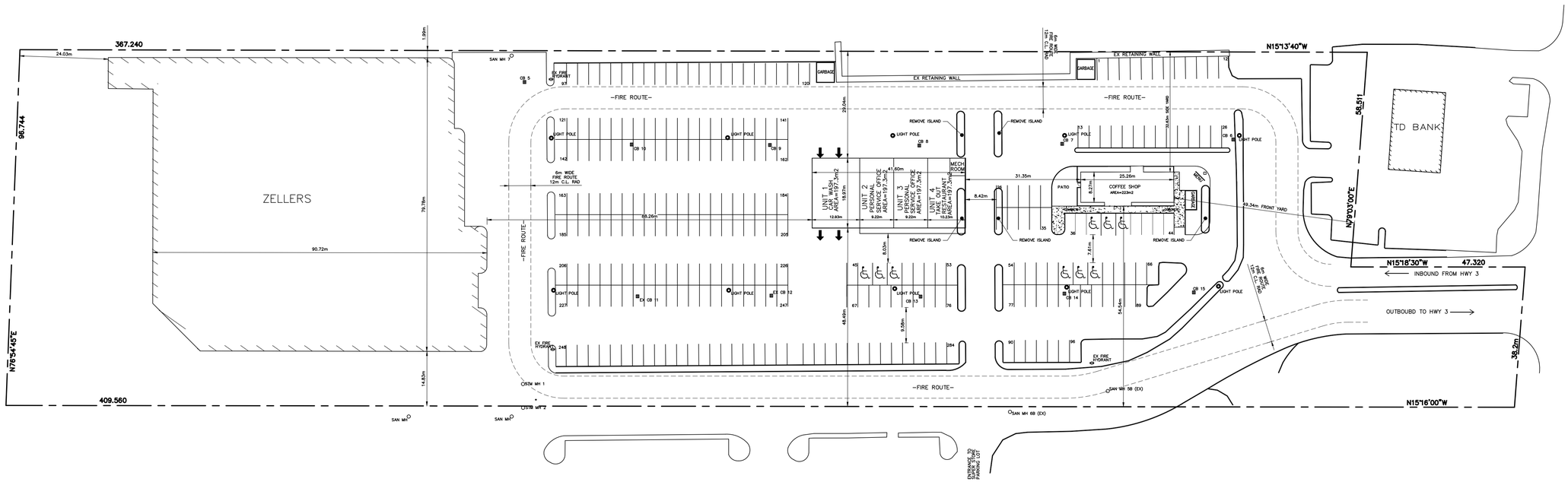
DWG. NO.	REV. NO.
SP3	2

GENERAL NOTES

1. PRIMARY UNITS ARE METRIC. DIMENSIONS ARE METERS.
2. REQUIRED SERVICES & SERVICE CONNECTIONS NOT SHOWN ON DRAWING TO BE THE RESPONSIBILITY OF THE CONTRACTOR/OWNER.
3. EXACT SIZES, LOCATIONS & ELEVATIONS OF ALL EXISTING SERVICES (FIBER OPTIC, WATER, GAS, BELL, ETC.) ARE TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY SITEWORK.
4. ANY FILL PLACED ON SITE MUST BE COMPACTED TO TO A MIN. 98% STANDARD PROCTOR DENSITY.
5. EXISTING TOPOGRAPHY TO REMAIN UNLESS OTHERWISE NOTED.
6. ANY DISCREPANCY(S) BETWEEN INFORMATION ON THIS SITE DRAWING AND ACTUAL FIELD CONDITIONS, WHICH MAY IMPACT THE PROPOSED DEVELOPMENT, ARE TO BE REPORTED TO THE SENIOR CONSULTANT / P.ENG.
7. EXACT LOCATION / SIZE OF ADDITIONAL LANDSCAPING AREAS BY OWNER.
8. EXTERNAL LIGHTING: PROPOSED LIGHTING TO BE WALL PACKS ONLY (LED). ARRAY DIRECTION NOT TO SHINE TOWARD ROAD ALLOWANCE OR TOWARDS ADJACENT PROPERTIES.
9. SITE BENCHMARK IS TOP OF GREEN LID WHERE INDICATED, ELEVATION = 233.28m
10. ASPHALT SPECIFICATION (ALL ASPHALT):
    SPECIFICATION: 40mm HL3 / 50mm HL8 OVER 150mm GRAN. A / 300mm GRAN. B
11. PARKING SPACE DIMENSIONS:
    –PARKING SPACES DRAWN TO SCALE AT 3m x 5.8m
    –BARRIER FREE PARKING SPACES DRAWN TO SCALE AT 4m x 6m
12. SNOW STORAGE AND GARBAGE COLLECTION BY OWNER.

LEGEND

- PROPERTY LINE
- STORM SEWER
- SANITAY SEWER
- WATER SERVICE / WATER MAIN
- SILT FENCE, REQUIRED LOCATION
- 84.02 — PROPOSED GRADE ELEVATION
- 457.00 — EXISTING GRADE ELEVATION
- FIRE HYDRANT
- MAN DOOR / ENTRANCE



ZONING CHART – COFFEE SHOP

ZONING DESIGNATION: Shopping Commecial Zone (CSC)

ITEM	REQUIRED	PROPOSED
MIN LOT FRONTAGE	30m	38.2m
MIN FRONT YARD	13m	49.34m
MIN EXTERIOR SIDE YARD	6m	n/a
MIN INTERIOR SIDE YARD	3m	32.63m
MIN REAR YARD	9m	>9m
MAXIMUM BUILDING HEIGHT	11m	4m
MAXIMUM LOT COVERAGE	30%	0.6%

ZONING CHART – PLAZA

ZONING DESIGNATION: Shopping Commecial Zone (CSC)

ITEM	REQUIRED	PROPOSED
MIN LOT FRONTAGE	30m	38.2m
MIN FRONT YARD	13m	>13m
MIN EXTERIOR SIDE YARD	6m	n/a
MIN INTERIOR SIDE YARD	3m	29.04m
MIN REAR YARD	9m	>9m
MAXIMUM BUILDING HEIGHT	11m	5m
MAXIMUM LOT COVERAGE	30%	2.1%

ZONING CHART – COMBINED

ZONING DESIGNATION: Shopping Commecial Zone (CSC)

ITEM	REQUIRED	PROPOSED
TOTAL LOT AREA	N/A	36,948m2
TOTAL AREA ZELLERS	N/A	6,495m2
TOTAL AREA COFFEE SHOP	N/A	223m2
TOTAL AREA PLAZA	N/A	789m2
TOTAL COMBINED BUILDING AREA	MAX 30%	7,507m2 (20%)
MIN LOT COVERAGE	MIN 20%	20%

PARKING SPACE REQUIREMENTS	TOTAL
RETIAL STORE (ZELLERS) – 1 SPACE PER 30m2 USABLE FLOOR AREA	217 SPACES
COFFEE SHOP – 1 SPACE PER 10m2 USABLE FLOOR AREA	23 SPACES
PLAZA – 1 SPACE PER 20m2 USABLE FLOOR AREA	40 SPACES
TOTAL PARKING SPACES REQUIRED	279 SPACES
TOTAL PARKING SPACES PROVIDED	284 SPACES

THE FOLLOWING DRAWINGS AND NOTES TO BE CONSIDERED AS PART OF THE CONSTRUCTION DRAWINGS:

–ANY DISCREPANCY BETWEEN THIS DRAWING AND ACTUAL FIELD CONDITIONS WHICH MAY IMPACT WORK IS TO BE REPORTED TO M C ENGINEERING PRIOR TO COMMENCEMENT OF WORK.

–DIMENSIONS ARE METRIC

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PROJECT NORTH

LICENSED PROFESSIONAL ENGINEER May 1/23 C.E. ESCALANTE PROVINCE OF ONTARIO

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Tel: 519-428-6790 Fax: 519-426-8960
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PROJECT NAME

SITE PLAN
PROPOSED PLAZA
OWNER:
KYLE KOWTALUK
129 QUEENSWAY EAST, SIMCOE, ONTARIO,
(Zellers Parking Lot)
NORFOLK COUNTY

SHEET TITLE
SITE PLAN – OVERALL SITE LAYOUT

SCALE	METRIC (NTS)
DRAWN BY	R MORRISON
CHECKED BY	M.E.M.
DATE	JAN 2022
FILE NAME	7505

PROJECT NO. 7505

DWG. NO. SP4 | REV. NO. 2

PLANTING SCHEDULE

KEY	COMMON NAME	BOTANICAL NAME	QUANT.	CONDITION	PROPERTIES	SIZE
T1	RED MAPLE	ACER RUBRUM	2	W/B	-	75mm CAL
T2	BLUE SPRUCE	PICEA PUNGENS	14	W/B	-	75mm CAL

GENERAL PLANTING NOTES:

TOPSOIL:

- ALL SHRUB BEDS AND TREES TO BE BACKFILLED WITH GOOD QUALITY TOPSOIL SCARIFIED FREE OF ALL STONES, ROOTS, BRANCHES LARGER THAN 1" (25MM) AND COMPACTED TO 85% S.P.D.
- ALL SUBSOIL TO BE SCARIFIED TO A DEPTH OF 6" (150 MM) PRIOR TO THE INSTALLATION OF TOPSOIL TO ENSURE NO HARDPAN CONDITIONS.
- DIRECT ALL RAINLEADERS AND SUMP LEADERS AWAY FROM PLANTING BEDS AND TO THE DESIGNATED SWALES.

MULCH:

- ALL TREE PITS, SHRUB PITS AND PLANTING AREAS ARE TO BE MULCHED WITH MIN. 75MM OF MEDIUM MULCH, UNLESS OTHERWISE NOTED.

PLANT MATERIALS:

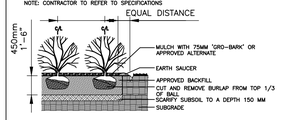
- CONTRACTOR TO VERIFY ALL PLANT MATERIAL ON DRAWING(S) AND PLANT MATERIAL LIST(S). REPORT ALL DISCREPANCIES.
- PLANTINGS MAY BE ADJUSTED TO SUIT UTILITIES STRUCTURES AND AESTHETIC CONCERNS,
- ALL TREE PITS SHALL BE AT LEAST 2 FT. (600MM) WIDER THAN BALL OF THE TREE TO BE PLANTED AND SHALL BE DEEP ENOUGH SO THAT THE TOP OF BALL IS AT THE SAME LEVEL AS SURROUNDING GRADE. A MINIMUM OF 6" (150MM) OF BACKFILL SHALL BE PLACED UNDER BALL. TREE PITS ARE NOT TO BE LEFT OPEN OVER NIGHT.
- SHRUB BEDS SHALL BE EXCAVATED TO A DEPTH OF 18" (450MM) AND FILLED WITH APPROVED BACKFILL MATERIAL.
- ALL TREES SHALL HAVE AN EARTH SAUCER AT ITS BASE WITH A DIAMETER AS LARGE AS EXCAVATED AREA TO SHAPE TO RETAIN WATER. SEE DETAIL. EARTH SAUCER TO HAVE APPROVED MULCH INSTALLED TO A MINIMUM DEPTH OR 2.5" (63MM).
- ALL BURLAP SHALL BE CUT AND BURIED BELOW SURFACE DURING PLANTING.
- ALL EVERGREENS ARE TO WRAPPED THE FIRST WINTER.
- DO NOT INSTALL PLANT MATERIAL IN DRAINAGE SWALES.
- ALL TREES TO BE PROPERLY STAKED WITH HOSE COATED WIRE. REMOVE ALL GUY WIRES AFTER 2 FULL GROWING SEASONS.

SOD:

- UPON INSTALLATION AREAS SHOULD BE WATERED SO AS TO SATURATE SOD AND THE UPPER 4" (100MM) OF BACKFILL TOPSOIL. AFTER SOD AND SOIL HAVE DRIED SUFFICIENTLY TO PREVENT DAMAGE, IT SHALL BE ROLLED WITH A ROLLER.

SHRUB (B & B)

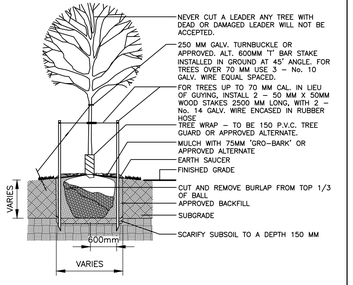
NOTE: CONTRACTOR TO REFER TO SPECIFICATIONS



NOTES:
1. DO NOT ALLOW AIR POCKETS WHEN BACKFILLING.
2. POSITION CROWN OF ROOT BALL 50MM ABOVE FINISHED GRADE TO ALLOW FOR SETTLING.
3. PLANTING METHOD ILLUSTRATED SHALL APPLY EQUALLY TO BARE ROOT STOCK AND BALLED STOCK.
4. SHRUBS PLANTED IN GROUPS SHALL BE SET IN CONTINUOUS BED.
5. THE ABOVE DETAIL DOES NOT REPRESENT ANY PARTICULAR SPECIES.
6. ALL DIMENSIONS SHOWN IN MILLIMETERS.
7. INSTALL 50MM LAYER OF APPROVED MULCH.

SMALL CAL.TREE (B & B)

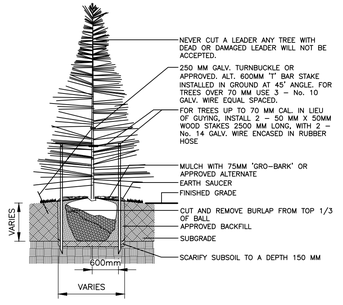
NOTE: CONTRACTOR TO REFER TO SPECIFICATIONS



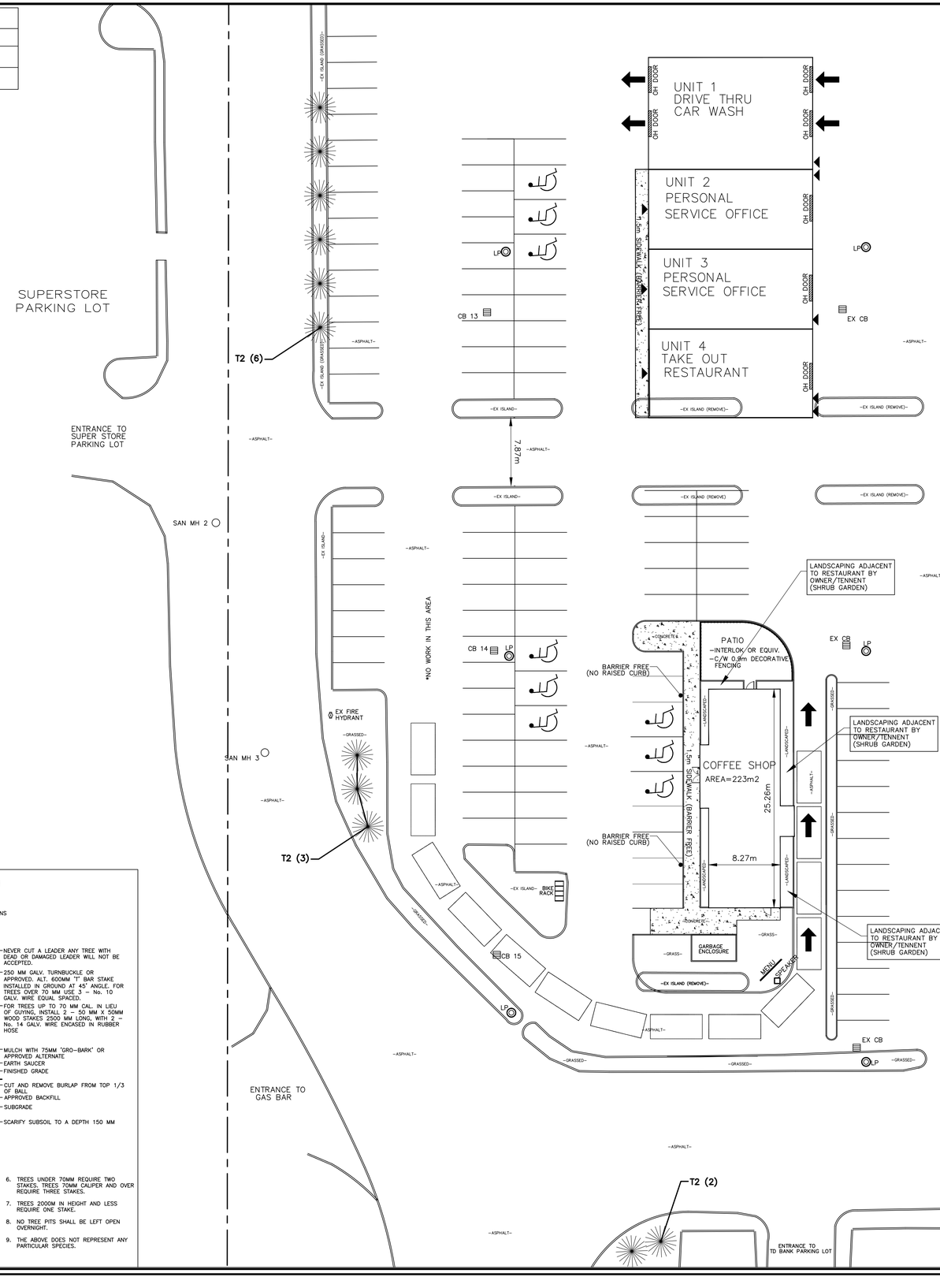
NOTES:
1. DO NOT ALLOW AIR POCKETS WHEN BACKFILLING.
2. DO NOT DAMAGE MAIN ROOTS WHEN INSTALLING STAKES.
3. POSITION CROWN OF ROOT BALL 50MM ABOVE FINISHED GRADE TO ALLOW FOR SETTLING.
4. FOR TREES PLANTED WITHIN PLANTING OR SHRUB BEDS, DELETE EARTH SAUCER.
5. ALL DIMENSIONS SHOWN IN MILLIMETERS.
6. TREES UNDER 70MM REQUIRE TWO STAKES. TREES 70MM CALIPER AND OVER REQUIRE THREE STAKES.
7. TREES 2000M IN HEIGHT AND LESS REQUIRE ONE STAKE.
8. NO TREE PITS SHALL BE LEFT OPEN OVERNIGHT.
9. THE ABOVE DOES NOT REPRESENT ANY PARTICULAR SPECIES.

SMALL CAL.TREE (B & B)

NOTE: CONTRACTOR TO REFER TO SPECIFICATIONS



NOTES:
1. DO NOT ALLOW AIR POCKETS WHEN BACKFILLING.
2. DO NOT DAMAGE MAIN ROOTS WHEN INSTALLING STAKES.
3. POSITION CROWN OF ROOT BALL 50MM ABOVE FINISHED GRADE TO ALLOW FOR SETTLING.
4. FOR TREES PLANTED WITHIN PLANTING OR SHRUB BEDS, DELETE EARTH SAUCER.
5. ALL DIMENSIONS SHOWN IN MILLIMETERS.
6. TREES UNDER 70MM REQUIRE TWO STAKES. TREES 70MM CALIPER AND OVER REQUIRE THREE STAKES.
7. TREES 2000M IN HEIGHT AND LESS REQUIRE ONE STAKE.
8. NO TREE PITS SHALL BE LEFT OPEN OVERNIGHT.
9. THE ABOVE DOES NOT REPRESENT ANY PARTICULAR SPECIES.



THE FOLLOWING DRAWINGS AND NOTES TO BE CONSIDERED AS PART OF THE CONSTRUCTION DRAWINGS:

-ANY DISCREPANCY BETWEEN THIS DRAWING AND ACTUAL FIELD CONDITIONS WHICH MAY IMPACT WORK IS TO BE REPORTED TO M C ENGINEERING PRIOR TO COMMENCEMENT OF WORK.

-DIMENSIONS ARE METRIC

NO.	REVISION DESCRIPTION	DATE	BY
2	ISSUED FOR REVIEW	MAY 1 2023	RM
1	ISSUED FOR PRE-CONSULT	JUNE 14 2022	RM
0	ISSUED FOR REVIEW	JAN 6 2022	RM

DO NOT SCALE DRAWINGS; THESE DRAWINGS SHOW INTENT OF THE DESIGN ONLY OR EXISTING CONDITIONS AND MAY NOT REFLECT EXACT LOCATIONS.

PROJECT NORTH

LICENSED PROFESSIONAL ENGINEER May 1/23 C.E. ESCALANTE PROVINCE OF ONTARIO

M C ENGINEERING P.O. Box 1002, Simcoe, Ont. N3Y 5B3
Tel: 519-426-6790 Fax: 519-426-8960
E-mail: mail@mcengineering.net
A DIVISION OF 392583 ALBERTA LTD.

PROJECT NAME

SITE PLAN
PROPOSED PLAZA
OWNER:
KYLE KOWTALUK
129 QUEENSWAY EAST, SIMCOE, ONTARIO,
(Zellers Parking Lot)
NORFOLK COUNTY

SHEET TITLE
LANDSCPE PLAN

SCALE	1:250 METRIC
DRAWN BY	R MORRISON
CHECKED BY	M.E.M.
DATE	JAN 2022
FILE NAME	7505

PROJECT NO. 7505

DWG. NO. SP5 | REV. NO. 2

CLICK HERE FOR INFORMATION

PROPOSED PLAZA AND COFFEE SHOP (Owner Kyle Kowtaluk)

129 Queensway East, Simcoe, ON (Zellers parking Lot)

SECURITIES AND CONSTRUCTION ESTIMATES

REVISION
DATE - PRELIMINARY FOR APPROVAL
DATE - COLLECTED AT REGISTRATION
DATE - HELD AFTER ACCEPTANCE

ITEM	DESCRIPTION	UNIT	QTY.	UNIT PRICE	TOTAL COST	Securities	
						10%	100%
BELOW GROUND							
SANITARY SEWERS							
Sanitary Sewer							
a) 300mm Diameter		M	1	$0	$0	$0	$0
b) 200mm Diameter		M	125	$150	$18,750	$1,875	$18,750
1200mm Diameter Manholes		EACH	4	$3,000	$12,000	$1,200	$12,000
OGS		EACH	1	$6,000	$6,000	$600	$6,000
Video Inspection and Report		L.S.	1	$0	$0	$0	$0
TOTAL SANITARY SEWERS					**$36,750**	**$3,675**	
WATERMAIN							
Watermain							
a) 200mm Diameter		M	1	$0	$0	$0	$0
b) 100mm Diameter		M	56	$200	$11,200	$1,120	$11,200
c) 50 mm Diameter		M	35	$100	$3,500	$350	$3,500
Watervalves							
a) 200mm Diameter		EACH	1	$0	$0	$0	$0
b) 100mm Diameter		EACH	2	$1,000	$2,000	$200	$2,000
19mm Copper Services		EACH	1	$0	$0	$0	$0
Hydrant Sets		EACH	0	$0	$0	$0	$0
TOTAL WATERMAIN					**$16,700**	**$1,670**	
STORM SEWERS							
Storm Sewer							
a) 1000mm Diameter		M	1	$0	$0	$0	$0
b) 750mm Diameter		M	1	$0	$0	$0	$0
c) 300mm Diameter		M	1	$0	$0	$0	$0
d) 200mm Diameter		M	1	$0	$0	$0	$0
1200mm Diameter Manholes		EA	1	$0	$0	$0	$0
125mm Services		EA	1	$0	$0	$0	$0
Inline Stormceptor		EA	1	$0	$0	$0	$0
Video Inspection and Report		L.S.	1	$0	$0	$0	$0
TOTAL BELOW STORM SEWER					**$0**	**$0**	**$0**

ITEM	DESCRIPTION	UNIT	QTY.	UNIT PRICE	TOTAL COST	Securities	
						10%	100%
					$53,450	**$5,345**	**$0**

ABOVE GROUND

STORM SEWERS

Catchbasins	EA	1	$0	$0	$0	$0
TOTAL ABOVE STORM SEWER				**$0**	**$0**	**$0**

PARKING AREA / ROAD CONSTRUCTION

Granular 'A'	Tonne	800	$15	$12,000	$1,200	
Granular 'B'	Tonne	1200	$12	$14,400	$1,440	
Curb and Gutter	M	126	$100	$12,600	$1,260	
HL4 Base Asphalt	m2	3000	$10	$30,000	$3,000	
Sidewalk & Ext Conc	L.S.	1	$20,000	$20,000	$2,000	
Tactile (at sidewalk ramps)	L.S.	1	$1,000	$1,000	$100	
Painted Linework on Pavement	L.S.	1	$5,000	$5,000	$500	
Supply and Install Street Signs	L.S.	1	$0	$0	$0	$0
TOTAL ROAD CONSTRUCTION				**$95,000**	**$9,500**	

STREETLIGHTING

Streetlights (Pole, Mast Arm and Luminaire)	EACH	1	$0	$0	$0	$0
Streetlight Disconnect Pedestal	EACH	1	$0	$0	$0	$0
Conduit for Streetlight Conductor						
a) 50mm Conduit	M	1	$0	$0	$0	$0
b) 100mm Conduit (Road Crossings)	M	1	$0	$0	$0	$0
Streetlighting Conductor	M	1	$0	$0	$0	$0
TOTAL STREETLIGHTING				**$0**	**$0**	**$0**
				$95,000	**$9,500**	**$0**

FINISHING WORKS

40mm HL3 Asphalt (Top Lift)	M^2	3000	$10	$30,000	$3,000	
Top Soil and Sodding		1	$0	$0	$0	$0
Driveway Apron		1	$0	$0	$0	$0
Lot Grading	L.S.	1	$20,000	$20,000	$2,000	
				$50,000	**$5,000**	**$0**

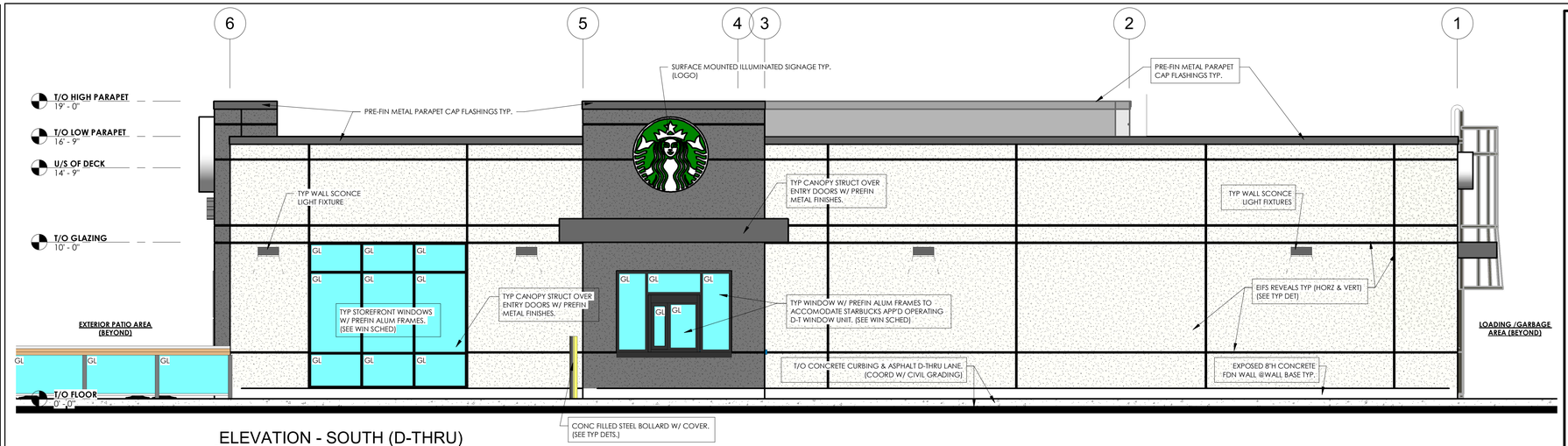
ITEM	DESCRIPTION	UNIT	QTY.	UNIT PRICE	TOTAL COST	Securities	
						10%	100%
STORM WATER MANAGEMENT POND							
			1	$0	$0	$0	$0
			1	$0	$0	$0	$0
					$0	**$0**	**$0**
LANDSCAPING AND ON SITE WORKS							
	Trees	L.S.	1	$5,000	$5,000		
	Trails and Walkways (topsoil to a depth of 0.15 metres and sod)		1	$0	$0		$0
	Park (topsoil to a depth of 0.15 metres and sod)						
	Plants and Materials	L.S.	1	$5,000	$5,000		
	Flagstone		1	$0	$0		$0
	Fencing For Garbage Enclosure		1	$5,000	$5,000		
	Lighting		0	$320	$0		$0
	Signage		0	$24	$0		$0
	Parking Lot		0	$0	$0		$0
					$15,000		**$0**

SUMMARY

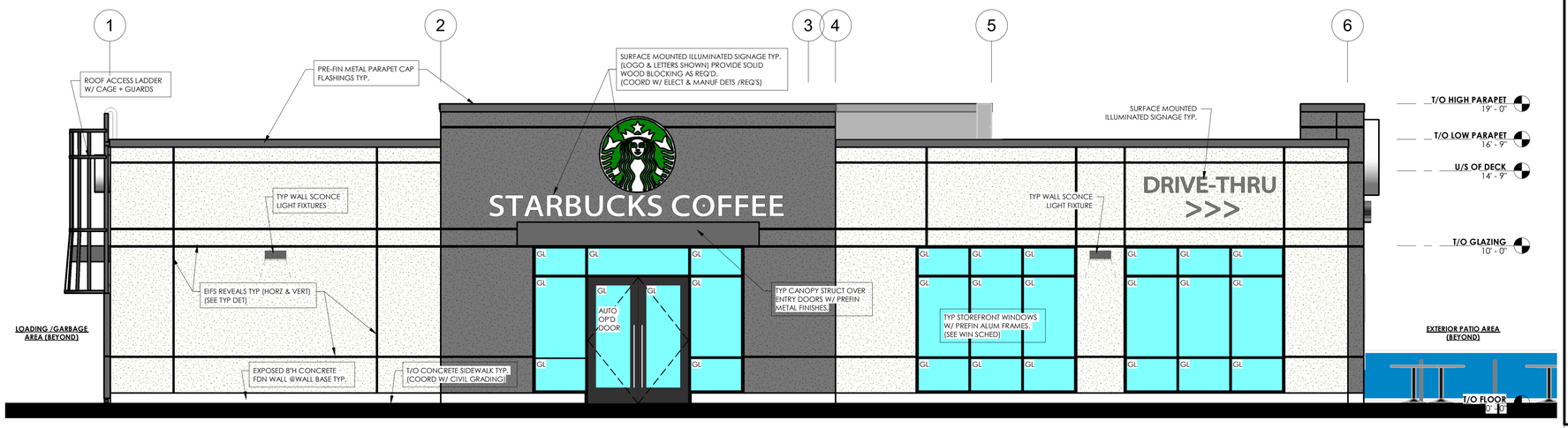
BELOW GROUND		$5,345	$0
ABOVE GROUND		$9,500	$0
FINISHING WORKS		$5,000	$0
STORM WATER MANAGEMENT POND	$0	$0	$0
LANDSCAPING AND ON SITE WORKS			$15,000

TOTAL SECURITIES REQUIRED AT REGISTRATION **$34,845**

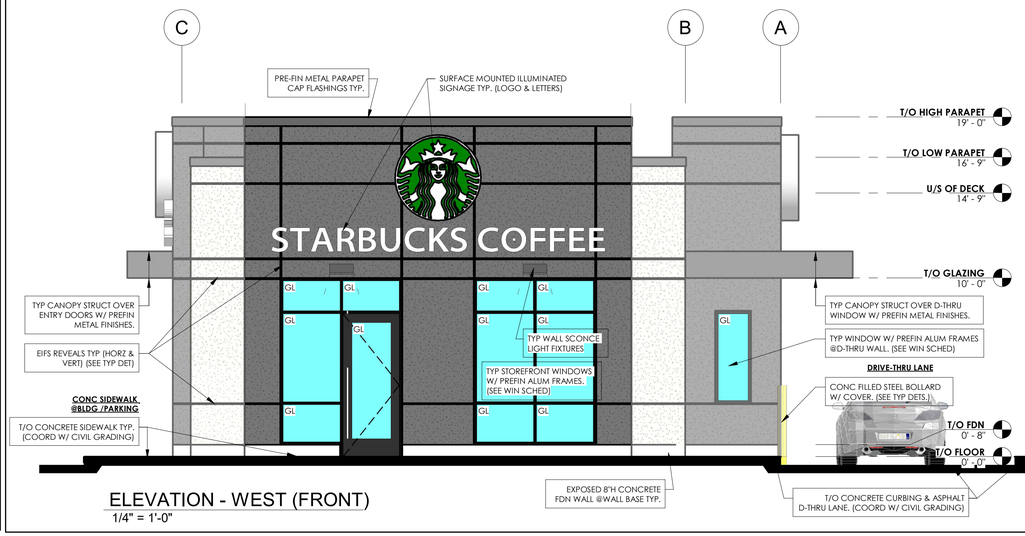
LICENSED PROFESSIONAL ENGINEER
MAY 2/23
C.E. ESCALANTE
PROVINCE OF ONTARIO



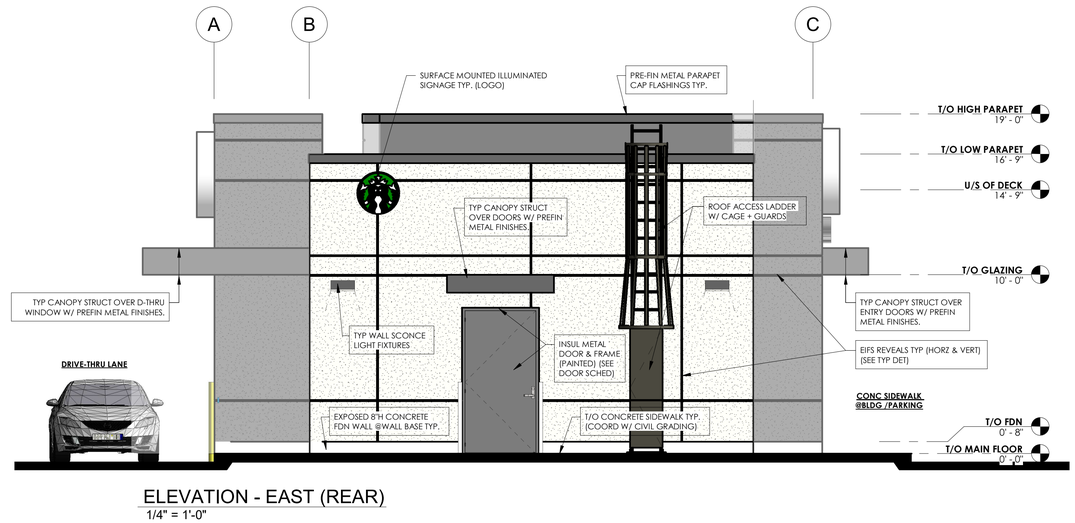
ELEVATION - SOUTH (D-THRU)
1/4" = 1'-0"



ELEVATION - NORTH (MAIN ENTRY)
1/4" = 1'-0"



ELEVATION - WEST (FRONT)
1/4" = 1'-0"



ELEVATION - EAST (REAR)
1/4" = 1'-0"

TYPICAL ELEVATION NOTES:

GENERAL NOTES

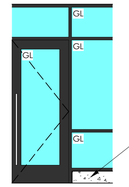
*REFER TO ARCHITECTURAL SECTIONS DETAILS & ASSEMBLY SPECIFICATIONS FOR ADDITIONAL INFO.
*
ALTERNATE EQUAL PRODUCTS AS PER PROJECT SPECS OR TO BE APPROVED BY ARCHITECT.
PRODUCT SHOP DRAWINGS, SAMPLES, ETC REQUIRED FOR ARCHITECT APPROVAL.

SEAL ALL EXTERIOR WALL & ROOF PENETRATIONS AND JOINTS BETWEEN DISSIMILAR MATERIALS TO ENSURE A COMPLETELY WEATHER-TIGHT SEAL. LOCATIONS OF SPECIAL INTEREST WHICH REQUIRE SEALANT INCLUDE, BUT ARE NOT LIMITED TO: LIGHT FIXTURE MOUNTS, DOOR AND WINDOW FRAMES, SERIES II FASCIA EDGES, SIGNAGE MOUNTS, CONDUIT PENETRATIONS, SCUPPERS, ELECTRICAL OUTLETS, HOSE BIBS, AND UTILITY SERVICE ENTRANCES. ANY ITEMS MOUNTED ON TOP OF THE PARAPET ARE TO BE SET IN A FULL BED OF SEALANT.

1. REFER TO ASSEMBLY SCHEDULE FOR WALL COMPOSITIONS AND INSULATION VALUES.
2. ALL GRADES SHOWN ARE PRELIMINARY AND ARE SUBJECT TO FINAL SITE GRADING /EXISTING PUBLIC SIDEWALKS.
3. FINAL EXTERIOR COLOURS TO BE CONFIRMED/COORDINATED WITH OWNER AND ARCHITECT.
4. EXTERIOR FINISHES AS PER EXTERIOR FINISH SCHEDULE AND WALL ASSEMBLY SCHEDULE.
5. N / A
6. REFER TO AND COORDINATE WITH GUARD DETAILS FOR ALL EXTERIOR GUARD REQUIREMENTS CONFORMING TO OBC.
7. FLASHING COLOUR TO MATCH ADJACENT FINISH (TYPICAL, UNLESS OTHERWISE NOTED).
8. COORDINATE LOUVER AND MECHANICAL WALL BOX LOCATIONS AND REQUIREMENTS WITH MECHANICAL DRAWINGS AND ARCHITECTURAL ELEVATIONS.
   A. LOUVERS AND WALL BOXES TO BE FACTORY PAINTED TO MATCH ADJACENT WALL FINISHES.
9. SEE WINDOW AND DOOR SCHEDULES FOR WINDOW AND DOOR REQ'S.
10. COORD ALL STRUCTURAL REQ'S WITH STRUCTURAL DRAWINGS.

LEGEND - EXT FINISHES /SYSTEMS

SYMBOL — DESCRIPTION



GL1
STOREFRONT WALL GLAZING SYSTEMS TYP.
PRE-FINISHED ALUMINUM FRAMES w/ THERMAL GLAZING SYSTEM
COLOUR: 'BLACK ANNODIZED'
(SEE SPECS, & WINDOW /DOOR SCHEDS)

CIP CONCRETE UPSTAND (8"H) TYP @BUILDING PERIMTER WALLS
(USE GOOD FORMING PRACTICES &FINISH W/ PARGING AS REQ'D.)

EF1
EXTERIOR INSULATION FINSH SYSTEM
'DRYVIT' MD W/ DRAINAGE LAYER (OR APPROVED EQUAL)
COLOUR: 'IVORY QUARTZ'
TEXTURE: TBD

EF2
EXTERIOR INSULATION FINSH SYSTEM
'DRYVIT' MD W/ DRAINAGE LAYER (OR APPROVED EQUAL)
COLOUR: 'CHARCOAL QUARTZ'
TEXTURE: TBD

CN1 METAL PANEL CANOPY (SEE DETS + STRUCT. DWGS.)
COLOUR: 'CHARCOAL' (SPEC. AS PER TENANT STANDARDS)

FL1 METAL FLASHING
COLOUR: 'CHARCOAL '

DF1 H.M. DOORS & FRAMES
PREFINISHED HOLLOW METAL DOORS AND FRAMES
COLOUR: 'CHARCOAL'

L1 LIGHTING
EXTERIOR LIGHT FIXTURE
COLOUR: 'CHARCOAL'

S1 SIGNAGE
OWNERS / TENANTS SIGN MANUF. & ENGINEER TO CONFIRM SPECIFICATIONS & DETAILS

*** COLOURS SHOWN FOR REPRESENTATION PURPOSES. DOES NOT REFLECT OR MATCH ACTUAL FINISH. COLOUR AS SPEC'D***

GENERAL NOTES

WINDOWS:
- ALL EXTERIOR WINDOWS & ENTRY SYSTEMS TO BE PRE-FINISHED ALUMINIUM (REFER TO WINDOW SCHEDULES). (SEE PROJECT SPECS.)
- STOREFRONT WINDOW /DOOR UNITS TO BE: EXTRUDED THERMALLY BROKEN PREFINISHED ALUMINUM FRAMES, SEALED, DOUBLE GLAZED W/ LOW 'E' COATING, TEMPERED GLASS UNITS, 'WINDSPEC' SERIES 650 CLEAR ANODIZED FRAMING 6MM SOLARBAN 60 TEMPERED GLASS + 6MM TEMPERED GLASS (TYP.)
COLOUR /FINISH = 'ANNODIZED BLACK'

DOORS:
- ALL EXTERIOR DOORS TO BE EITHER PRE-FINISHED ALUMINIUM OR PAINTED METAL (REFER TO DOOR SCHEDULES).
- ALUMINUM DOORS /FRAMES (PER DOOR SCHEDULE) W/ TEMPERED GLASS, & PREFIN. ALUM FRAMES TO MATCH WINDOW UNITS.
COLOUR /FINISH = 'ANNODIZED BLACK'

DRIVE-THRU WINDOW UNIT (IN WINDOW FRAME AS SHOWN /DIMD)
- READY ACCESS MODEL 275 PASS THROUGH WINDOW MOER C/W AA300 HEATED AIR CURTAIN.

RAILINGS
PREFIN ALUMINUM /GLASS RAILING SYSTEM #CRL ARS 200 SERIES BY 'C.R.LAWRENCE OF CANADA' W/ ALUM POSTS, TOP CAP /BTM RAILS W/ VINYL GLAZING ANCHORS, 1/2' THICK ENGINEERED GLASS,
COLOUR/FIN (METAL): TBD
COLOUR (GLASS): TBD
(SEE SPECS & DETAILS TYP.) (MANUF TO PROVIDE ENGINEERED SHOP DWGS FOR APPROVALS)

FLASHINGS (TYP PRE-FINISHED METAL)
- COLOUR TO MATCH ADJACENT FINISH TYP. (UNLESS OTHERWISE NOTED.)
- PARAPET /CAP FLASHINGS: MIN. 26 GAUGE, COL TO MATCH ADJACENT FINISH
- WINDOW SILL FLASHINGS: MIN. 24 GAUGE, COL TO MATCH WINDOW FRAMES
- WALL FINISHES: MIN. 26 GAUGE, COL AS NOTED ON ELEVS/SECTS

NO.	DATE:	REVISION:	BY:
1	JUNE 7, 2022	ISSUED FOR REVIEW /APPROVAL	PD

COMMISSION:

STARBUCKS
350 ONTARIO ST, ST CATHARINES, ON

A·C·K architects STUDIO INC.

SHEET TITLE:

EXTERIOR ELEVATIONS

Issued for Re-Zoning	
Issued for Site Plan Agreement:	
Issued for Permit:	
Issued for Tender:	
Issued for Construction:	
DRAWN BY:	JRM
CHECKED BY:	PD
DATE:	JANUARY 2022
SCALE:	AS SHOWN
PROJECT No.:	2021-258

DWG. No. **EL-1**

DRAWING LEGEND

- PROPERTY LINE
- - GRASSED - SURFACE COVER (EXISTING)
- - GRASSED - SURFACE COVER (PROPOSED)
- HP HYDRO POLE / LIGHT POLE
- FHD FIRE HYDRANT
- WOOD FENCE (EXISTING)
- WOOD FENCE (PROPOSED)
- MANHOLE
- CATCH BASIN

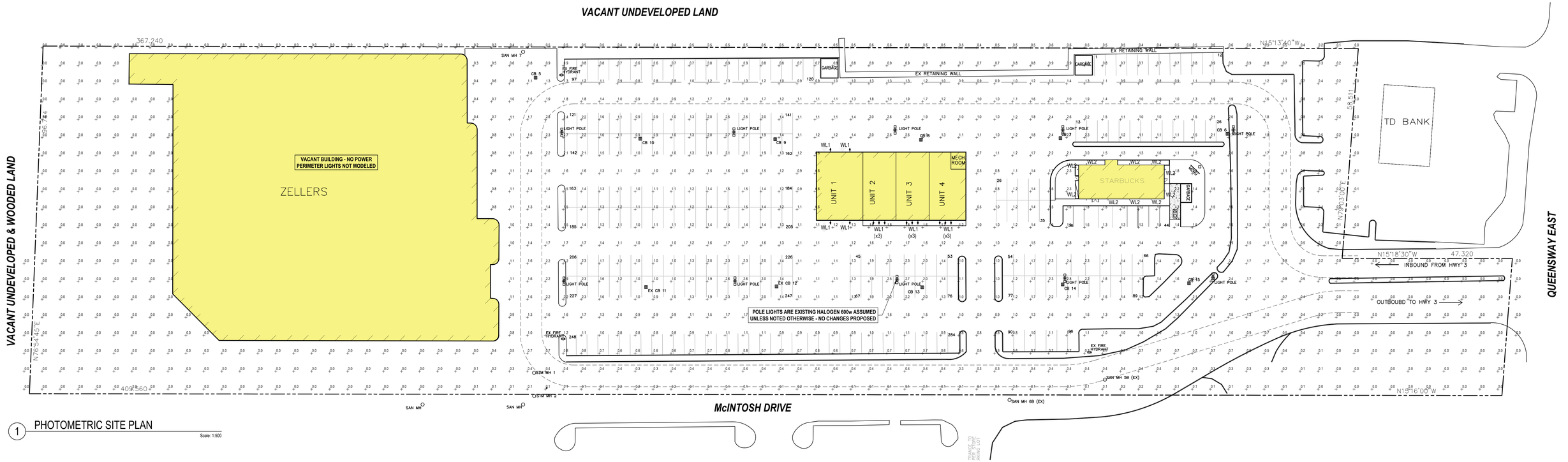
GENERAL NOTES

1. DO NOT SCALE DRAWINGS. ALL LOCATIONS AND SITE CONDITIONS ARE TO BE REVIEWED & CONFIRMED BY THE CONTRACTOR/OWNER/SUPPLIER PRIOR TO ORDERING EQUIPMENT.
2. ALL CABLE/CONDUIT ROUTING AND TERMINATIONS WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR AND WILL SUIT FIELD CONDITIONS AND EQUIPMENT LOCATION.
3. ALL SHOW EQUIPMENT IS IN THE APPROXIMATE LOCATION. FINAL LOCATION TO SUIT FIELD CONDITIONS.
4. PHOTOMETRIC DOES NOT ACCOUNT FOR ADDITIONAL LIGHTING FROM OTHER POSSIBLE SOURCES INCLUDING EXISTING LIGHTING FIXTURES ON ADJACENT OR CITY PROPERTIES.
5. ELECTRICAL CONTRACTOR TO INSTALL ALL FIXTURES ACCORDING TO THE LATEST EDITION OF THE ELECTRICAL CODE AND MANUFACTURERS' RECOMMENDATIONS.
6. ALL EXTERIOR POLE LIGHTING SHALL BE CONTROLLED BY PHOTOVOLTAIC SENSORS.
7. ELECTRICAL CONTRACTOR SHALL:
   - 7.1. PROVIDE ALL LABOUR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETE ALL ELECTRICAL WORK TO ALL APPLICABLE CODES, BEST INDUSTRY PRACTICES, AND WORKMANSHIP
   - 7.2. COORDINATE INSTALLATION OF ELECTRICAL FEEDS WITH OWNER AND OTHER TRADES.
   - 7.3. APPLY FOR, OBTAIN AND PAY FOR ALL PERMITS, LICENSES, INSPECTIONS, EXAMINATIONS, AD FEES REQUIRED TO COMPLETE ALL ELECTRICAL WORK. ITEMS INCLUDE BUT NOT LIMITED TO ESA REVIEWS, INSPECTIONS, AND APPROVALS, THIRD PARTY VERIFICATION, ETC.

NOTE:

ALL LUMINAIRE LOCATIONS SHOWN REPRESENT RECOMMENDED POSITIONS ONLY.

THIS LIGHTING PLAN REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH THE ILLUMINATING ENGINEERING SOCIETY (IES) APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRES MAY VARY DUE TO CHANGES IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS/LEDS AND OTHER VARIABLE FIELD CONDITIONS. CALCULATIONS DO NOT INCLUDE OBSTRUCTIONS SUCH AS CURBS, LANDSCAPING, OR ANY OTHER ARCHITECTURAL ELEMENTS UNLESS NOTED.



1 PHOTOMETRIC SITE PLAN

Scale: 1:500

SITE CALC

1237 POINTS AT Z=0,
SP 5.0m BY 5.0m

HORIZONTAL FOOTCANDLES

AVERAGE	0.8
MAXIMUM	3.0
MINIMUM	0.0
AVG:MIN	N/A
MAX:MIN	N/A
COEF VAR	0.87
UNIFGRAD	N/A

LAMP LEGEND

WL1

PHOTOPIA - LMH2 - DOMED LENS - ASE

PHOTOPIA FOR SOLIDWORKS 2018.1.2.9033 SEE: WWW.LTIOPTICS.COM/IES TEST REPORT NO. 1
LAMP(S): LMH020-3000-30G9-00001TW
CANDELA FILE: "ASE14-1250LM - DOME.IES"
1 LAMP(S) PER LUMINAIRE, 1250 INITIAL LUMENS PER LAMP

LIGHT LOSS FACTOR	= 1.000
WATTS PER LUMINAIRE	= 16
OUTREACH (FROM MOUNTING AXIS TO PHOTOMETRIC CENTER	= 660mm
TILT ANGLE	= -45°
MOUNTING HEIGHT	= 4250mm
NUMBER LOCATIONS	= 13
NUMBER LUMINAIRES	= 13
KW ALL LOCATIONS	= 0.2

WL2

WAC LIGHTING WS-W36610-BZ

EVERFINE TEST REPORT No. WAC Lighting
LAMP(S): XXX
CANDELA FILE: "WS-W36610-BZ.IES"
1 LAMP(S) PER LUMINAIRE, PHOTOMETRY IS ABSOLUTE

LIGHT LOSS FACTOR	= 1.000
WATTS PER LUMINAIRE	= 11
OUTREACH (FROM MOUNTING AXIS TO PHOTOMETRIC CENTER	= 100mm
TILT ANGLE	= 90° (VERTICAL LIGHTING PROJECTION)
MOUNTING HEIGHT	= 2100mm
NUMBER LOCATIONS	= 11
NUMBER LUMINAIRES	= 11
KW ALL LOCATIONS	= 0.1

REV.	DATE	REMARKS
0	25APR23	ISSUED FOR APPROVAL

PROJECT TITLE

PROPOSED STARBUCKS & COMMERCIAL BUILDING

129 QUEENSWAY EAST, SIMCOE

DRAWING TITLE

PHOTOMETRICS PLAN

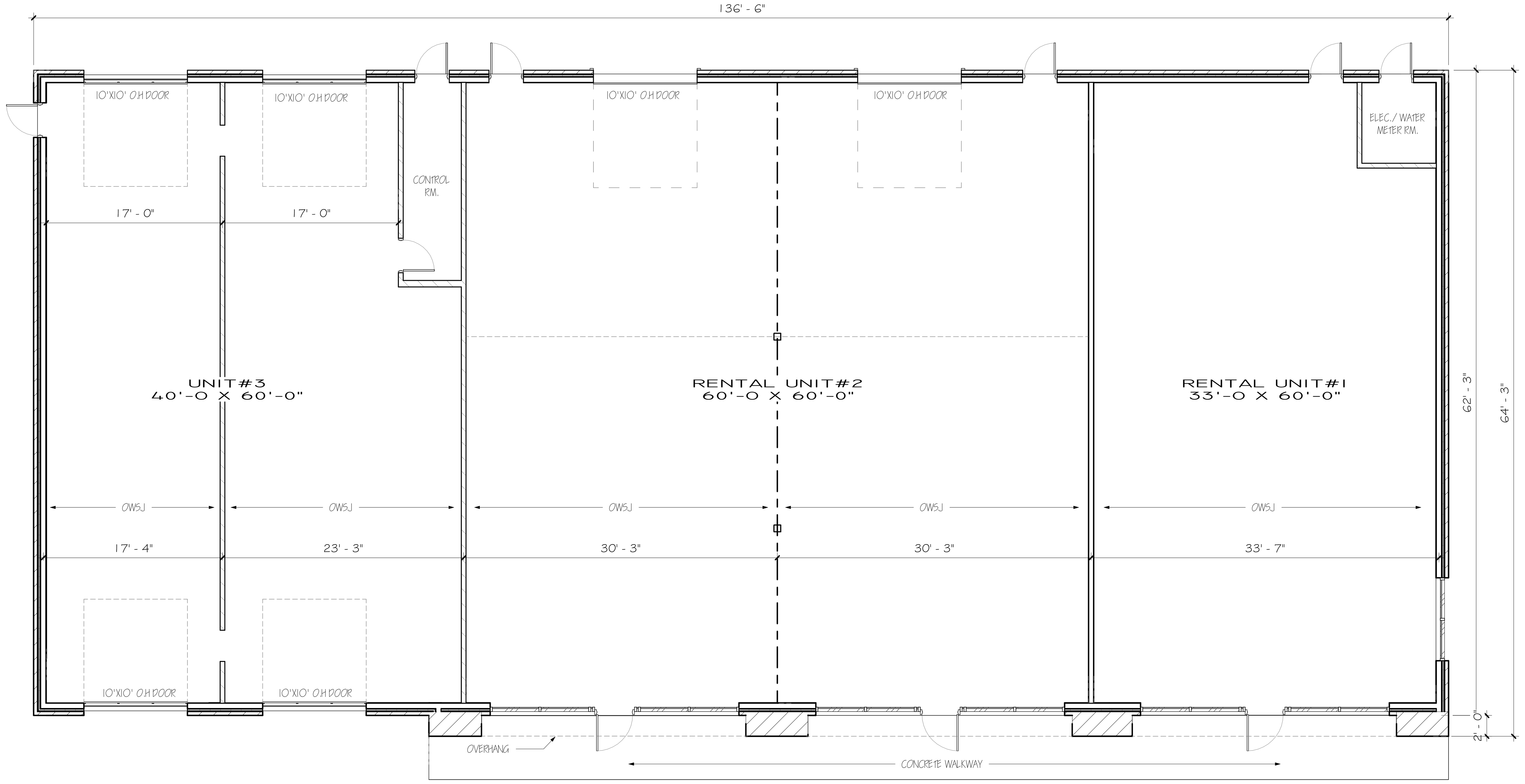
ZOLTAN ENGINEERING
25-4380 SOUTH SERVICE ROAD
BURLINGTON, ON L7L 5Y6
(905) 331 - 8307
WWW.ZOLTANENGINEERING.COM

SCALE	AS NOTED
DATE	AS NOTED
DRAWN	EP
DESIGNED	ZL
CHECKED	ZL

LICENSED PROFESSIONAL ENGINEER
Z. LAKATOS
90267162
PROVINCE OF ONTARIO

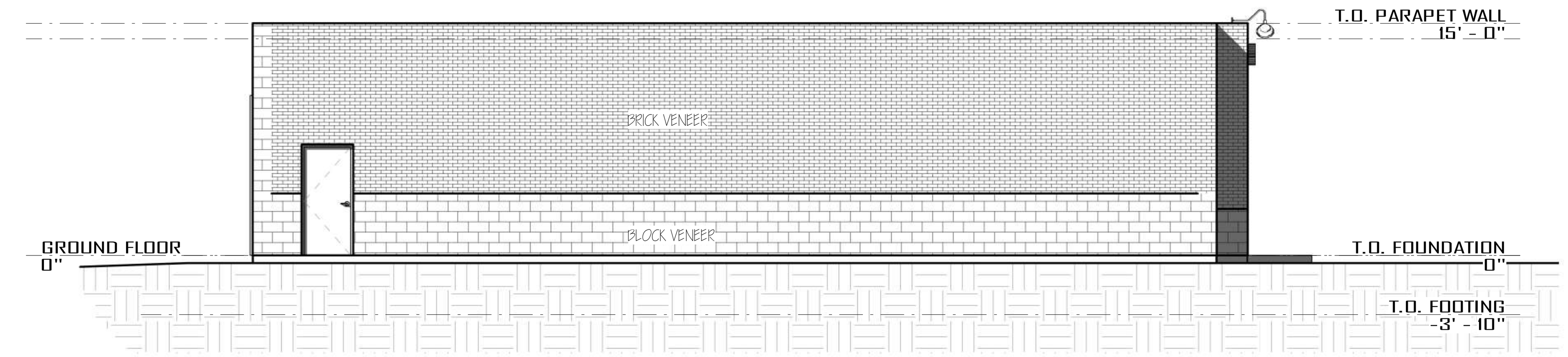
PROJECT NO. 23-093

SHEET NO. L-01 0



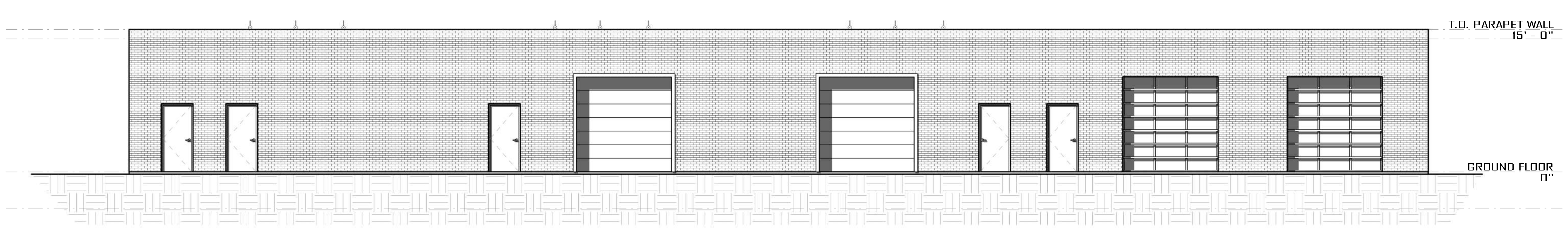
1 A2 GROUND FLOOR PLAN
1/8" = 1'-0"

3 A2 {3D}



4 A2 NORTH ELEVATION
1/8" = 1'-0"

2 A2 WEST ELEVATION
1/8" = 1'-0"



5 A2 EAST ELEVATION
1/8" = 1'-0"

6 A2 3D View 1

No.	DESCRIPTION	DATE	BY
REVISION SCHEDULE			

REID & DELEYE CONTRACTORS LTD
Box 272 Courtland, Ontario N0J 1E0 Ph. (519) 688-2600 Fax (519) 688-2700

NORTH

PROPOSED PLAZA
FOR
KYLE KOWTALUK
SIMCOE ONT.

PLANS & ELEVATIONS

PROJECT NUMBER	-
DATE	Feb.16/23
DRAWN BY	SH
CHECKED BY	-

A2

SCALE 1/8" = 1'-0"

3/23/2023 9:50:01 AM

Fred Jewett **Phone (905) 973-9590**
7635 Aughrim Line, RR#2
Bothwell, Ontario N0P 1C0 **fredjewettengineering@gmail.com**

FUNCTIONAL SERVICING REPORT
for
Proposed 1 storey Commercial Retail Site Redevelopment,
129 Queensway East,
Simcoe, Ontario

1.0 Introduction

.1 The County of Norfolk requires a servicing report for the proposed 2 new 1 storey commercial retail buildings project. The site is located on Queensway East at McIntosh Drive, Simcoe, Ontario

.2 This report addresses the sanitary and domestic/fire water servicing for the site.

.3 Note that metric and imperial units are mixed in this report to match backround data from Haldimand Standard and other sources of data.

2.0 Site Investigation

.1 The 3.693 hA site presently is developed. There is one existing building on the site that will remain (former Zellers store). Two new buildings are proposed.

.2 The subject new proposed buildings will be 1 storey retail buildings. The southern new building will be a restaurant tenant having a building area of 190 square meters and an occupancy of 27 persons. The northern new building will be a 4 bay plaza with a car wash, and three retail stores totaling 606 sq. m. The total area of all buildings is 7706 square meters.

3.0 Sanitary Service

.1 Using the County of Norfolk population and sewage loading calculations the estimated total occupant load and sewage loading are as follows:

3.693 Ha x 90 persons/Ha = 333 persons (ppl).
3.693 Ha x 40 cubic meters/day = 148 cubic meters per average day water demand
= 1.71 l/s average flow

Peak hourly sanitary flow is calculated by Harmon formula: M = C(1 +(14/(4 + P^0.5)))
with limits of 2<M<5.
P is population/1000, C is commercial Use Modifier = 0.8 and M is a multiplier of average flow therefore:

M = 0.8 (1 + (14/(4 + 0.333^0.5))) = 0.8 x 4.06 = 3.25

Peak sanitary flow is therefore 3.25 x 1.71 litres/second = 5.56 litres/second or 334 litres/minute (88.2 USGPM).

The county requires the addition of a piping infiltration allowance of 0.28 l/s per hectacre which increases total design peak sanitary flow to 5.56 l/s + 0.28 l/s x 3.693 hA = 6.60 l/s.

A sanitary sewer of 150mm trade size with friction factor of n=0.013 and minimum slope of 1.0% would have a capacity of 17 litres/second when flowing full which exceeds the required flow by a factor of 2.5:1 and will be satisfactory.

4.0 Domestic Water Servicing

.1 Domestic water demand was calculated using the Norfolk County standard:

Daily Average Flow Q = 333 ppl x 0.45 cubic meters/day = 149.85 cubic meters/day
= 6244 litres/hour = 1.74 litres/second.

Peak Daily flow factor = 2.25 therefore:

Peak Daily flow = 2.25 x 149.85= 338 cubic meters/day (3.91 l/s)

Peak hour peaking factor is 2.0

Peak hourly domestic flow is therefore 2.0 x 338 = 676 cubic meters/day
= 7.8 litres/s average over peak hour (55.1 usgpm).

There are 3 buildings on the site of areas as follows with apportioned water flows by areas:

Existing store	6910 sq m	89.6	134.26	7.0	2.09
New 4 bay plaza	606 sq m	7.9	11.84	0.6	3.65
New Starbucks	190 sq m	2.5	3.75	0.2	2.06
	7706 sq m	100%	149.85 cu m/day	7.8 l/s by % area	7.8 l/s by % design

See below for apportioning water flows by design on basis of water needs.

.2 The county standard does not include guidance for instantaneous peak flows which determine service water pipe sizing therefore I have used the ASHRAE Modified Hunter curve for this calculation.

Hunter Curve is based on number of fixture units of water usage. Using Ontario Building Code Part 7 table 7.6.3.2.A:

For 4 bay plaza building (North New Building)

Toilets	4 x 2.2 FU	=	8.8 FU
Lavatories	4 x 2.0 FU	=	8.0 FU
Total		=	16.0 FU

USGPM from Hunter Curve = 35 USGPM
Car Wash @ 35 gpm x 2 = 70 USGPM
Hand hose 5 USGPM

Total for 4 Bay Plaza Bldg 110 USGPM (6.9 l/s) for Peak minute

For Starbucks (South New Building)

Toilets	2 Flush Valve	= 35.0 FU
Lavatories	2 x 1.5 FU	= 6.0 FU
Kitch. Sinks	6 x 4	= 24.0 FU
Dish Wash		1.4 FU
Total		66.4 FU

USGPM from Hunter Curve = 57 USGPM
Restaurant Equipment 5 USGPM

Total for Starbucks 62 USGPM (3.9 l/s) for Peak minute

For Existing Rear Vacant Building (former Zellers)

Toilets	5 Flush Valve	= 58.0 FU
Lavatories	4 x 1.5 FU	= 6.0 FU
Kitch. Sink	1 x 4	= 4.0 FU
Dish Wash		1.4 FU
Total		69.4 FU

USGPM from Hunter Curve = 58 USGPM
Hose Bibb 5 USGPM

Total for Zellers 63 USGPM (4.0 l/s) for Peak minute

.3 For the entire site the Hunter Curve provides a 1 minute peak flow estimate of:

151.8 FU = 80 USGPM + fixed flows.

Note that the Hunter Curve is considered conservative today due to implementation of more water efficient plumbing fixtures and about 75% of this value would be a more appropriate estimate except for car wash pumps and other fixed water users which are taken as given by the manufacturer. See Hunter Curve Values in Fig. 2.

Add fixed water consumption to site peak minute flow:

80 + 85 USGPM = 165 USGPM total (10.4 l/s) for peak minute.

The existing 250mm water service will provide this flow at less than 0.1 psi loss per 100 ft (less than 2 kpa per 100 meters)

.4 A 50mm type 'K' copper water service pipe has a flowing friction loss of 3.3psi/100 ft at 70 USGPM. This size will provide for the southern new building (Starbucks) which is sub fed from the northern new building.

A 100mm PVC class 150 water service pipe has a flowing friction loss of 0.3 psi/100 ft at 110 USGPM and 0.75 psi/100 ft at 165 USGPM (0.0173m/m). The northern new building will need to be fed by a 100mm water service due to the draw from the car wash. See Fig 1 for nomograph.

5.0 Fire Water Servicing

.1 The subject new buildings are not required by code to be equipped with a fire sprinkler system. Both buildings are non-combustible steel frame structure with non-combustible walls and roof structure with combustible roofing and minor components as permitted by building code for non-combustible buildings. For this site the existing Zellers building will be the largest fire flow requirement as it has the largest area.

.2 The Underwriters Fire Flow Survey was prepared for the largest building and indicates a peak fire flow for the north new building of 10,875 l/m (2877 USGPM) (182 l/s). Note that this building is fully sprinklered.

See attached Underwriters Fire Flow Survey calculation worksheet figure 3 for the former Zellers Building.

6.0 Combined Fire Water and Domestic Water Flow

.1 The County requires the water supply to be calculated for 2 scenarios of combined fire water and domestic flow.

Scenario 1: Daily Demand + Fire Flow
= 1.74 l/s + 182 l/s = 183.74 litres/second

Scenario 2: Peak Hourly Demand
= 7.8 litres/second

The peak water flow is Scenario 1 with a demand of 183.74 litres/second.

.2 For a combined water service pipe size estimate, building fire + domestic demand

= 182 l/s + 7.8 l/s = 189.8 l/s

Using the Hazen-Williams equation to size piping then for a 250mm pipe with internal diameter of 155mm and the following characteristics

r = Hydraulic Radius = R/2 = 250mm/(2 x (2 x 1000)) = 0.0625m
C = Coefficient of friction = 100 (required coefficient)
S = Pressure loss rate = 4 psi/100 ft = 0.092 m/m pressure loss
A = Internal Pipe Area = 3.14 x R^2 = 0.04909 sq m

will provide the flow rate Q in cubic meters/second.

Q = 0.84918 x C x A x r^0.63 x S^0.54

= 0.84918 x 100 x 0.0491 x 0.0625^0.63 x 0.092^0.54

= 0.201 cubic meters/second = 201 litres/second which is greater than the required flow rate of 189.8 litres/s.

The existing 250mm combined water service pipe will adequately supply the proposed site. Water service pipe is recommended to be PVC SDR18 municipal watermain pipe.

.3 It is proposed to connect new domestic water service to existing on site 250mm combined fire/domesic water service. A single valved 100mm water connection for domestic water will connect to the existing 250mm water service on site and run into the northern new building utility room. A 50mm sub feed will supply the southern building from the aforementioned new utility room.

7.0 Conclusions

.1 Average daily sanitary sewage flow is : 148 cu. m/day 1.71 l/s
Peak hourly sanitary sewage flow is: 5.56 l/s
Peak hourly sanitary sewage flow + infiltation: 6.60 l/s
Recommended sanitary service to each new building: 150mm sewer at 1.0% Minimum slope.

Average Daily water consumption is 150 cu. m/day 1.74 l/s

.2 Peak daily water consumption is: 338 cu. m/day
Peak hourly water flow is: 7.80 l/s
Peak minute water flow is: 10.40 l/s
Recommended domestic water service to new northern building is: 100mm
Recommended domestic water sub fed service from new northern building to new southern building is: 50mm

.3 Fire Flow requirement 10,875 l/m 182 l/s (2975 USGPM)

Existing combined Fire/Domestic service to site is 250mm and is satisfactory.

Report prepared by

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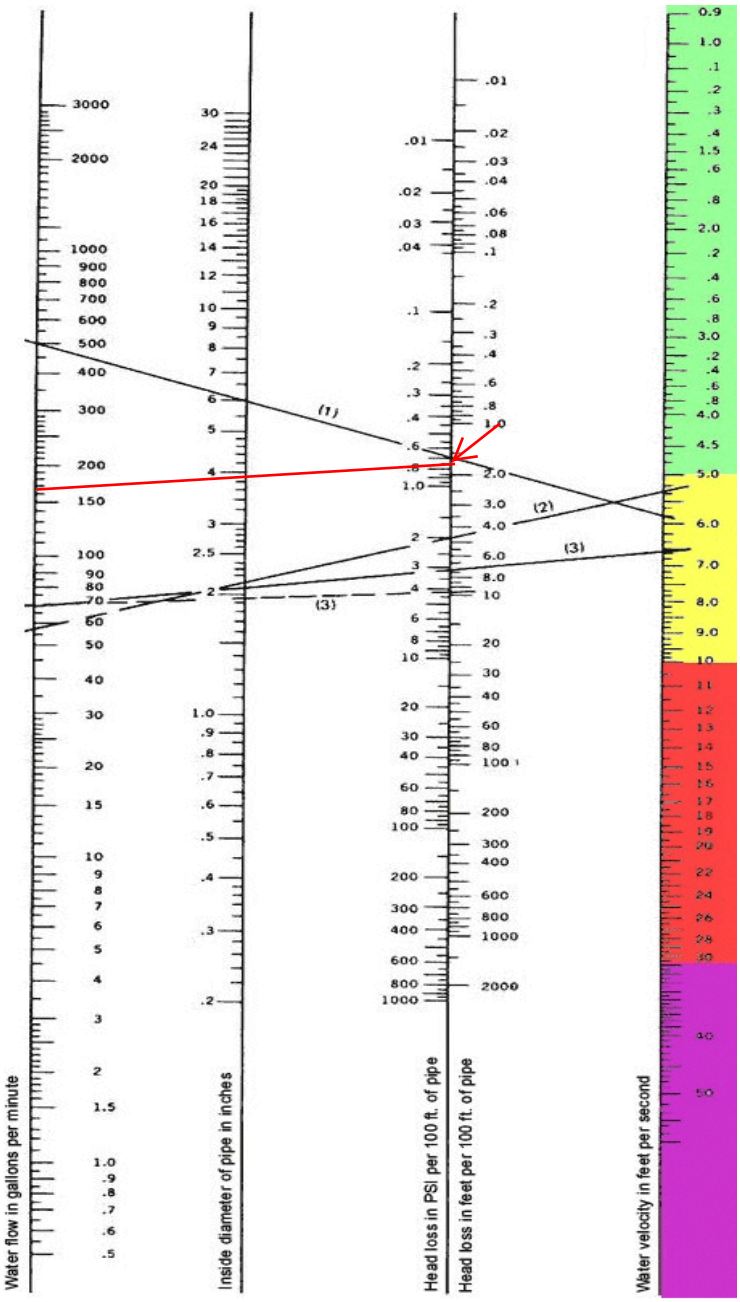
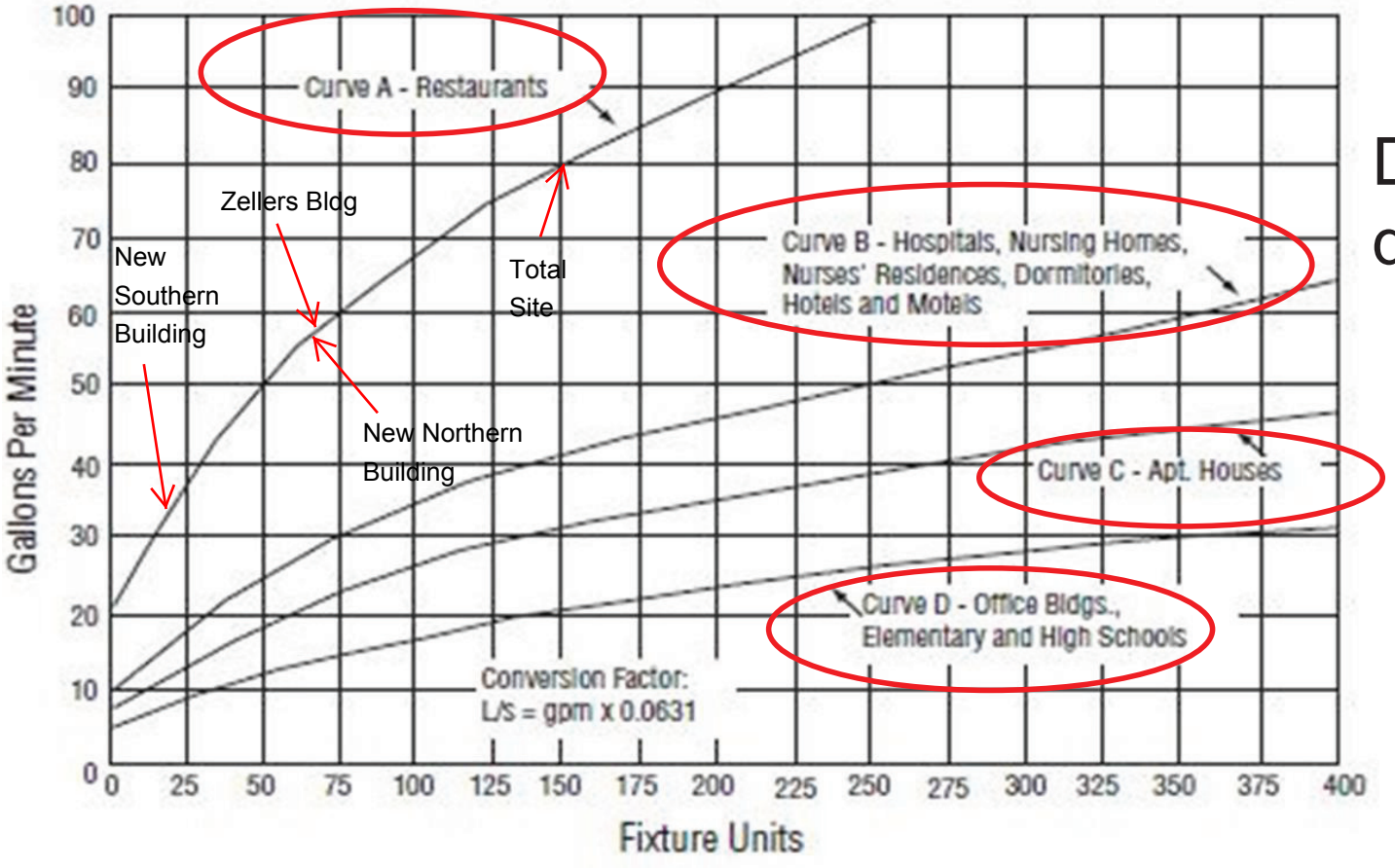


Nemograph courtesy of Plastics Pipe Institute,
a divison of The Society of the Plastics Industry.
Color coding added by FlexPVC®

Fig. 1 - Water Flow vs Pressure Drop
in Water Service Pipe Serving
2 New Buildings

Modified Hunter's Curve(s)



Different curve for different end users

Fig. 2: Interior Plumbing Fixture Flow using Hunter Curve (1987)

FIRE UNDERWRITERS SURVEY FIRE FLOW CALCULATION

PROJECT: COMMERCIAL PLAZA REDEVELOPMENT

ADDRESS: 129 QUEENSWAY EAST

MUNICIPALITY: SIMCOE

DATE: FEBRUARY 28, 2023

CALCULATION BY: FRED JEWETT P. Eng.

STEP	TASK	TERM	OPTIONS		MULTIPLIER	UNIT	FIRE FLOW
1	CONSTRUCTION OF BUILDING	COEFFICIENT C	PROTECTED NON-COMBUSTIBLE		0.8	–	0.8
2	AREA PROTECTED	AREA A	6910		=	m^2	6910
3	CALCULATE BASE FIRE FLOW	BASE FIRE FLOW	$F = 220 \times C \times \sqrt{A}$ =		$220 \times 0.8 \sqrt{6910}$	Litres/Min.	14630 L/m
					ROUNDED TO NEAREST 1000 L/S		15000 L/m
4	ADJUSTMENTS				FACTOR		
	CONTENTS	ADDER	ORDINARY COMBUSTIBLE		0.0	–	0
	FIRE SPRINKLERS	ADDER	PROPERLY SIZED SYSTEM AND HOSE ALLOWANCE		−0.4	–	−6000
			SUPERVISION OF SPRINKLERS		−0.1		−1500
			SUB TOTAL				7500 L/m
	BUILDING SEPARATION	ADDER	NORTH	25.0 m	+0.10	–	+ 750
			EAST	3.5 m	+0.20	–	+1500
			SOUTH	>45.0 m	0.00	–	0
			WEST	13.6 m	+ 0.15	–	+1125
5	MINIMUM REQUIRED FIRE FLOW					Litres/Min.	10875 L/m
						USGPM	2877 USGPM

REGISTERED PROFESSIONAL ENGINEER
2023.02.28
F. C. JEWETT
PROVINCE OF ONTARIO

Fig. 3

129 QUEENSWAY EAST COMMERCIAL / RETAIL DEVELOPMENT

SIMCOE, ON

TRAFFIC IMPACT STUDY

RC SPENCER ASSOCIATES INC.
Consulting Engineers
Windsor: 800 University Avenue W. - Windsor ON N9A 5R9
Leamington: 18 Talbot Street W. - Leamington ON N8H 1M4
Chatham-Kent: 49 Raleigh Street - Chatham ON N7M 2M6

File No.: 23-1409

April 2023

129 QUEENSWAY EAST COMMERCIAL / RETAIL DEVELOPMENT, SIMCOE, ON

TRAFFIC IMPACT STUDY (APRIL 2023)

Table of Contents

Appendix C: Traffic Projection Figures

- McIntosh Drive at Queensway East (Highway 3)

Appendix D: Detailed Synchro Results

- McIntosh Drive at Queensway East (Highway 3)

INTRODUCTION AND BACKGROUND

A commercial / retail infilling development is proposed at 129 Queensway East, north of Highway 3, in Simcoe, Ontario. As illustrated on Figure 1, the site is an existing parking lot on the east side of McIntosh Drive; the lot previously serviced a Zellers® store, but it is no longer in use. On the west side of McIntosh Drive, there is a Real Canadian Superstore® and parking area.

The study area is defined on Figure 2; it includes the intersection of Queensway East at McIntosh Drive. Queensway East, also known as Highway 3, is an east / west provincial highway comprised of a four-lane cross-section at this location; it provides access through the north end of Simcoe. Queensway East offers numerous hotels and restaurants, as well as some commercial and industrial land uses, along this highly travelled corridor. McIntosh Drive is a short road which intersects with Queensway East at a signalized intersection, south of the subject site; it provides access to the commercial areas to the north and south of the highway.

The site plan is provided on Figure 3; the proposed development consists of a 2,411 sq. ft. drive-through coffee shop, a one-tunnel car wash of approximately 2,124 sq. ft., approximately 4,248 sq. ft. of office space divided into two units, and a 2,124 sq. ft. take-out restaurant. The coffee shop drive-through will accommodate a 12-vehicle queue while still allowing full access to the parking areas; the car wash drive-through will accommodate a 6-vehicle queue behind the commercial building. A total of approximately 279 parking spaces will be available for the entire site, with nine being accessible spaces. This parking includes the newly designed parking areas adjacent to the development and the pre-existing parking to the north of the buildings. There are three pre-existing site accesses from McIntosh Drive. The purpose of this traffic impact study is to examine the potential implications of the proposed development on area traffic operations, particularly on the signalized intersection of McIntosh Drive at Queensway East.

TRAFFIC DATA COLLECTION

Weekday and weekend turning movement counts were collected on 30 March and 1 April 2023 (by Pyramid Traffic Inc.) for the signalized intersection of McIntosh Drive at Queensway East. All collected traffic data is provided in Appendix A.

METHODOLOGY

The baseline traffic data provided the basis for industry-standard traffic operations analysis; the software package utilized for the analysis (Synchro 11) calculates various parameters of intersection performance, such as level of service (LOS), intersection capacity utilization (ICU), control delay, and queue lengths on individual approaches (based on the HCM 6th Edition).

Signalized level of service results are reported based on the following industry standard:

Level of Service	Average Control Delay (sec/veh)	General Description (Signalized Intersections)
A	≤10	Free Flow
B	>10 - 20	Stable Flow (slight delays)
C	>20 - 35	Stable flow (acceptable delays)
D	>35 - 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 - 80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)

TRIP GENERATION AND DISTRIBUTION

Trip generation for the proposed development was estimated from the Institute of Transportation Engineers Trip Generation Manual (11th Edition). The dataset's average rate was used instead of the fitted curve equation because the equation is not provided in most instances. The reference material is provided in Appendix B and is summarized below:

ITE Land Use Code 937 – Coffee / Donut Shop with Drive-Through Window is the most appropriate code for the proposed 2,411 sq. ft. drive-through coffee shop; it provides generation rates of 85.88 trips per 1000 Sq. Ft. GFA in the AM peak hour, with 51% entering and 49% exiting, 38.99 trips per 1000 Sq. Ft. GFA in the PM peak hour, with 50% entering and 50% exiting, and 87.91 trips per 1000 Sq. Ft. GFA in the Saturday peak hour, with 50% entering and 50% exiting.

ITE Land Use Code 948 – Automated Car Wash is the most appropriate code for the proposed one-tunnel car wash; it provides average trip generation rates of 14.20 trips per 1,000 sq. ft. GLA in the PM peak hour, with 50% entering and 50% exiting, and 30.40 trips per 1,000 sq. ft. GLA in the Saturday peak hour, with 50% entering and 50% exiting. AM peak hour data was not provided.

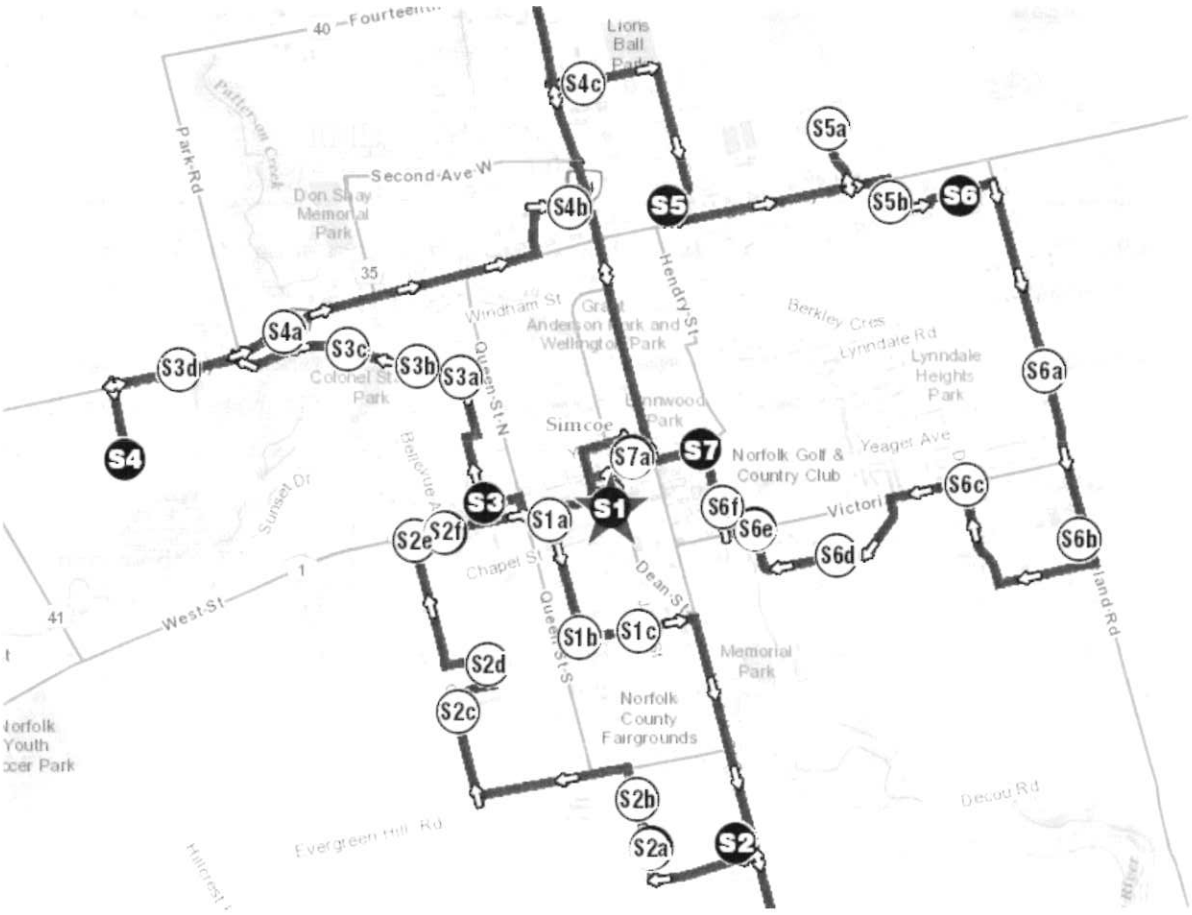
ITE Land Use Code 712 – Small Office Building is the most appropriate code for the proposed 2-unit, 4,248 sq. ft. office space; it provides average trip generation rates of 1.67 trips per 1,000 sq. ft. GLA in the PM peak hour, with 82% entering and 18% exiting, and 2.16 trips per 1,000 sq. ft. GLA in the PM peak hour, with 34% entering and 66% exiting. Saturday data was not provided.

ITE Land Use Code 933 – Fast-Food Restaurant without Drive-Thru Window is the most appropriate code for the proposed 2,124 sq. ft. fast-food restaurant; it provides generation rates of 43.18 trips per 1000 Sq. Ft. GFA in the AM peak hour, with 58% entering and 42% exiting, 33.21 trips per 1000 Sq. Ft. GFA in the PM peak hour, with 50% entering and 50% exiting, and 54.60 trips per 1000 Sq. Ft. GFA in the Saturday peak hour, with 49% entering and 51% exiting.

The total trips generated by the proposed development are estimated to be 165 entering and 141 exiting during the AM peak hour, 85 entering and 89 exiting during the PM peak hour, and 163 entering and 165 exiting during the Saturday peak hour.

Although this report conservatively considers the "worst-case" traffic scenarios (with respect to trip generation and trip assignment), it is likely that the number of "new" on-street auto trips could be much lower than estimated. Given the development's proximity to other significant retail, hotels, and restaurants, internal site capture, pass-by trips, and modal split may significantly reduce the realized traffic impact of the subject development on area roadways.

Sidewalks are provided on the west side of McIntosh Drive and on Queensway East. Norfolk County also provides bus stops within the study area; a bus stop (5a) is provided on McIntosh Drive (at the subject parking lot). Transit service is provided throughout Simcoe, as well as other areas within the County (on different days of the week). The below excerpt from the Ride Norfolk System Map shows the Simcoe route and indicates the stop at the site location:



Hypothetically, if these reductions are realized, a significantly lower percentage of the site generated traffic could be considered "new" on-street auto traffic; the potential reductions for each land use are provided in Appendix B. Although these potential reductions are noted herein, to be abundantly conservative in determining the "worst-case" peak hour scenarios, this report assumes that all site generated traffic results in new vehicle trips.

Site generated traffic was distributed in accordance with origin-destination matrices derived from the turning movement counts obtained at the signalized intersection of McIntosh Drive at Queensway East. The resulting site-generated turning movements are illustrated on Figure 4.

CAPACITY AND LEVEL OF SERVICE ANALYSIS

Detailed Synchro 11 analyses were carried out with respect to the following traffic scenarios:

- Existing Traffic;
- Existing Traffic + Site Generated Traffic;
- Total Traffic 2028 (Background Traffic 2028 + Site Generated Traffic);
- Total Traffic 2033 (Background Traffic 2033 + Site Generated Traffic).

To be conservative, the analyses were carried out assuming full build-out conditions for existing, 2028, and 2033 horizon years. Since Simcoe's population grew by 10% between 2016 and 2021, background traffic was increased by 2% per year, compounded annually, for the 2028 and 2033 horizon forecasts. Figures 5 to 8 summarize existing and total traffic estimates that result from adding site generated traffic to 2028 and 2033 horizon year forecasts; the effect of adding site generated traffic and background traffic growth at each intersection can be found in Appendix C. The resulting Synchro 11 simulation reports are provided in Appendix D. To quantify and qualify the effect of traffic growth on individual intersections within the study area, the Synchro 11 results were summarized as follows:

McIntosh Drive at Queensway East (Highway 3)

The intersection of McIntosh Drive at Queensway East (Highway 3) is currently signalized. The eastbound and westbound legs consist of a dedicated left turn lane, two through lanes, and a dedicated right turn lane, the southbound leg consists of a dedicated left turn lane, a through lane and a dedicated right turn lane, and the northbound leg consists of a dedicated left turn lane and a through / right turn lane. Signal timings were optimized for all scenarios (for the road authority's reference in adjusting the timing plans, should the adjustments be warranted). The intersection is currently operating at a good level of service.

Based on the level of service results provided in Tables 1 and 2, it is anticipated that the addition of site generated traffic and background traffic growth will have a nominal impact on future traffic operations. Even in the most critical traffic scenario, it is anticipated that the approach levels of service will remain satisfactory.

Table 1: Overall Signalized Intersection Level of Service – McIntosh Drive at Queensway East (Hwy 3)

Scenario	McIntosh Drive at Queensway East (Hwy 3)		
	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
Existing Traffic	B	B	B
Existing + Site Generated Traffic	B	B	B
Total Traffic 2028	B	B	B
Total Traffic 2033	B	C	C

Table 2: Level of Service by Approach – McIntosh Drive at Queensway East (Hwy 3)

Scenario	McIntosh Drive at Queensway East (Hwy 3)											
	AM Peak Hour				PM Peak Hour				Saturday Peak Hour			
	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B
Existing Traffic	B	B	B	A	B	B	B	B	B	B	B	B
Existing + Site Gen Traffic	B	B	B	A	B	B	B	B	B	B	B	B
Total Traffic 2028	B	B	B	A	C	B	B	B	B	B	C	B
Total Traffic 2033	B	B	B	A	C	C	B	B	C	B	C	C

SIGHT LINE ANALYSIS

Since no new site accesses are proposed as part of the subject development proposal, the sight lines experienced by egressing traffic will remain same; accordingly, no additional sight lines were reviewed within the context of this study.

SUMMARY AND CONCLUSIONS

A commercial / retail infilling development is proposed at 129 Queensway East, north of Highway 3, in Simcoe, Ontario. The subject site is an existing parking lot on the east side of McIntosh Drive; the lot previously serviced a Zellers® store, but it is no longer in use. The study area includes the intersection of Queensway East at McIntosh Drive. The site plan consists of a 2,411 sq. ft. drive-through coffee shop, a one-tunnel car wash of approximately 2,124 sq. ft., approximately 4,248 sq. ft. of office space divided into two units, and a 2,124 sq. ft. take-out restaurant. The coffee shop drive-through will accommodate a 12-vehicle queue while still allowing full access to the parking areas; the car wash drive-through will accommodate a 6-vehicle queue behind the commercial building.

A total of approximately 279 parking spaces will be available for the entire site, with nine being accessible spaces. This parking supply includes the newly designed parking areas adjacent to the development and the pre-existing parking to the north of the buildings. There are three pre-existing site accesses from McIntosh Drive.

Using recently obtained turning movement counts and applying the best available trip generation and distribution data and methodologies, an analysis was completed to measure the potential impact of the proposed development on area traffic operations. Upon completion of the analysis, it was concluded that:

- The signalized intersection of McIntosh Drive at Queensway East is currently operating at a good level of service; even with the addition of site generated and background traffic growth, it is anticipated that the intersection will continue to operate at a satisfactory level of service in all horizon traffic scenarios;
- Geometric and / or traffic control improvements are not required to accommodate the subject infilling development proposal.

Therefore, based on the results of the technical work, it is the engineers' opinion that the proposed development will not adversely impact area traffic operations.

All of which is respectfully submitted,

RC Spencer Associates Inc.

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Richard C. Spencer, M.A.Sc., P.Eng., PE
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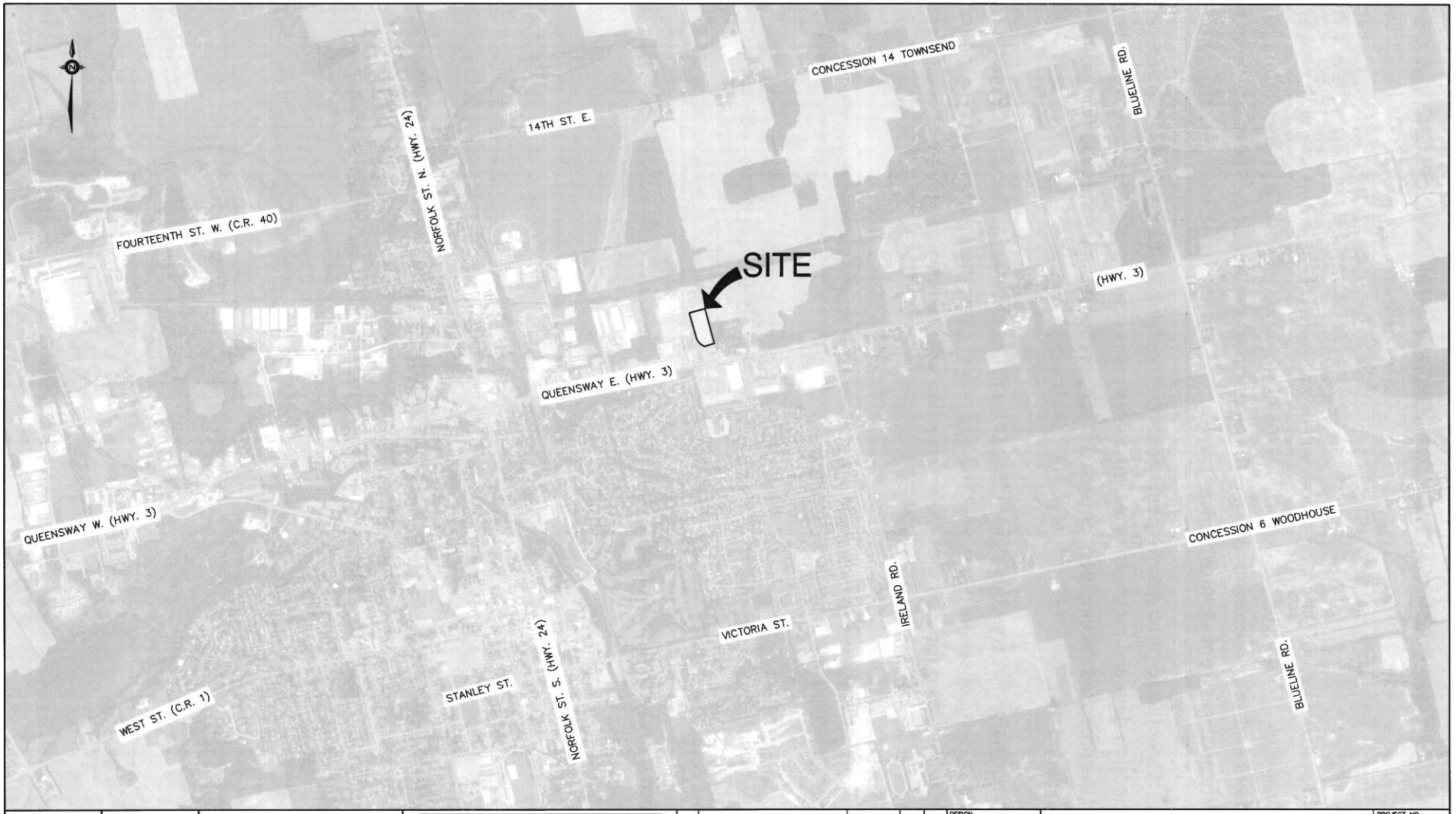

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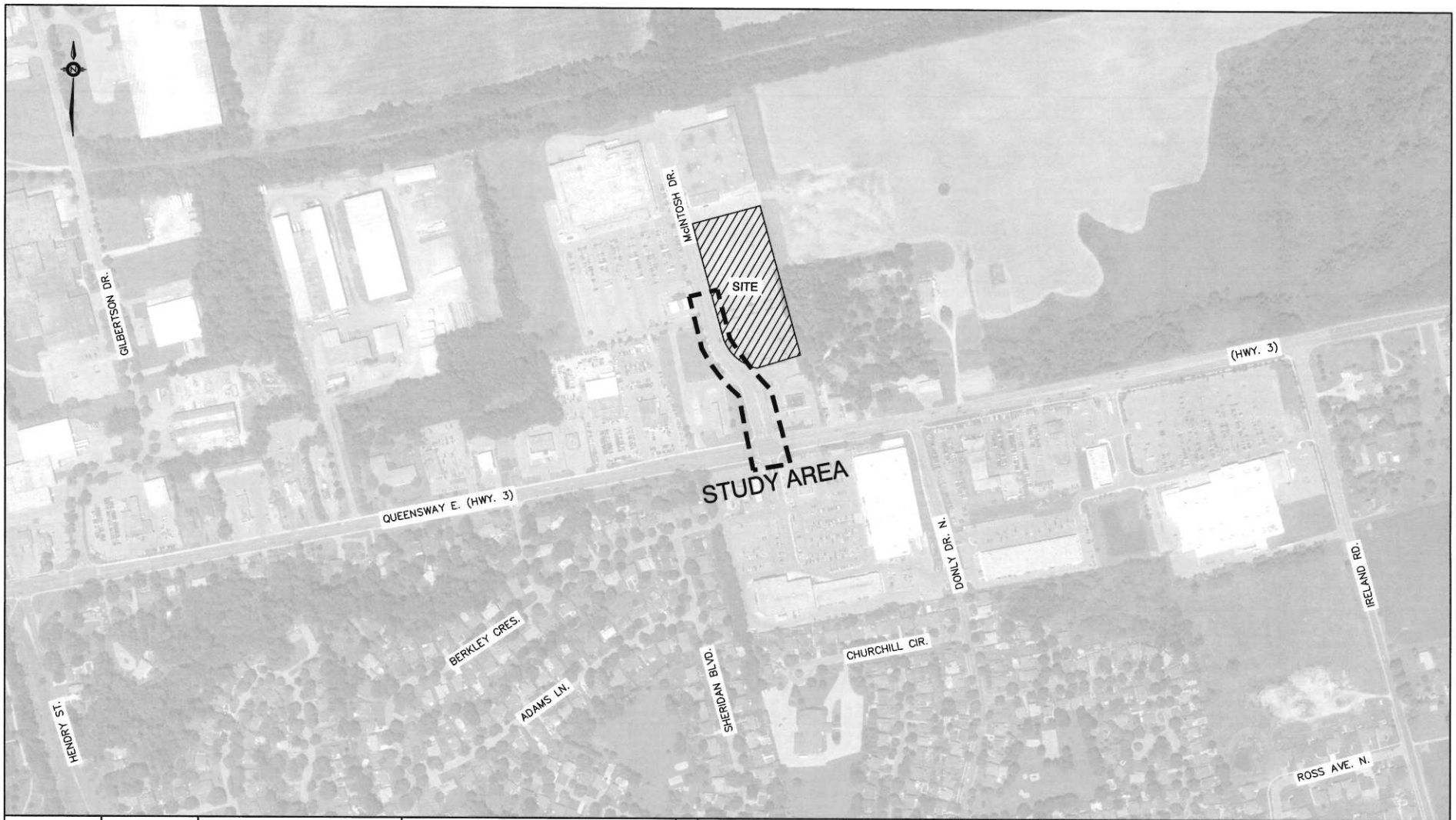
NO.	REVISION	DATE	BY	APP
2.	UPDATED REPORT FIGURES	13 APR. 2023	K.R.	A.D.B.
1.	COMPLETED REPORT FIGURES	16 MAR. 2023	F.C.	A.D.B.

DESIGN A.D.B.
CHECKED A.D.B.
DRAWN F.C.
CHECKED A.D.B.
DATE APRIL 2023
SCALE N.T.S.

COMMERCIAL / RETAIL DEVELOPMENT, SIMCOE

AREA PLAN

PROJECT NO. 23-1409
FIGURE NO. 1
OF 8



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Professional Engineers Ontario

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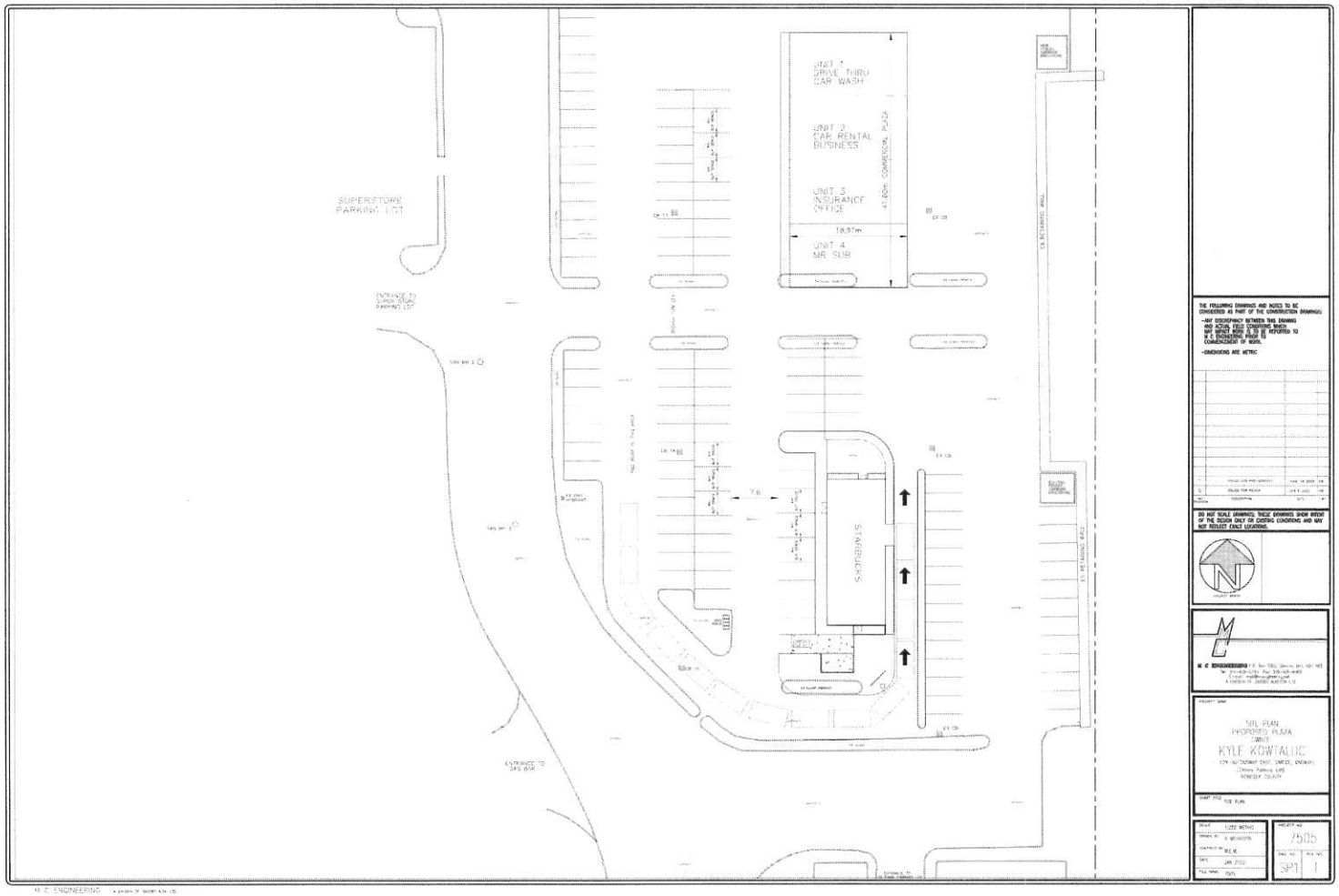
CHECKED A.D.B.
DRAWN F.C.
CHECKED A.D.B.
DATE APRIL 2023
SCALE N.T.S.

COMMERCIAL / RETAIL DEVELOPMENT, SIMCOE

STUDY AREA

PROJECT NO. 23-1409
FIGURE NO. 2
OF 8



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CHECKED A.D.B.
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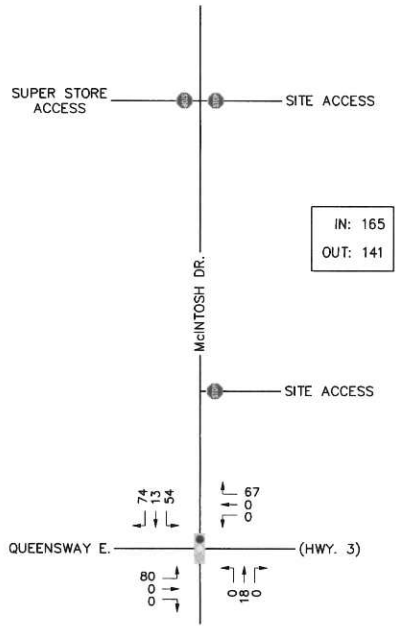
SCALE N.T.S.

COMMERCIAL / RETAIL DEVELOPMENT, SIMCOE

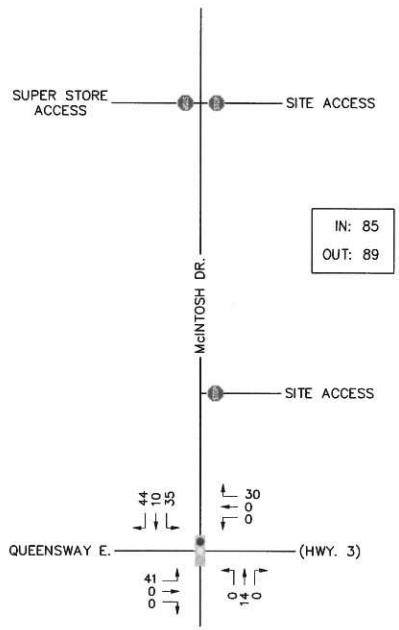
SITE PLAN

PROJECT NO. 23-1409
FIGURE NO. 3
OF 8

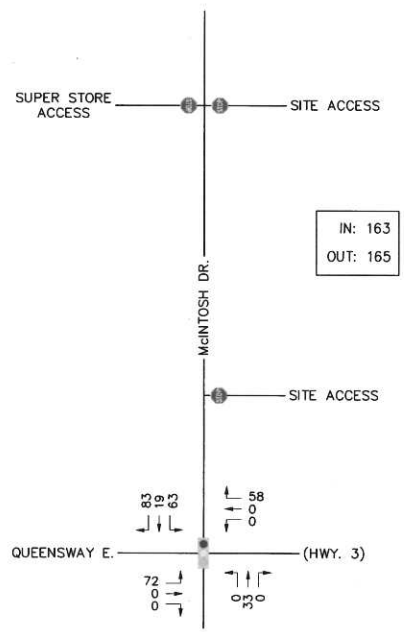
SITE GENERATED TRAFFIC
(AM PEAK HOUR)



SITE GENERATED TRAFFIC
(PM PEAK HOUR)



SITE GENERATED TRAFFIC
(WEEKEND PEAK HOUR)



RC SPENCER ASSOCIATES INC
Consulting Engineers

Professional Engineers Ontario

NO.	REVISION	DATE	BY	APP
2.	UPDATED REPORT FIGURES	13 APR. 2023	K.R.	A.D.B.
1.	COMPLETED REPORT FIGURES	16 MAR. 2023	F.C.	A.D.B.

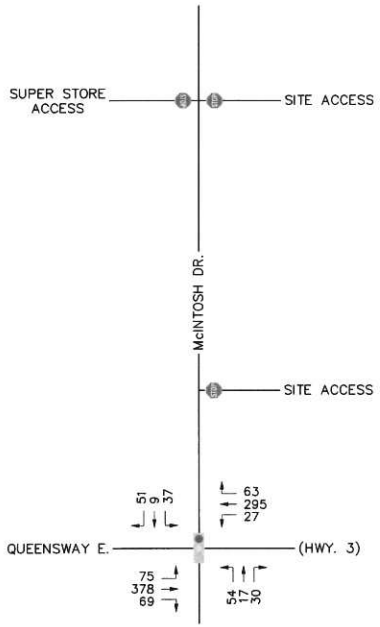
DESIGN A.D.B.
CHECKED A.D.B.
DRAWN F.C.
CHECKED A.D.B.
DATE APRIL 2023
SCALE N.T.S.

COMMERCIAL / RETAIL DEVELOPMENT, SIMCOE

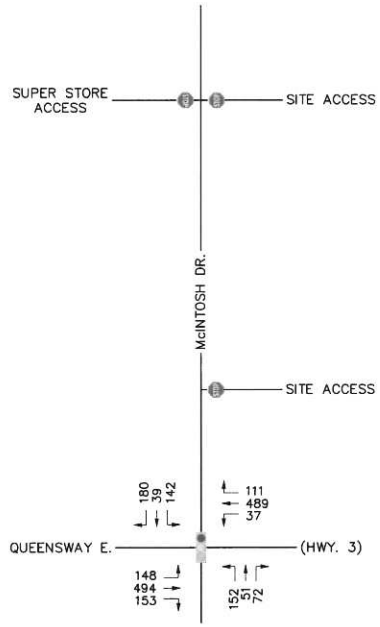
SITE GENERATED TRAFFIC
(AM / PM / WEEKEND PEAK HOUR)

PROJECT NO. 23-1409
FIGURE NO. 4
OF 8

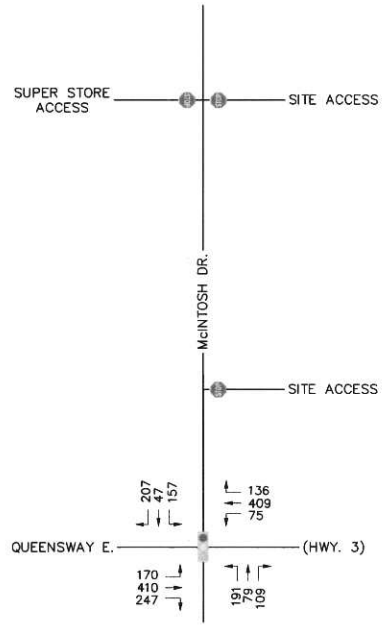
EXISTING TRAFFIC
(AM PEAK HOUR)



EXISTING TRAFFIC
(PM PEAK HOUR)



EXISTING TRAFFIC
(WEEKEND PEAK HOUR)



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2.	UPDATED REPORT FIGURES	13 APR. 2023	K.R.	A.D.B.
1.	COMPLETED REPORT FIGURES	16 MAR. 2023	F.C.	A.D.B.

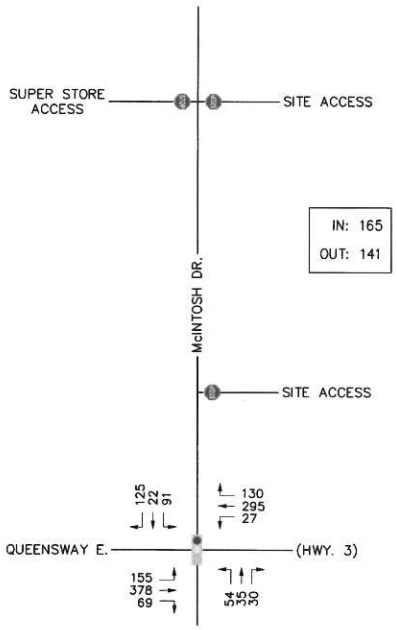
DESIGN A.D.B.
CHECKED A.D.B.
DRAWN F.C.
CHECKED A.D.B.
DATE APRIL 2023
SCALE N.T.S.

COMMERCIAL / RETAIL DEVELOPMENT, SIMCOE

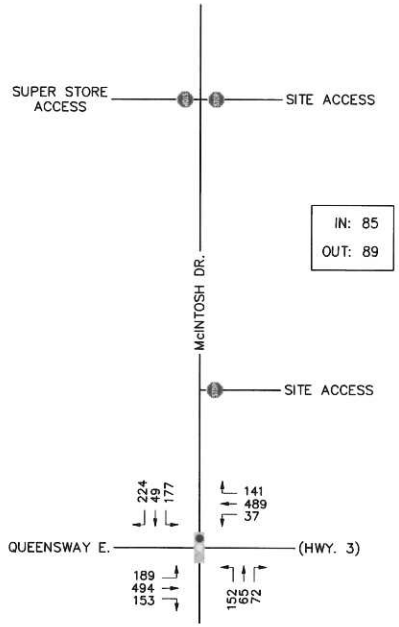
EXISTING TRAFFIC
(AM / PM / WEEKEND PEAK HOUR)

PROJECT NO. 23-1409
FIGURE NO. 5
OF 8

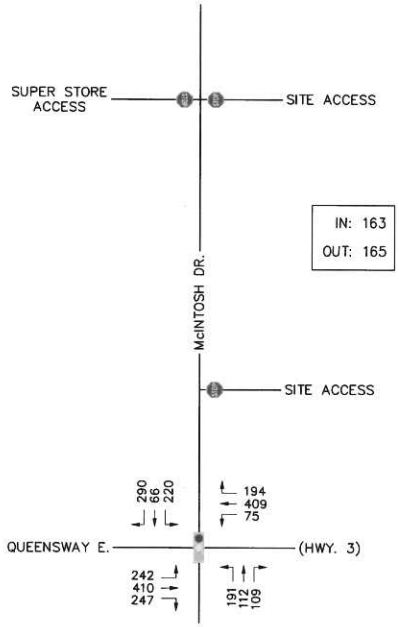
EXISTING + SITE GENERATED TRAFFIC
(AM PEAK HOUR)



EXISTING + SITE GENERATED TRAFFIC
(AM PEAK HOUR)



EXISTING + SITE GENERATED TRAFFIC
(AM PEAK HOUR)



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2.	UPDATED REPORT FIGURES	13 APR. 2023	K.R.	A.D.B.
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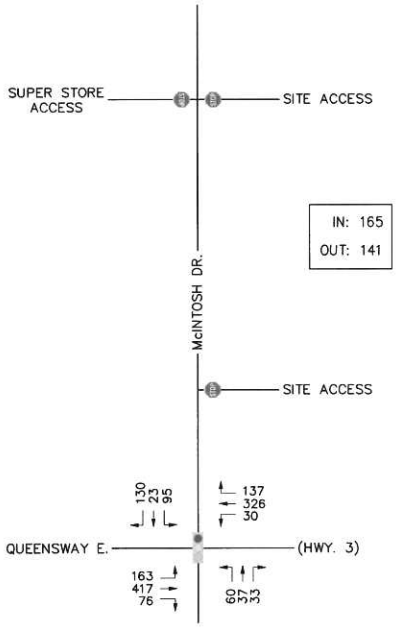
DESIGN A.D.B.
CHECKED A.D.B.
DRAWN F.C.
CHECKED A.D.B.
DATE APRIL 2023
SCALE N.T.S.

COMMERCIAL / RETAIL DEVELOPMENT, SIMCOE

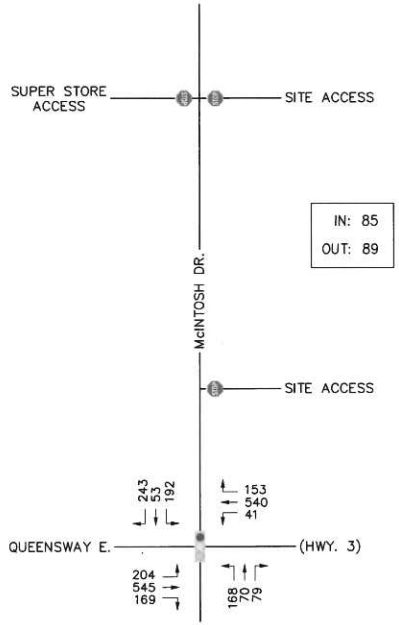
EXISTING + SITE GENERATED TRAFFIC (AM / PM / WEEKEND PEAK HOUR)

PROJECT NO. 23-1409
FIGURE NO. 6
OF 8

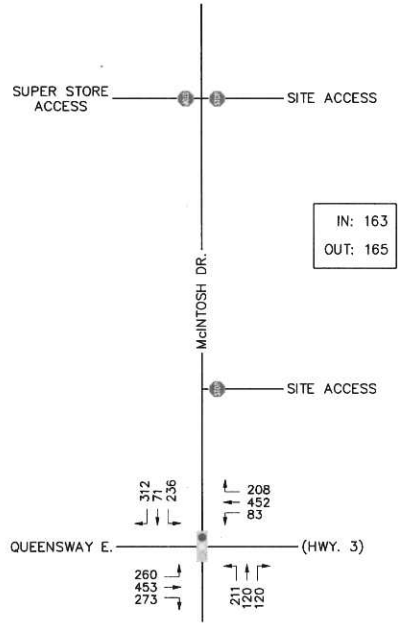
TOTAL TRAFFIC 2028
(AM PEAK HOUR)



TOTAL TRAFFIC 2028
(PM PEAK HOUR)



TOTAL TRAFFIC 2028
(WEEKEND PEAK HOUR)



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2.	UPDATED REPORT FIGURES	13 APR. 2023	K.R.	A.D.B.
1.	COMPLETED REPORT FIGURES	16 MAR. 2023	F.C.	A.D.B.

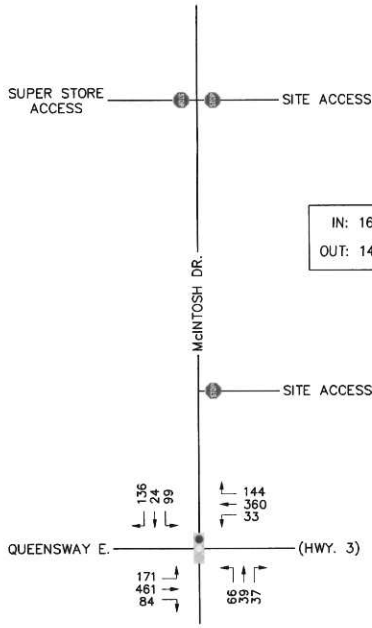
DESIGN A.D.B.
CHECKED A.D.B.
DRAWN F.C.
CHECKED A.D.B.
DATE APRIL 2023
SCALE N.T.S.

COMMERCIAL / RETAIL DEVELOPMENT, SIMCOE

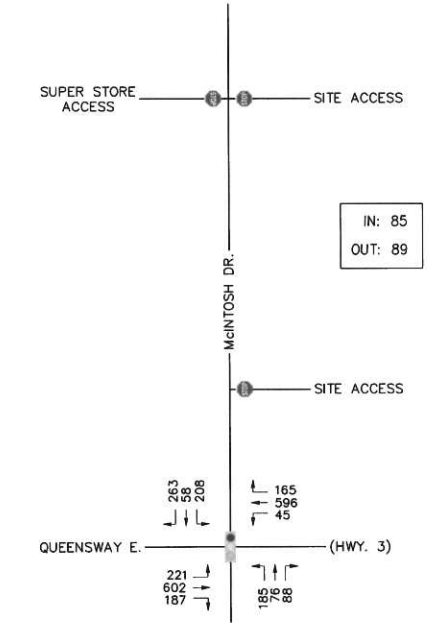
TOTAL TRAFFIC 2028
(AM / PM / WEEKEND PEAK HOUR)

PROJECT NO. 23-1409
FIGURE NO. 7
OF 8

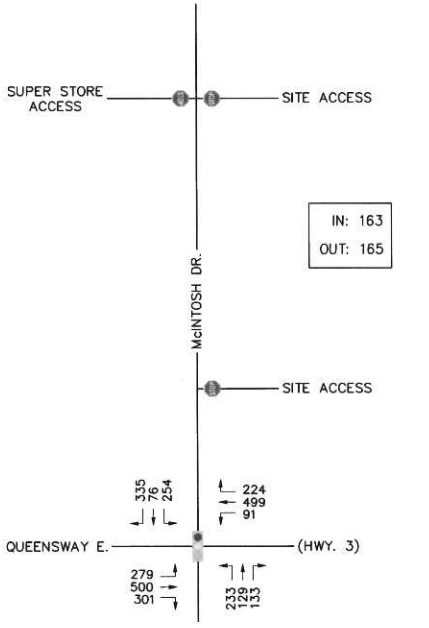
TOTAL TRAFFIC 2033
(AM PEAK HOUR)



TOTAL TRAFFIC 2033
(PM PEAK HOUR)



TOTAL TRAFFIC 2033
(WEEKEND PEAK HOUR)



RC SPENCER ASSOCIATES INC
Consulting Engineers
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NO.	REVISION	DATE	BY	APP
2.	UPDATED REPORT FIGURES	13 APR. 2023	K.R.	A.D.B.
1.	COMPLETED REPORT FIGURES	16 MAR. 2023	F.C.	A.D.B.

DESIGN A.D.B.
CHECKED A.D.B.
DRAWN F.C.
CHECKED A.D.B.
DATE APRIL 2023
SCALE N.T.S.

COMMERCIAL / RETAIL DEVELOPMENT, SIMCOE

TOTAL TRAFFIC 2033
(AM / PM / WEEKEND PEAK HOUR)

PROJECT NO. 23-1409
FIGURE NO. 8
OF 8

Appendix A

TRAFFIC DATA COLLECTION

McIntosh Drive at Queensway East (Highway 3)

Hwy 3 @ McIntosh Dr

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

Municipality: Simcoe
Site #: 0000000001
Intersection: Hwy 3 & McIntosh Dr
TFR File #: 2
Count date: 1-Apr-2023

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Hwy 3 runs W/E

North Leg Total: 243
North Entering: 101
North Peds: 3
Peds Cross: ⋈

Heavys	0	0	0	0
Trucks	0	0	0	0
Cars	61	12	28	101
Totals	61	12	28	

Heavys	1
Trucks	2
Cars	139
Totals	142

East Leg Total: 450
East Entering: 234
East Peds: 0
Peds Cross: ⧖

McIntosh Dr

Heavys	Trucks	Cars	Totals
1	3	272	276

Cars	Trucks	Heavys	Totals
54	2	1	57
157	0	1	158
18	0	1	19
229	2	3	

Hwy 3 (Queensway East)

N
W E
S

Heavys	Trucks	Cars	Totals
0	0	73	73
3	3	165	171
0	0	48	48
3	3	286	

Hwy 3 (Queensway East)

Cars	Trucks	Heavys	Totals
210	3	3	216

Plaza

Peds Cross: ⧖
West Peds: 4
West Entering: 292
West Leg Total: 568

Cars	78
Trucks	0
Heavys	1
Totals	79

Cars	54	12	17	83
Trucks	3	0	0	3
Heavys	0	0	0	0
Totals	57	12	17	

Peds Cross: ⋈
South Peds: 3
South Entering: 86
South Leg Total: 165

Comments

Hwy 3 @ McIntosh Dr

Mid-day Peak Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 13:00:00
To: 14:00:00

Municipality: Simcoe
Site #: 0000000001
Intersection: Hwy 3 & McIntosh Dr
TFR File #: 2
Count date: 1-Apr-2023

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Hwy 3 runs W/E

North Leg Total: 796
North Entering: 411
North Peds: 2
Peds Cross: ⋈

Heavys	1	0	0	1
Trucks	0	0	1	1
Cars	206	47	156	409
Totals	207	47	157	

Heavys	0
Trucks	0
Cars	385
Totals	385

East Leg Total: 1296
East Entering: 620
East Peds: 3
Peds Cross: ⧖

Heavys	Trucks	Cars	Totals
3	2	802	807

McIntosh Dr

Cars	Trucks	Heavys	Totals
136	0	0	136
405	2	2	409
75	0	0	75
616	2	2	

Hwy 3 (Queensway East)

N
W E
S

Heavys	Trucks	Cars	Totals
0	0	170	170
3	0	407	410
0	0	247	247
3	0	824	

Hwy 3 (Queensway East)

Cars	Trucks	Heavys	Totals
672	1	3	676

Plaza

Peds Cross: ⧖
West Peds: 3
West Entering: 827
West Leg Total: 1634

Cars	369
Trucks	0
Heavys	0
Totals	369

Cars	191	79	109	379
Trucks	0	0	0	0
Heavys	0	0	0	0
Totals	191	79	109	

Peds Cross: ⋈
South Peds: 3
South Entering: 379
South Leg Total: 748

Comments

Hwy 3 @ McIntosh Dr

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 15:00:00
To: 16:00:00

Municipality: Simcoe
Site #: 0000000001
Intersection: Hwy 3 & McIntosh Dr
TFR File #: 2
Count date: 1-Apr-2023

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Hwy 3 runs W/E

North Leg Total: 690
North Entering: 361
North Peds: 3
Peds Cross: ⋈

Heavys	1	0	0	1
Trucks	0	0	0	0
Cars	184	36	140	360
Totals	185	36	140	

Heavys	1
Trucks	1
Cars	327
Totals	329

East Leg Total: 1142
East Entering: 544
East Peds: 6
Peds Cross: ⧖

McIntosh Dr

Heavys	Trucks	Cars	Totals
1	1	723	725

Cars	Trucks	Heavys	Totals
110	1	0	111
377	1	0	378
55	0	0	55
542	2	0	

Hwy 3 (Queensway East)

N
W E
S

Heavys	Trucks	Cars	Totals
1	0	151	152
0	0	375	375
0	0	137	137
1	0	663	

Hwy 3 (Queensway East)

Cars	Trucks	Heavys	Totals
598	0	0	598

Plaza

Peds Cross: ⧖
West Peds: 11
West Entering: 664
West Leg Total: 1389

Cars	228
Trucks	0
Heavys	0
Totals	228

Cars	162	66	83	311
Trucks	0	0	0	0
Heavys	0	0	0	0
Totals	162	66	83	

Peds Cross: ⋈
South Peds: 0
South Entering: 311
South Leg Total: 539

Comments

Hwy 3 @ McIntosh Dr

Total Count Diagram

Municipality: Simcoe
Site #: 0000000001
Intersection: Hwy 3 & McIntosh Dr
TFR File #: 2
Count date: 1-Apr-2023

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Hwy 3 runs W/E

North Leg Total: 4356
North Entering: 2249
North Peds: 16
Peds Cross: ⋈

Heavys	5	0	0	5
Trucks	0	1	2	3
Cars	1202	222	817	2241
Totals	1207	223	819	

Heavys	3			
Trucks	6			
Cars	2098			
Totals	2107			

East Leg Total: 7500
East Entering: 3720
East Peds: 15
Peds Cross: ⋈

McIntosh Dr

Heavys	Trucks	Cars	Totals
21	8	4745	4774

Cars	Trucks	Heavys	Totals
759	4	2	765
2558	5	16	2579
375	0	1	376
3692	9	19	

Hwy 3 (Queensway East)

N
W E
S

Heavys	Trucks	Cars	Totals
1	2	966	969
12	11	2406	2429
0	2	1067	1069
13	15	4439	

Hwy 3 (Queensway East)

Cars	Trucks	Heavys	Totals
3754	14	12	3780

Plaza

Peds Cross: ⋈
West Peds: 34
West Entering: 4467
West Leg Total: 9241

Cars	1664			
Trucks	3			
Heavys	1			
Totals	1668			

Cars	985	373	531	1889
Trucks	3	0	1	4
Heavys	0	0	0	0
Totals	988	373	532	

Peds Cross: ⋈
South Peds: 14
South Entering: 1893
South Leg Total: 3561

Comments

Hwy 3 @ McIntosh Dr

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

Municipality: Simcoe
Site #: 0000000001
Intersection: Hwy 3 & McIntosh Dr
TFR File #: 1
Count date: 30-Mar-2023

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Hwy 3 runs W/E

North Leg Total: 252
North Entering: 97
North Peds: 3
Peds Cross: ⋈

Heavys	3	0	1	4
Trucks	0	0	0	0
Cars	48	9	36	93
Totals	51	9	37	

Heavys	2			
Trucks	1			
Cars	152			
Totals	155			

East Leg Total: 830
East Entering: 385
East Peds: 4
Peds Cross: ⧖

McIntosh Dr

Heavys	Trucks	Cars	Totals
19	2	379	400

Hwy 3 (Queensway East)

	Cars	Trucks	Heavys	Totals
	62	0	1	63
	280	1	14	295
	26	0	1	27
	368	1	16	

N
W E
S

Heavys	Trucks	Cars	Totals
1	0	74	75
24	1	353	378
1	2	66	69
26	3	493	

Hwy 3 (Queensway East)

	Cars	Trucks	Heavys	Totals
	418	2	25	445

Plaza

Peds Cross: ⧖
West Peds: 3
West Entering: 522
West Leg Total: 922

Cars	101			
Trucks	2			
Heavys	2			
Totals	105			

Cars	51	16	29	96
Trucks	1	1	1	3
Heavys	2	0	0	2
Totals	54	17	30	

Peds Cross: ⋈
South Peds: 5
South Entering: 101
South Leg Total: 206

Comments

Hwy 3 @ McIntosh Dr

Mid-day Peak Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 13:00:00
To: 14:00:00

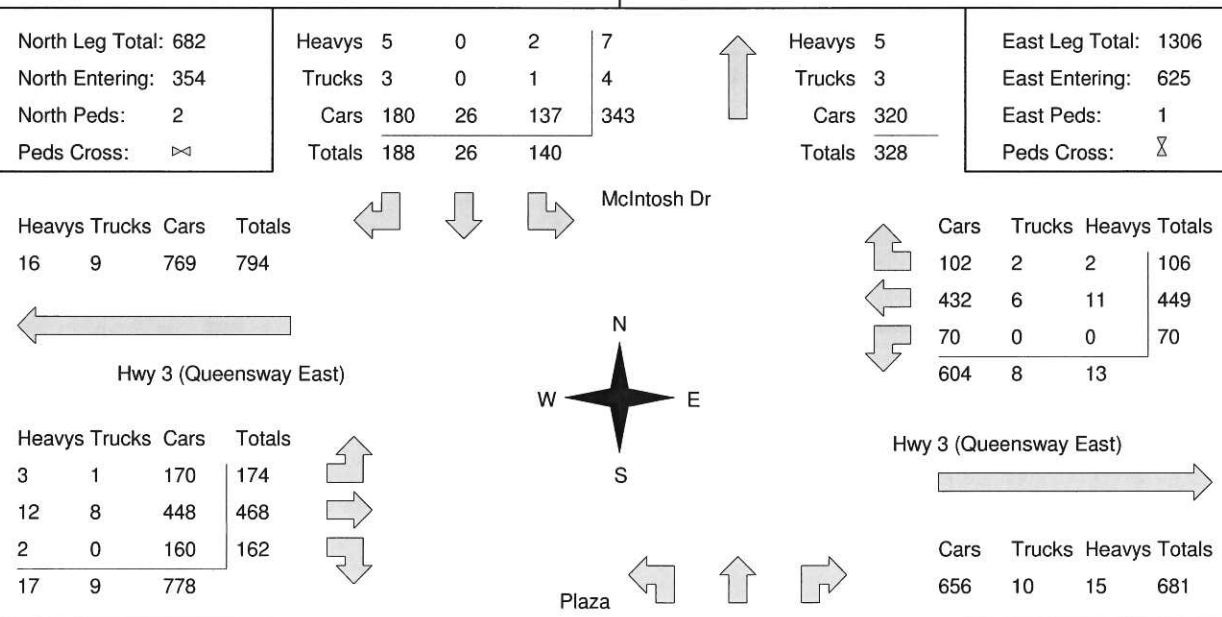
Municipality: Simcoe
Site #: 0000000001
Intersection: Hwy 3 & McIntosh Dr
TFR File #: 1
Count date: 30-Mar-2023

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Hwy 3 runs W/E



Comments

Hwy 3 @ McIntosh Dr

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 15:15:00
To: 16:15:00

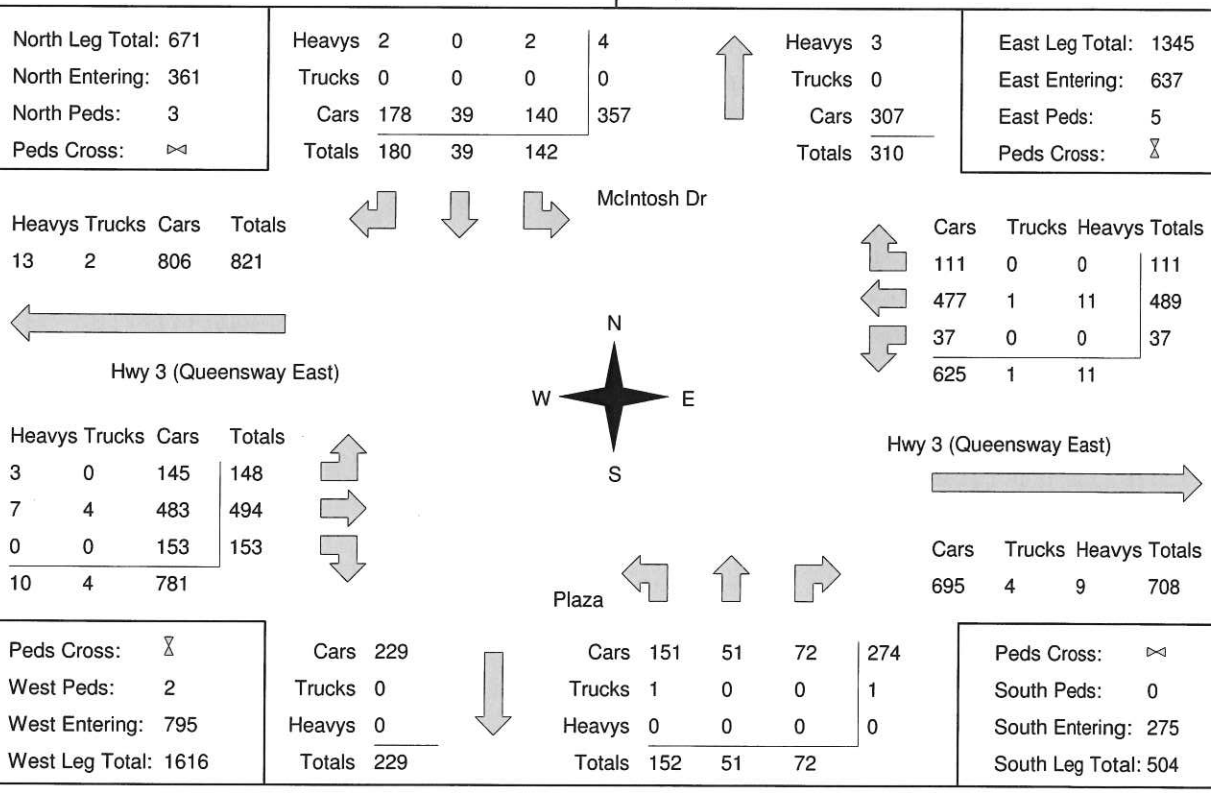
Municipality: Simcoe
Site #: 0000000001
Intersection: Hwy 3 & McIntosh Dr
TFR File #: 1
Count date: 30-Mar-2023

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Hwy 3 runs W/E



Comments

Hwy 3 @ McIntosh Dr

Total Count Diagram

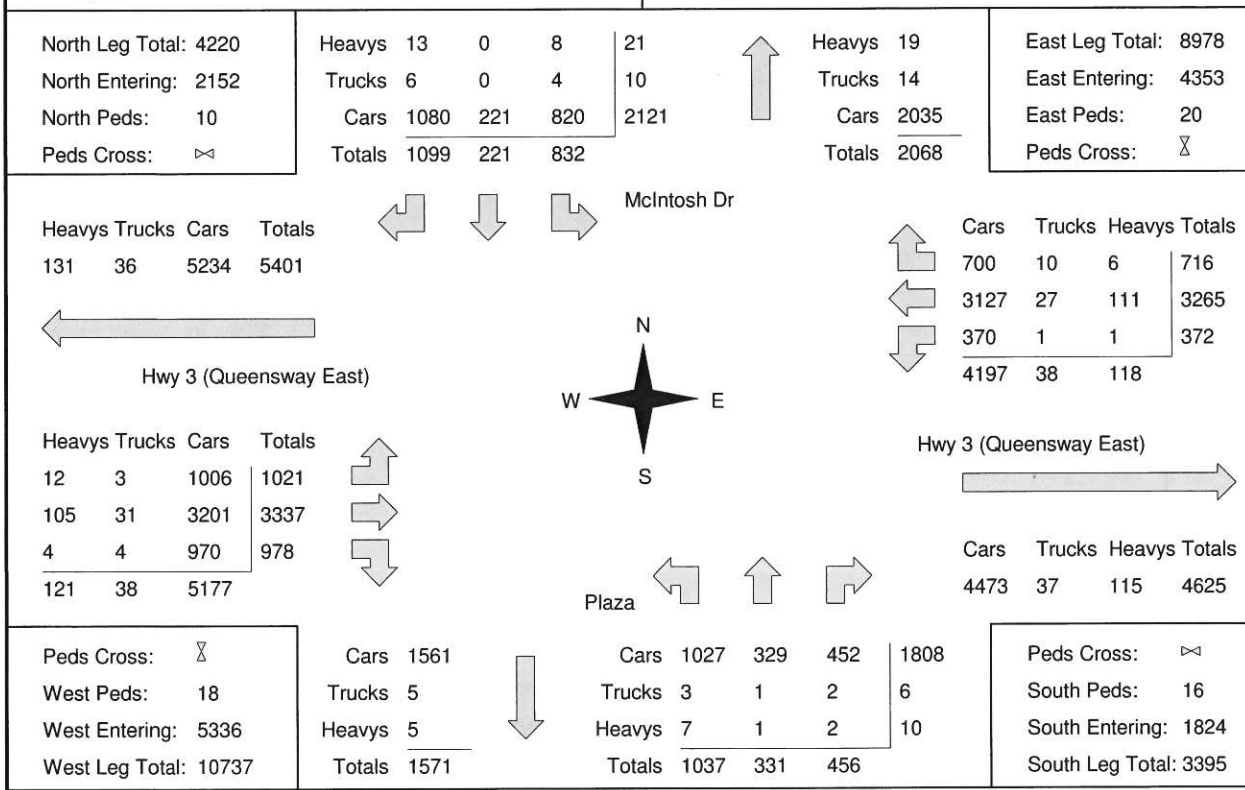
Municipality: Simcoe
Site #: 0000000001
Intersection: Hwy 3 & McIntosh Dr
TFR File #: 1
Count date: 30-Mar-2023

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Hwy 3 runs W/E



Comments

Appendix B

ITE TRIP GENERATION MANUAL – 11TH EDITION

REFERENCES

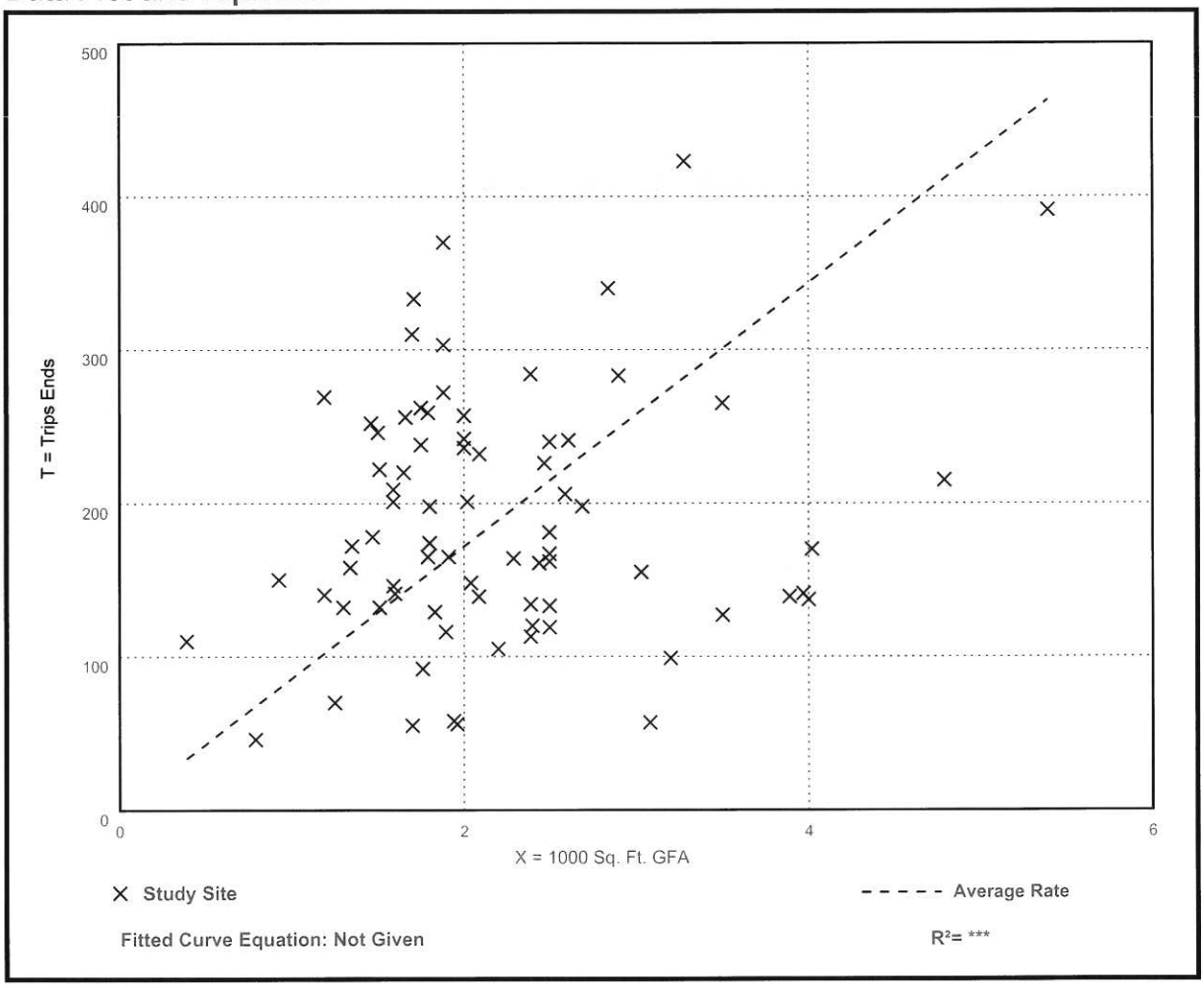
Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 78
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
85.88	18.51 - 282.05	44.92

Data Plot and Equation



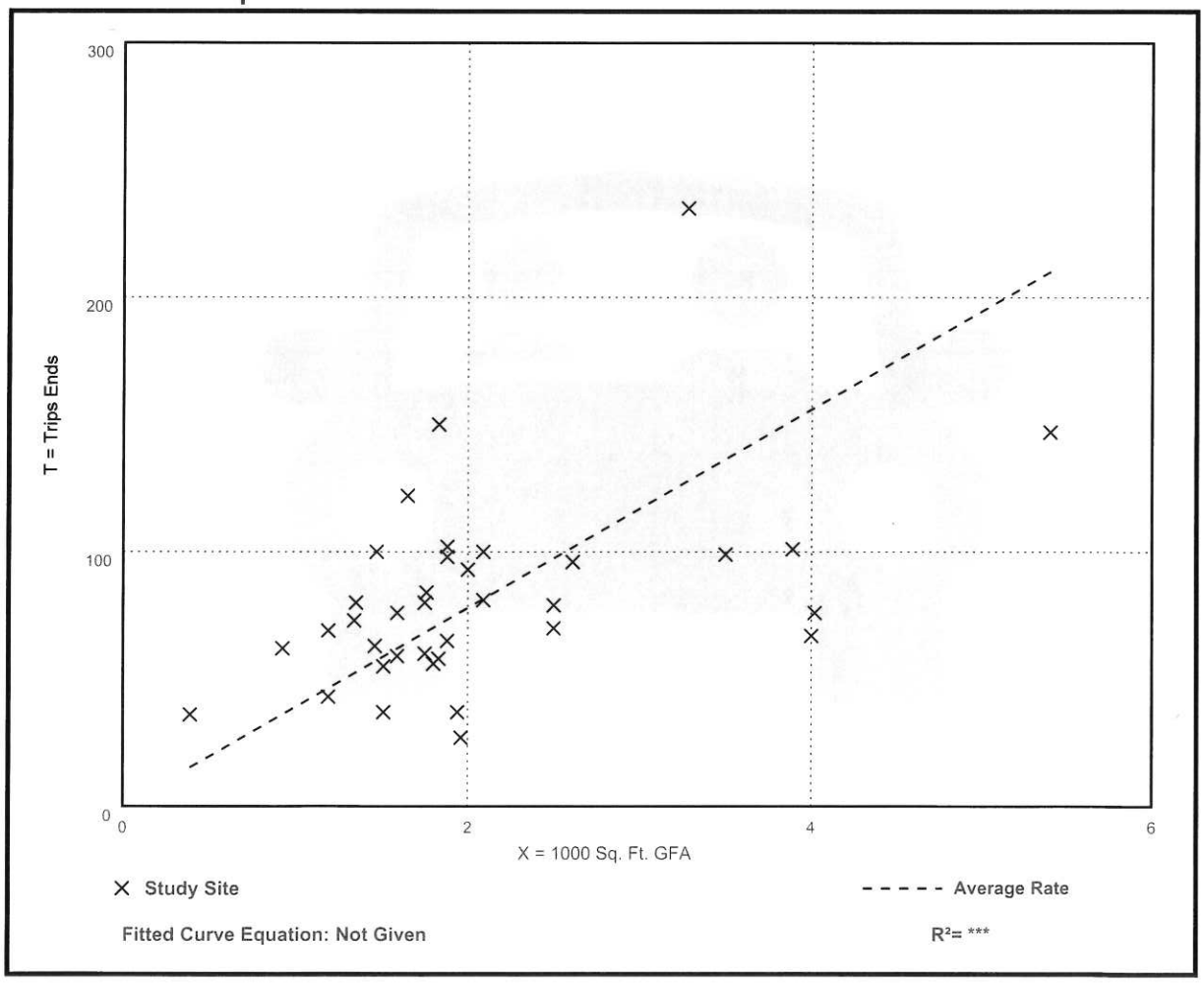
Coffee/Donut Shop with Drive-Through Window (937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 36
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
38.99	13.78 - 92.31	17.79

Data Plot and Equation



Coffee/Donut Shop with Drive-Through Window (937)

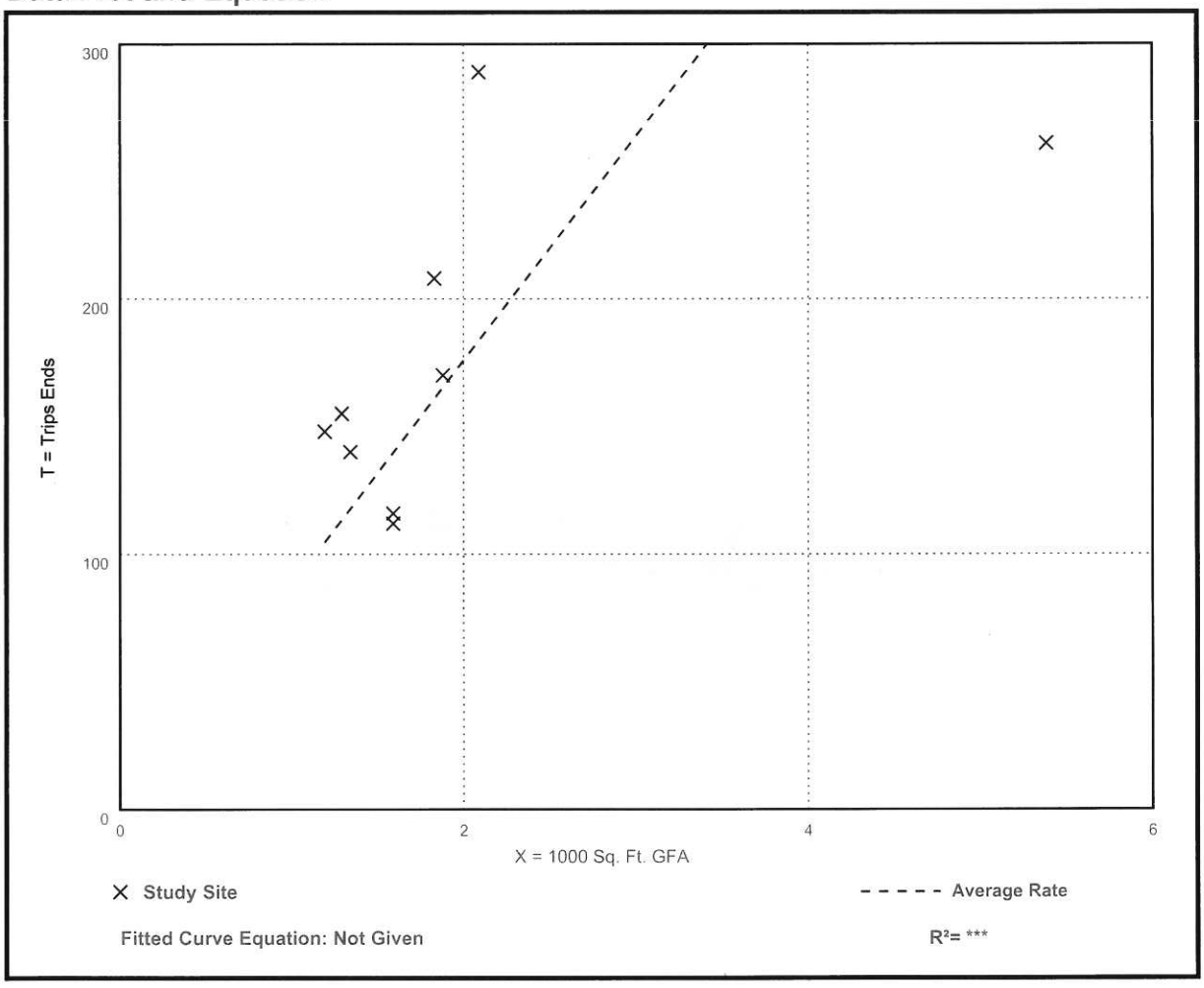
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 9
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
87.91	48.42 - 138.28	34.34

Data Plot and Equation



Automated Car Wash
(948)

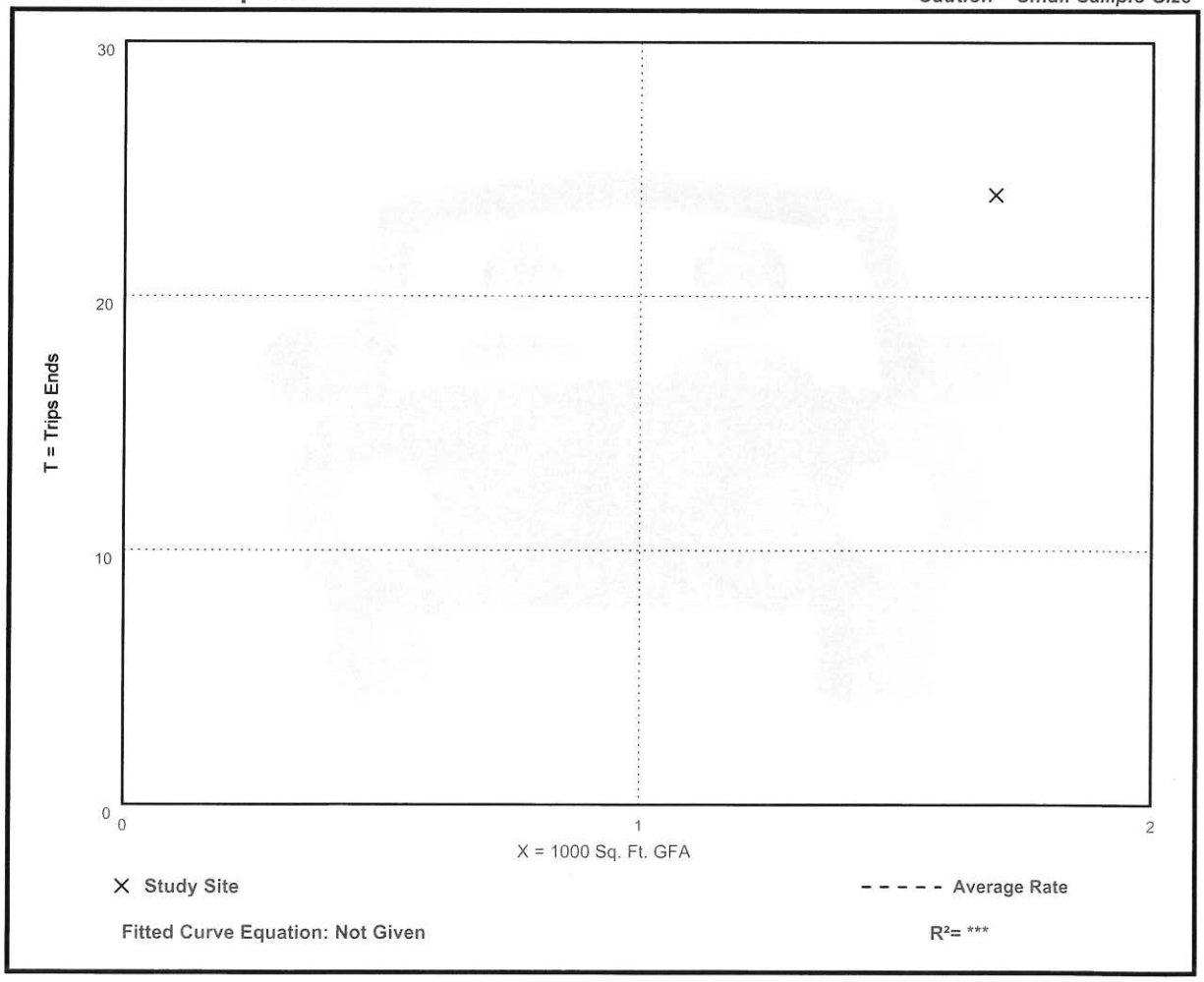
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
14.20	14.20 - 14.20	***

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ***

Automated Car Wash
(948)

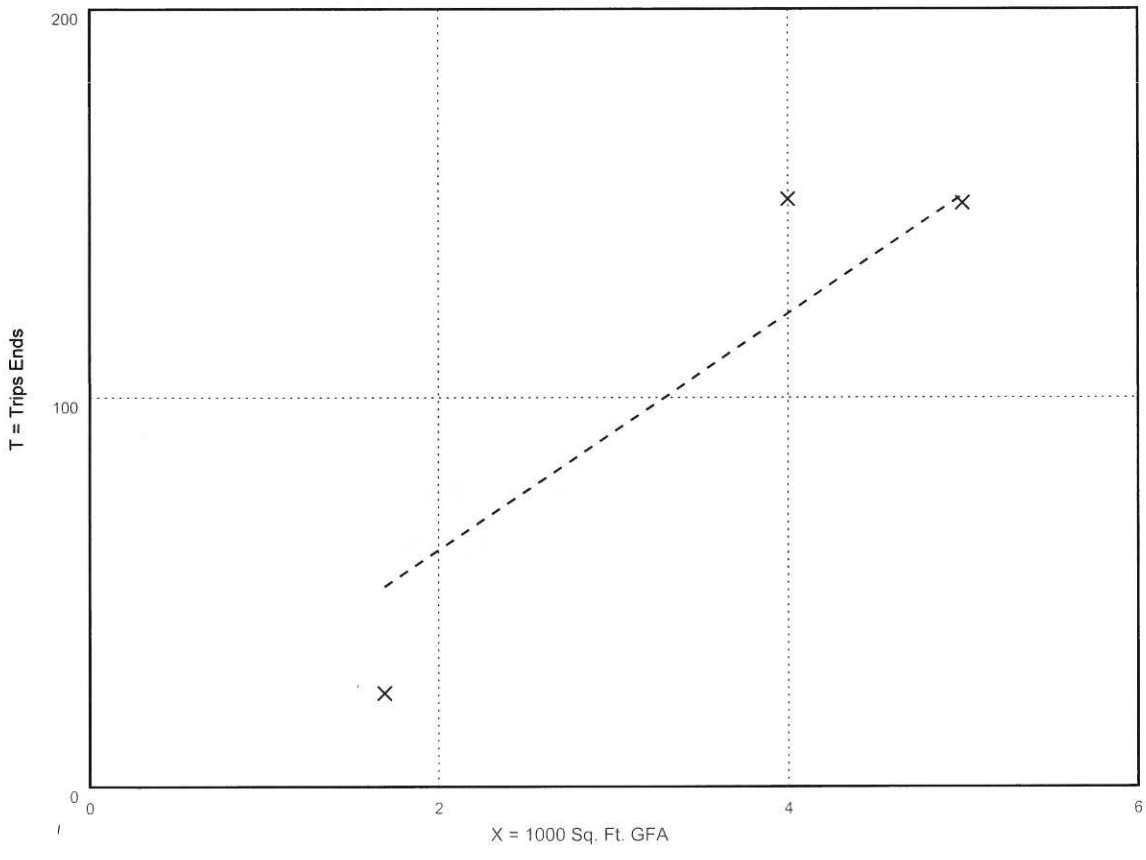
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 3
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
30.40	14.20 - 37.75	9.63

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ***

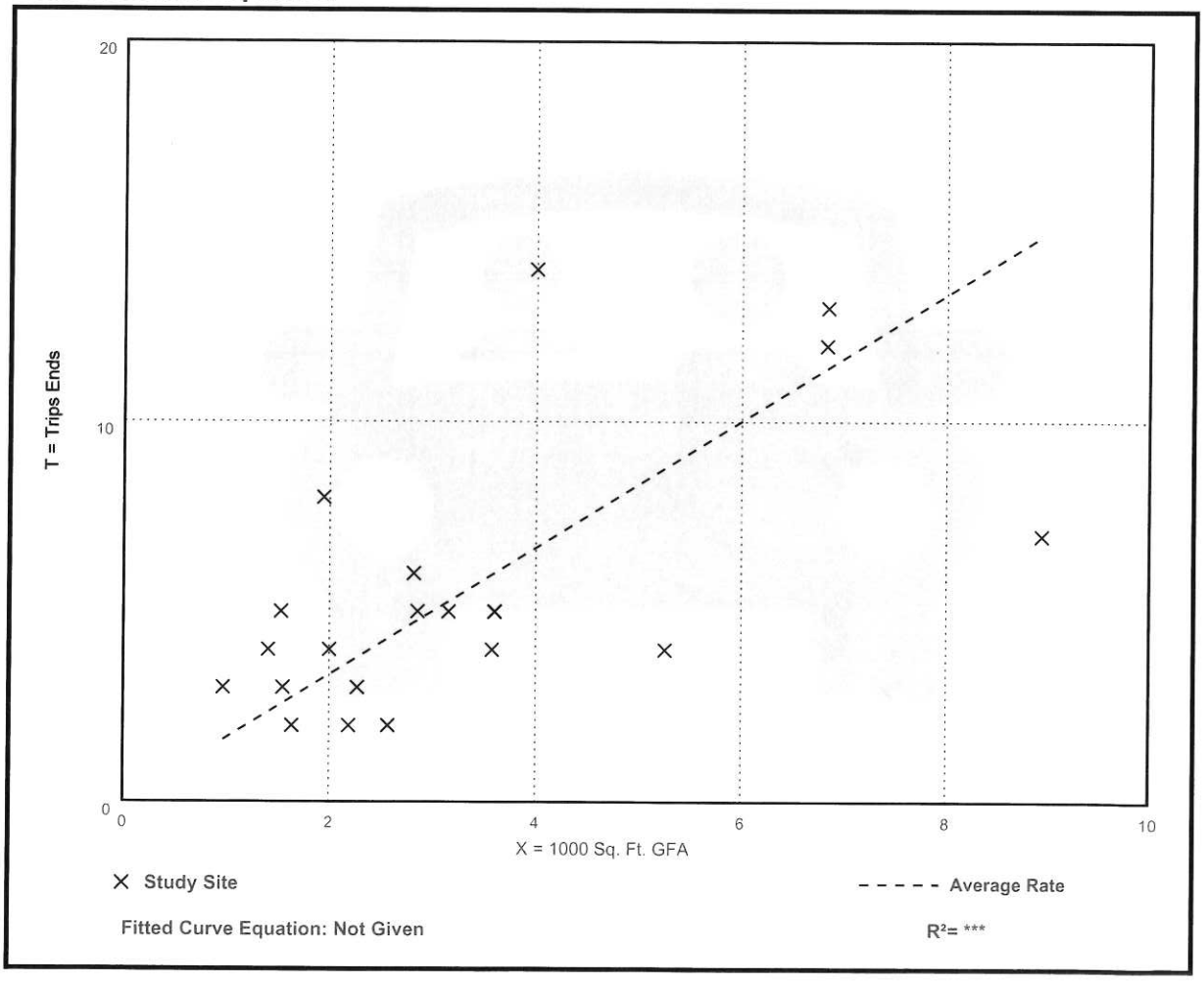
Small Office Building
(712)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 21
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 82% entering, 18% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.67	0.76 - 4.12	0.88

Data Plot and Equation



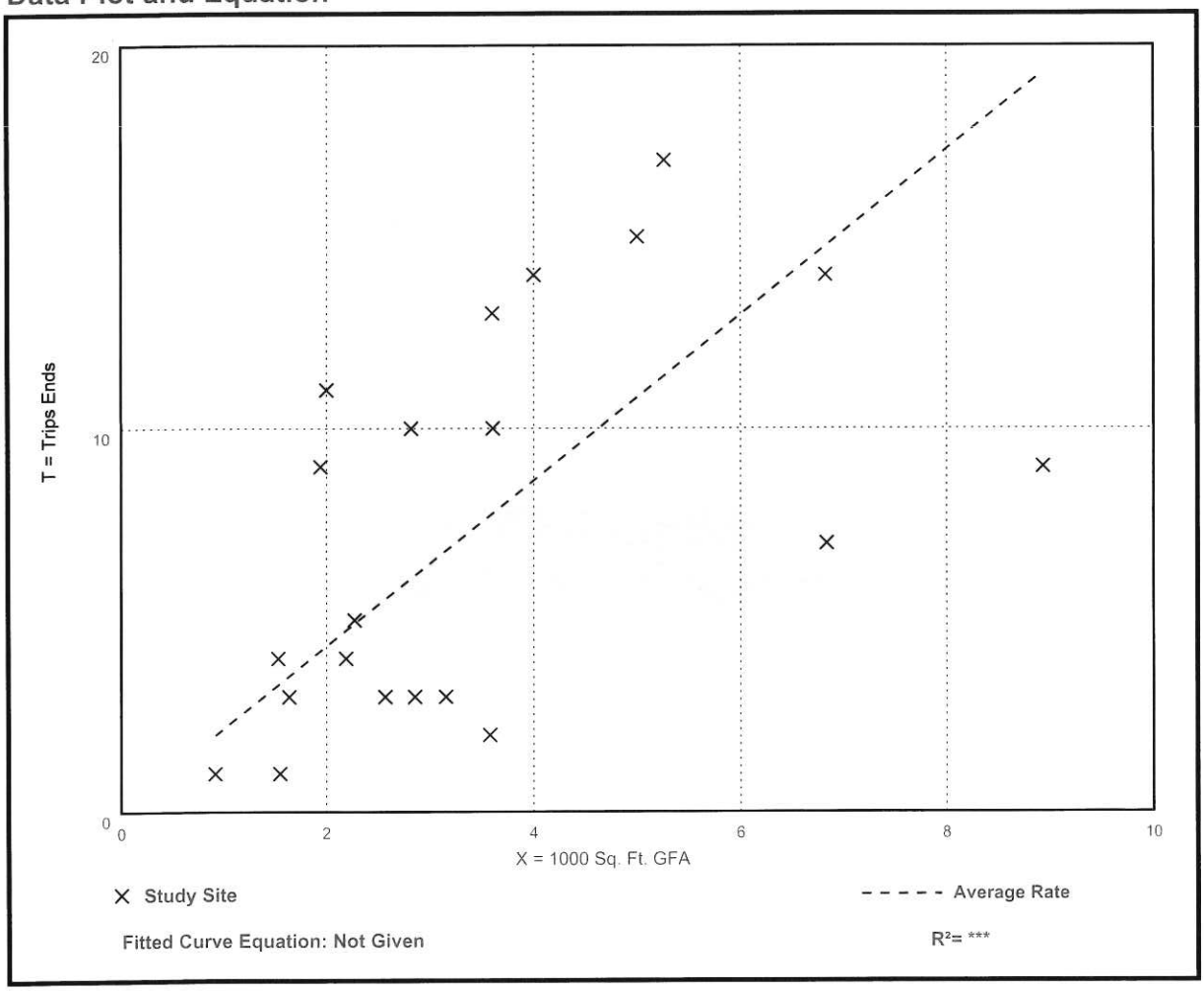
Small Office Building
(712)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 21
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 34% entering, 66% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.16	0.56 - 5.50	1.26

Data Plot and Equation



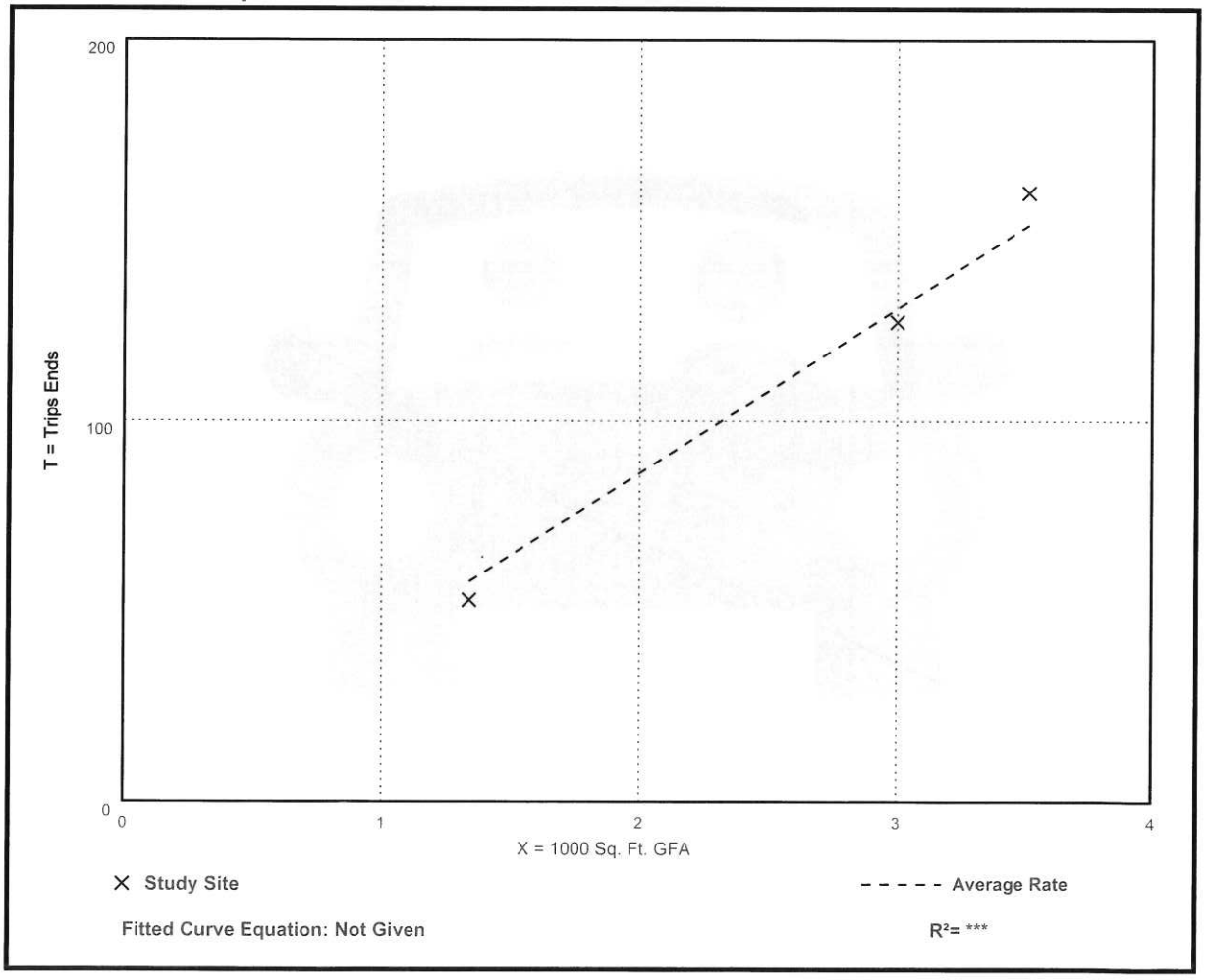
Fast-Food Restaurant without Drive-Through Window (933)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 3
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
43.18	39.55 - 45.58	2.84

Data Plot and Equation



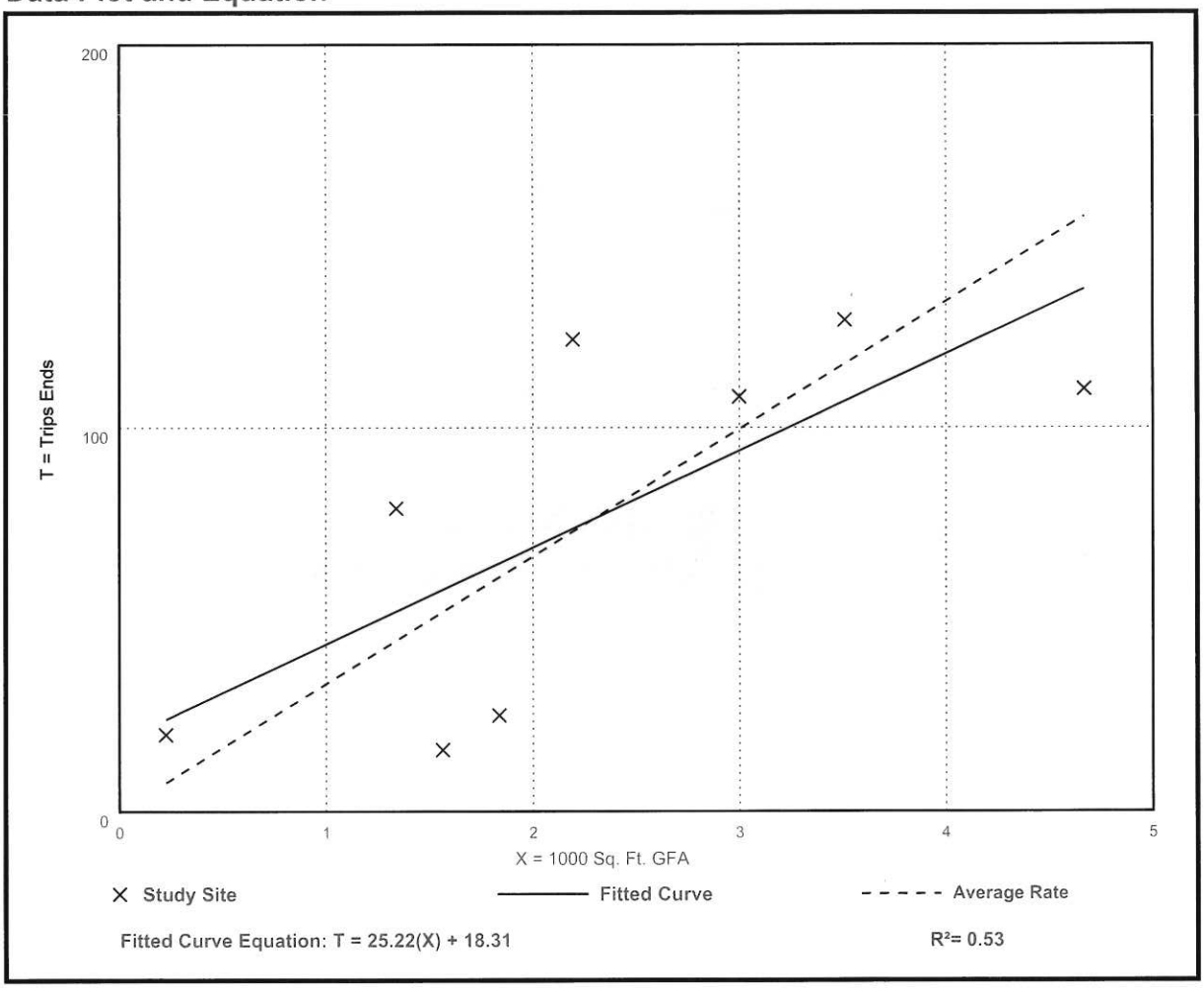
Fast-Food Restaurant without Drive-Through Window (933)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 8
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.21	10.23 - 89.29	17.22

Data Plot and Equation



Fitted Curve Equation: T = 25.22(X) + 18.31

R^2= 0.53

Fast-Food Restaurant without Drive-Through Window (933)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

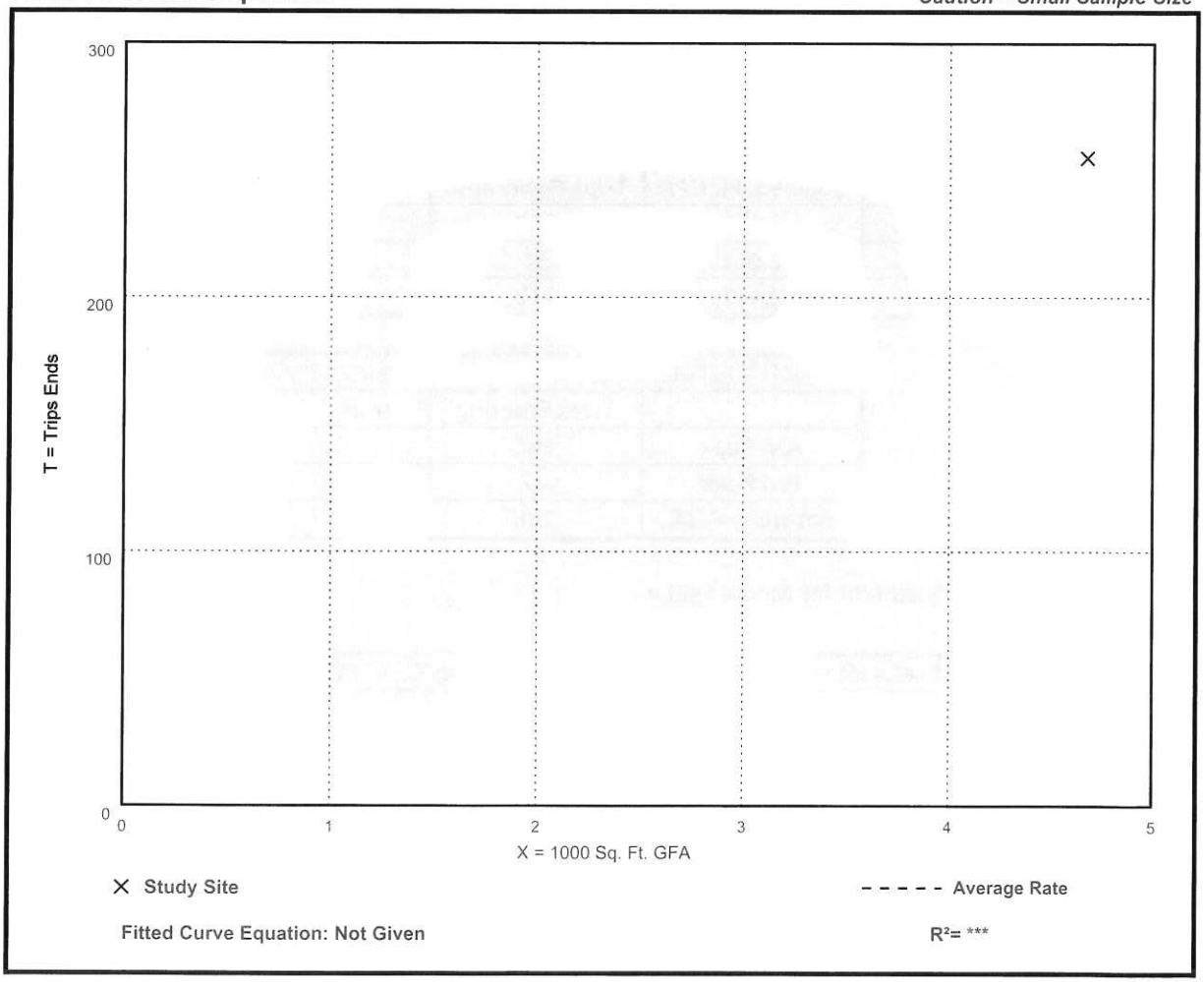
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
54.60	54.60 - 54.60	***

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ***

Proposed Site Development Trip Generation and Distribution

Project: 129 Queensway East Commercial / Retail Development

Site: Simcoe, ON

Assumed Land Use (1): Coffee / Donut Shop w/ Drive-Thru Window - ITE No. 937

Average Vehicle Trip Ends vs.: 1000 Sq. Ft. GFA

ITE Trip Generation Data collected on a: Weekday

AM Peak Hour:	85.88	= Average Rate	51	% Entering
			49	% Exiting
PM Peak Hour:	38.99	= Average Rate	50	% Entering
			50	% Exiting
Saturday Peak Hour:	87.91	= Average Rate	50	% Entering
			50	% Exiting

Assumed Land Use (1): Coffee / Donut Shop w/ Drive-Thru Window - ITE No. 937				
	1000 Sq. Ft. GFA	**Trips Generated**	**Trips Entering**	**Trips Exiting**
AM Peak	2.411	207	106	101
PM Peak	2.411	94	47	47
Saturday Peak	2.411	212	106	106

Total Trips Generated by Site		
	Trips Entering	**Trips Exiting**
AM Peak	106	101
PM Peak	47	47
Saturday Peak	106	106

Simcoe ATMP: Adjustment for Modal Split = 8%

Assumed Land Use (1): Coffee / Donut Shop w/ Drive-Thru Window - ITE No. 937				
	1000 Sq. Ft. GFA	**Trips Generated**	**Trips Entering**	**Trips Exiting**
AM Peak	2.411	17	8	9
PM Peak	2.411	8	4	4
Saturday Peak	2.411	17	8	9

ITE Trip Generation Manual: Adjustment for Pass-by Trips = 50%

Assumed Land Use (1): Coffee / Donut Shop w/ Drive-Thru Window - ITE No. 937				
	1000 Sq. Ft. GFA	Trips Generated	Trips Entering	Trips Exiting
AM Peak	2.411	95	49	46
PM Peak	2.411	43	22	21
Saturday Peak	2.411	97	49	48

ITE Trip Generation Manual: Adjustment for Internal Capture = 0%

Assumed Land Use (1): Coffee / Donut Shop w/ Drive-Thru Window - ITE No. 937				
	1000 Sq. Ft. GFA	Trips Generated	Trips Entering	Trips Exiting
AM Peak	2.411	0	0	0
PM Peak	2.411	0	0	0
Saturday Peak	2.411	0	0	0

Total Additional On-Street Trips Generated		
	Trips Entering	Trips Exiting
AM Peak	49	46
PM Peak	21	22
Saturday Peak	49	48

Proposed Site Development Trip Generation and Distribution

Project: 129 Queensway East Commercial / Retail Development

Site: Simcoe, ON

Assumed Land Use (2): Automated Car Wash - ITE No. 948

Average Vehicle Trip Ends vs.: 1000 Sq. Ft. GLA

ITE Trip Generation Data collected on a: Weekday / Saturday

PM Peak Hour:	14.20	= Average Rate	50	% Entering
			50	% Exiting
Saturday Peak Hour:	30.40	= Average Rate	50	% Entering
			50	% Exiting

Assumed Land Use (2): Automated Car Wash - ITE No. 948				
	1000 Sq. Ft. GFA	**Trips Generated**	**Trips Entering**	**Trips Exiting**
PM Peak	2.124	30	15	15
Saturday Peak	2.124	65	32	33

Total Trips Generated by Site		
	Trips Entering	**Trips Exiting**
PM Peak	15	15
Saturday Peak	32	33

Windsor ATMP: Adjustment for Modal Split = 0%

Assumed Land Use (2): Automated Car Wash - ITE No. 948				
	1000 Sq. Ft. GFA	**Trips Generated**	**Trips Entering**	**Trips Exiting**
PM Peak	2.124	0	0	0
Saturday Peak	2.124	0	0	0

ITE Trip Generation Manual: Adjustment for Pass-by Trips = 0%

Assumed Land Use (2): Automated Car Wash - ITE No. 948				
	1000 Sq. Ft. GFA	**Trips Generated**	**Trips Entering**	**Trips Exiting**
PM Peak	2.124	0	0	0
Saturday Peak	2.124	0	0	0

ITE Trip Generation Manual: Adjustment for Internal Capture = 0%

Assumed Land Use (2): Automated Car Wash - ITE No. 948				
	1000 Sq. Ft. GFA	Trips Generated	Trips Entering	Trips Exiting
PM Peak	2.124	0	0	0
Saturday Peak	2.124	0	0	0

Total Additional On-Street Trips Generated		
	Trips Entering	Trips Exiting
PM Peak	15	15
Saturday Peak	32	33

Proposed Site Development Trip Generation and Distribution

Project: 129 Queensway East Commercial / Retail Development

Site: Simcoe, ON

Assumed Land Use (3): Small Office Building - ITE No. 712

Average Vehicle Trip Ends vs.: 1000 Sq. Ft. GFA

ITE Trip Generation Data collected on a: Weekday

AM Peak Hour:	1.67	= Average Rate	82	% Entering
			18	% Exiting
PM Peak Hour:	2.16	= Average Rate	34	% Entering
			66	% Exiting

Assumed Land Use (3): Small Office Building - ITE No. 712				
	1000 Sq. Ft. GFA	Trips Generated	Trips Entering	Trips Exiting
AM Peak	4.248	7	6	1
PM Peak	4.248	9	3	6

Total Trips Generated by Site		
	Trips Entering	Trips Exiting
AM Peak	6	1
PM Peak	3	6

Windsor ATMP: Adjustment for Modal Split = 0%

Assumed Land Use (3): Small Office Building - ITE No. 712				
	1000 Sq. Ft. GFA	Trips Generated	Trips Entering	Trips Exiting
AM Peak	4.248	0	0	0
PM Peak	4.248	0	0	0

ITE Trip Generation Manual: Adjustment for Pass-by Trips = 0%

Assumed Land Use (3): Small Office Building - ITE No. 712				
	1000 Sq. Ft. GFA	Trips Generated	Trips Entering	Trips Exiting
AM Peak	4.248	0	0	0
PM Peak	4.248	0	0	0

ITE Trip Generation Manual: Adjustment for Internal Capture = 0%

Assumed Land Use (3): Small Office Building - ITE No. 712				
	1000 Sq. Ft. GFA	Trips Generated	Trips Entering	Trips Exiting
AM Peak	4.248	0	0	0
PM Peak	4.248	0	0	0

Total Additional On-Street Trips Generated		
	Trips Entering	Trips Exiting
AM Peak	6	1
PM Peak	3	6

Proposed Site Development Trip Generation and Distribution

Project: 129 Queensway East Commercial / Retail Development

Site: Simcoe, ON

Assumed Land Use (4): Fast-Food Restaurant without Drive-Thru Window - ITE No. 933

Average Vehicle Trip Ends vs.: 1000 Sq. Ft. GFA

ITE Trip Generation Data collected on a: Weekday

AM Peak Hour:	43.18	= Average Rate	58	% Entering
			42	% Exiting
PM Peak Hour:	33.21	= Average Rate	50	% Entering
			50	% Exiting
Saturday Peak Hour:	54.60	= Average Rate	49	% Entering
			51	% Exiting

Assumed Land Use (4): Fast-Food Restaurant without Drive-Thru Window - ITE No. 933				
	1000 Sq. Ft. GFA	**Trips Generated**	**Trips Entering**	**Trips Exiting**
AM Peak	2.124	92	53	39
PM Peak	2.124	71	35	36
Saturday Peak	2.124	116	57	59

Total Trips Generated by Site		
	Trips Entering	**Trips Exiting**
AM Peak	53	39
PM Peak	35	36
Saturday Peak	57	59

Simcoe ATMP: Adjustment for Modal Split = 8%

Assumed Land Use (4): Fast-Food Restaurant without Drive-Thru Window - ITE No. 933				
	1000 Sq. Ft. GFA	**Trips Generated**	**Trips Entering**	**Trips Exiting**
AM Peak	2.124	7	4	3
PM Peak	2.124	6	3	3
Saturday Peak	2.124	9	5	4

ITE Trip Generation Manual: Adjustment for Pass-by Trips = 50%

Assumed Land Use (4): Fast-Food Restaurant without Drive-Thru Window - ITE No. 933				
	1000 Sq. Ft. GFA	Trips Generated	Trips Entering	Trips Exiting
AM Peak	2.124	42	24	18
PM Peak	2.124	32	16	16
Saturday Peak	2.124	53	26	27

ITE Trip Generation Manual: Adjustment for Internal Capture = 0%

Assumed Land Use (4): Fast-Food Restaurant without Drive-Thru Window - ITE No. 933				
	1000 Sq. Ft. GFA	Trips Generated	Trips Entering	Trips Exiting
AM Peak	2.124	0	0	0
PM Peak	2.124	0	0	0
Saturday Peak	2.124	0	0	0

Total Additional On-Street Trips Generated		
	Trips Entering	Trips Exiting
AM Peak	25	17
PM Peak	16	16
Saturday Peak	26	27

Proposed Site Development Trip Generation and Distribution

Project: 129 Queensway East Commercial / Retail Development

Site: Simcoe, ON

Total Trip Generation		
	Trips Entering	**Trips Exiting**
AM Peak	165	141
PM Peak	85	89
Sat Peak	163	165

Total Additonal On-Street Trips		
	Trips Entering	**Trips Exiting**
AM Peak	80	65
PM Peak	55	60
Sat Peak	107	108

Total Pass-By Trips		
	Trips Entering	**Trips Exiting**
AM Peak	73	64
PM Peak	38	38
Sat Peak	75	76

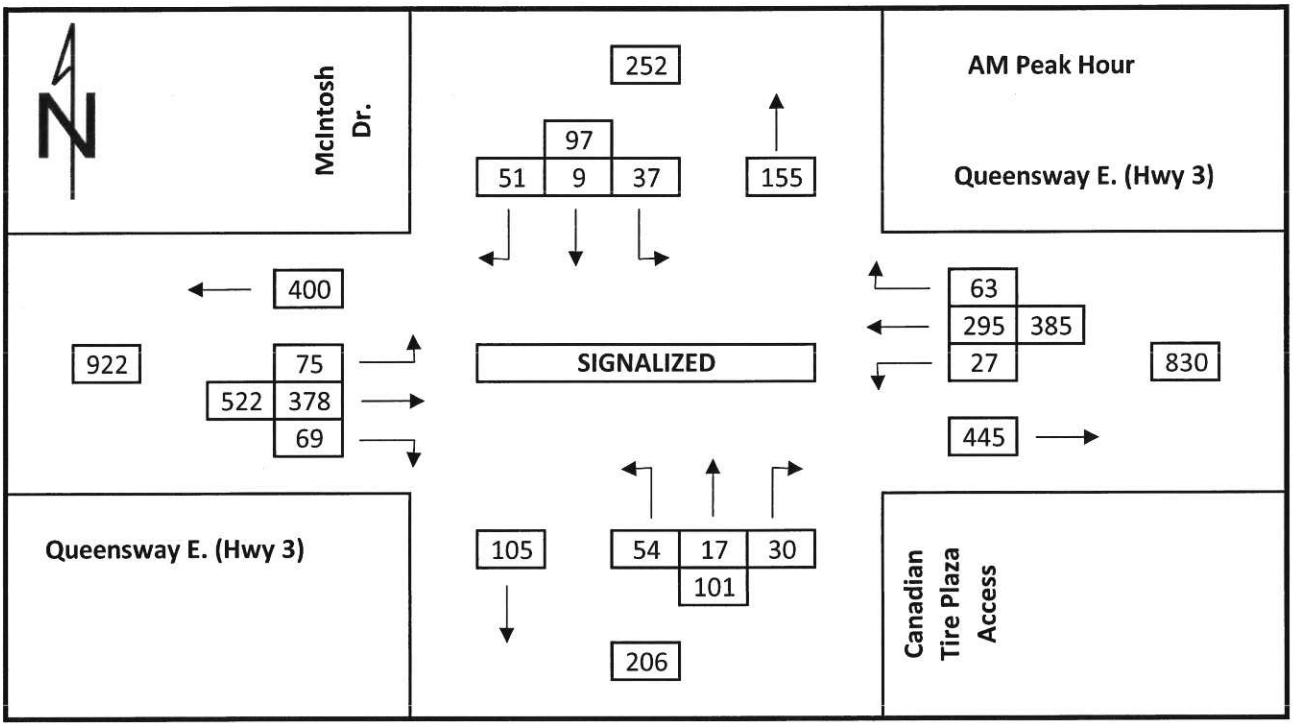
Appendix C

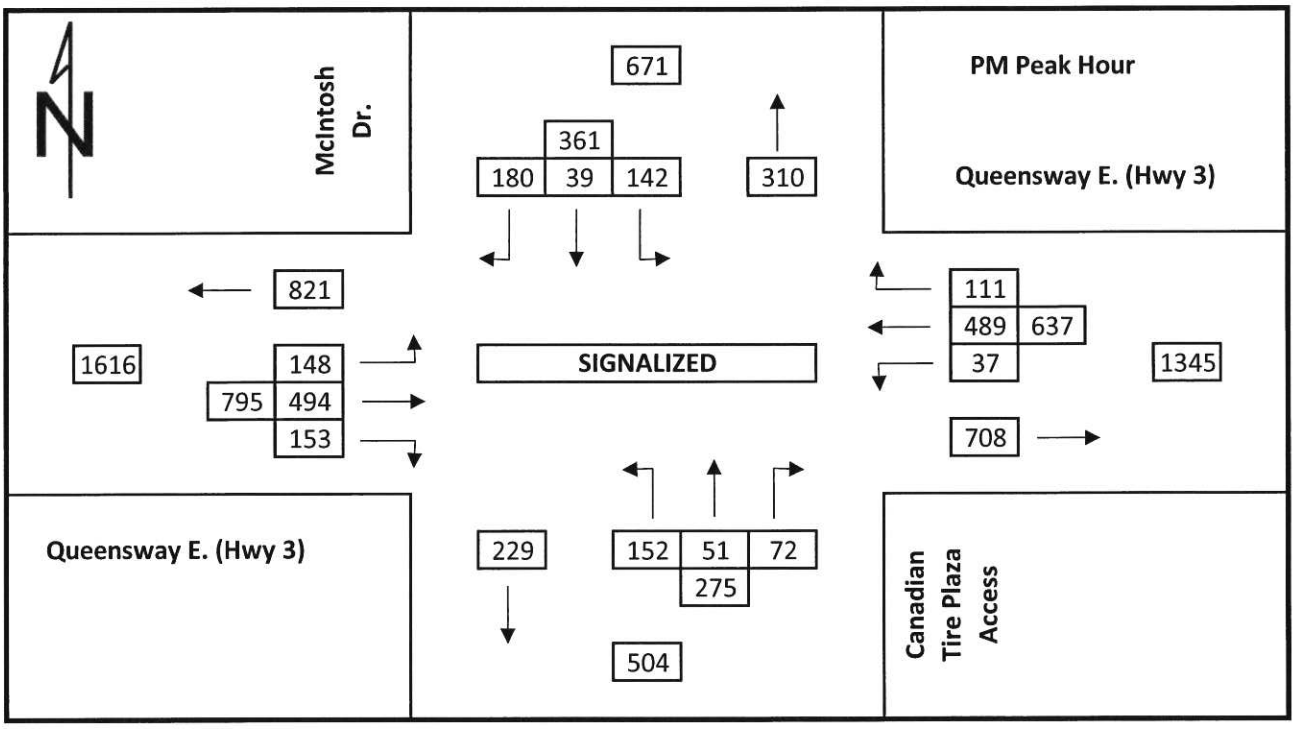
TRAFFIC PROJECTION FIGURES

McIntosh Drive at Queensway East (Highway 3)

Existing Traffic Counts

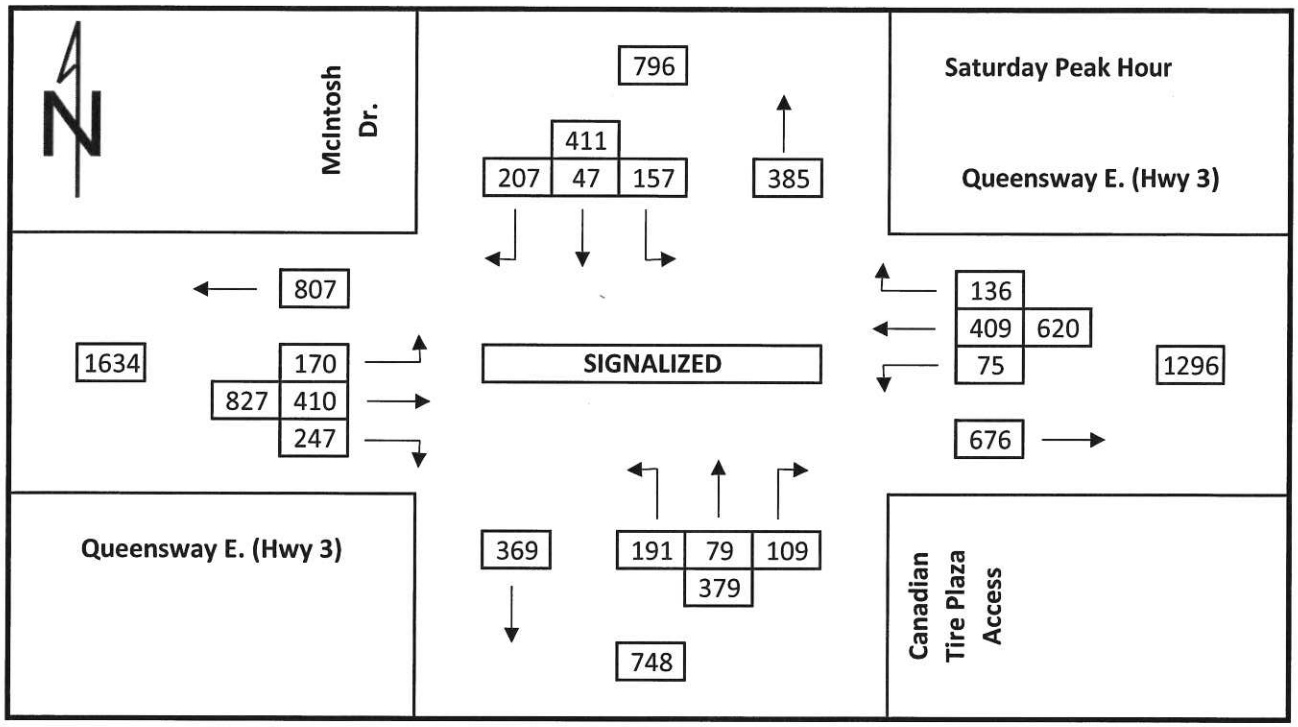
McIntosh Drive at Queensway E. (Hwy 3)





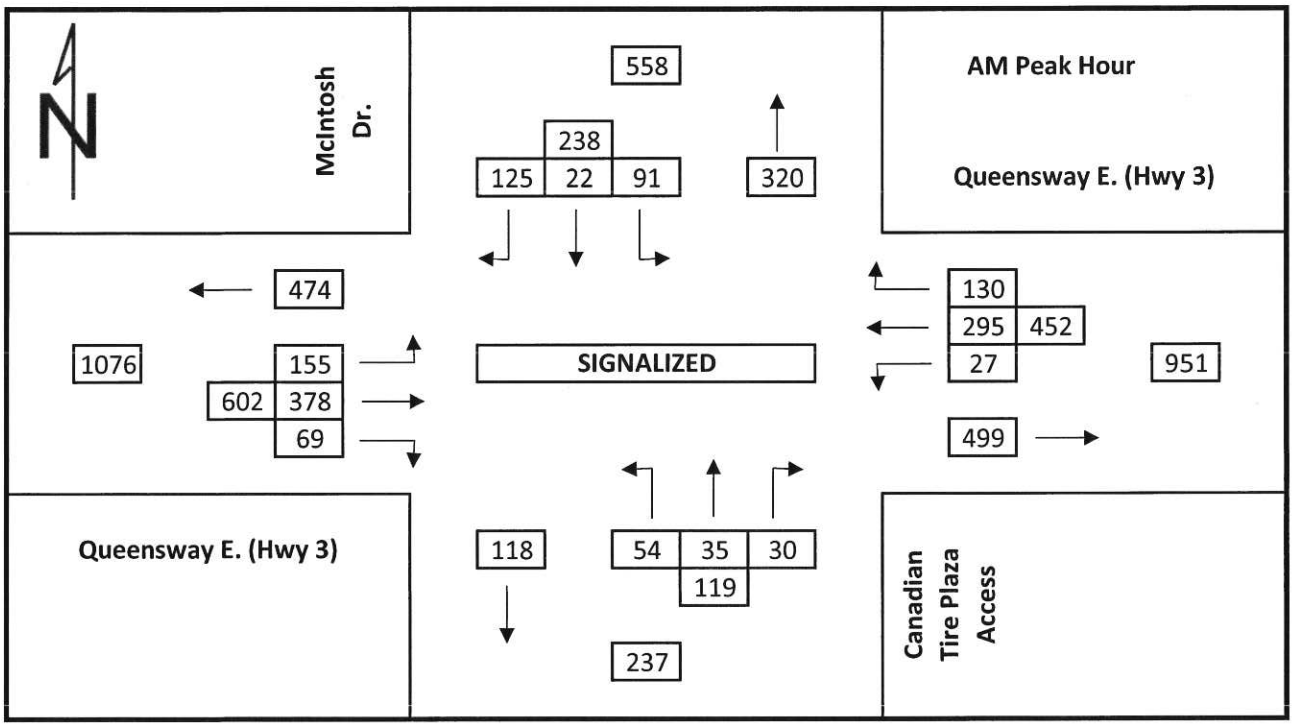
Existing Traffic Counts

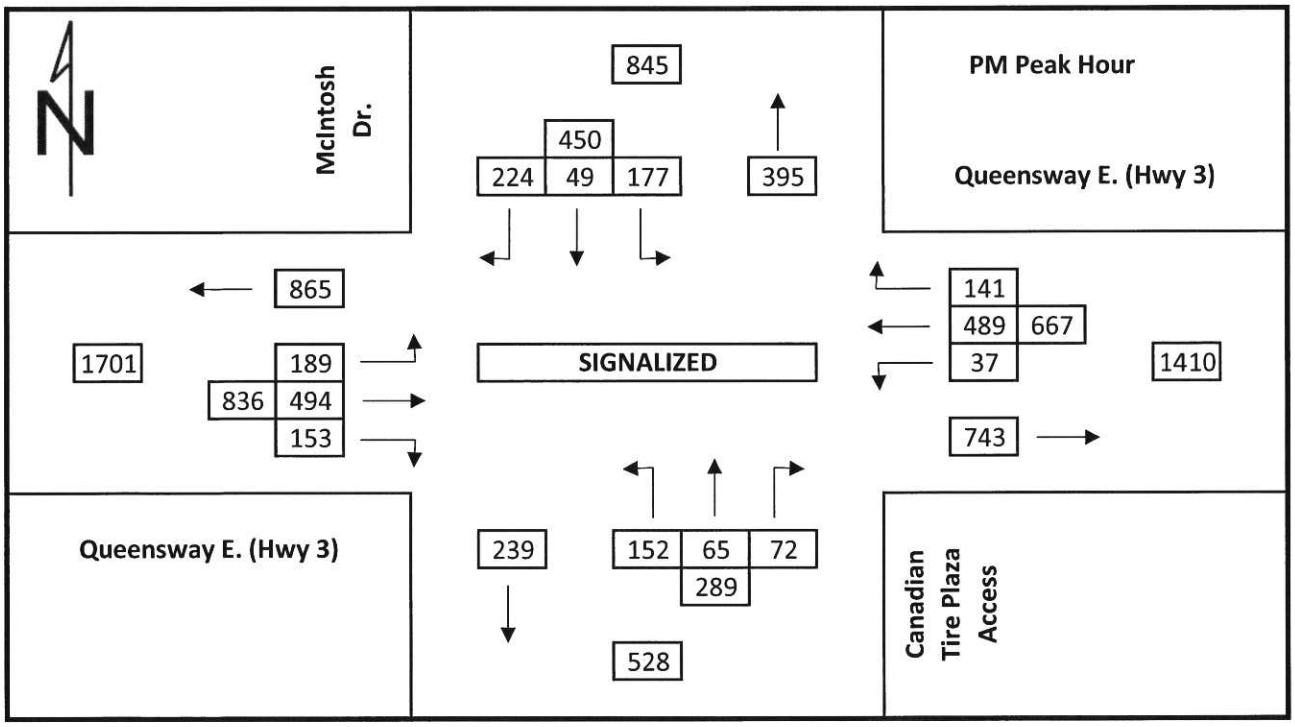
McIntosh Drive at Queensway E. (Hwy 3)



Existing + Site Generated Traffic

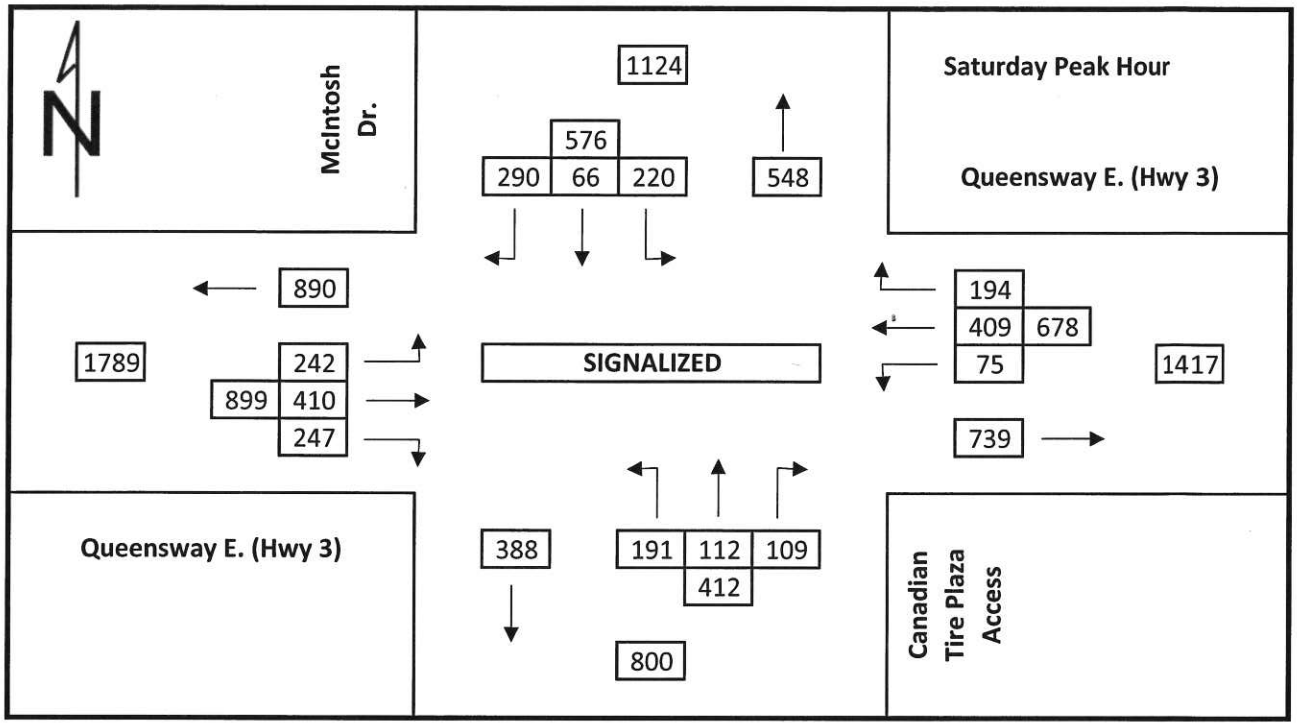
McIntosh Drive at Queensway E. (Hwy 3)





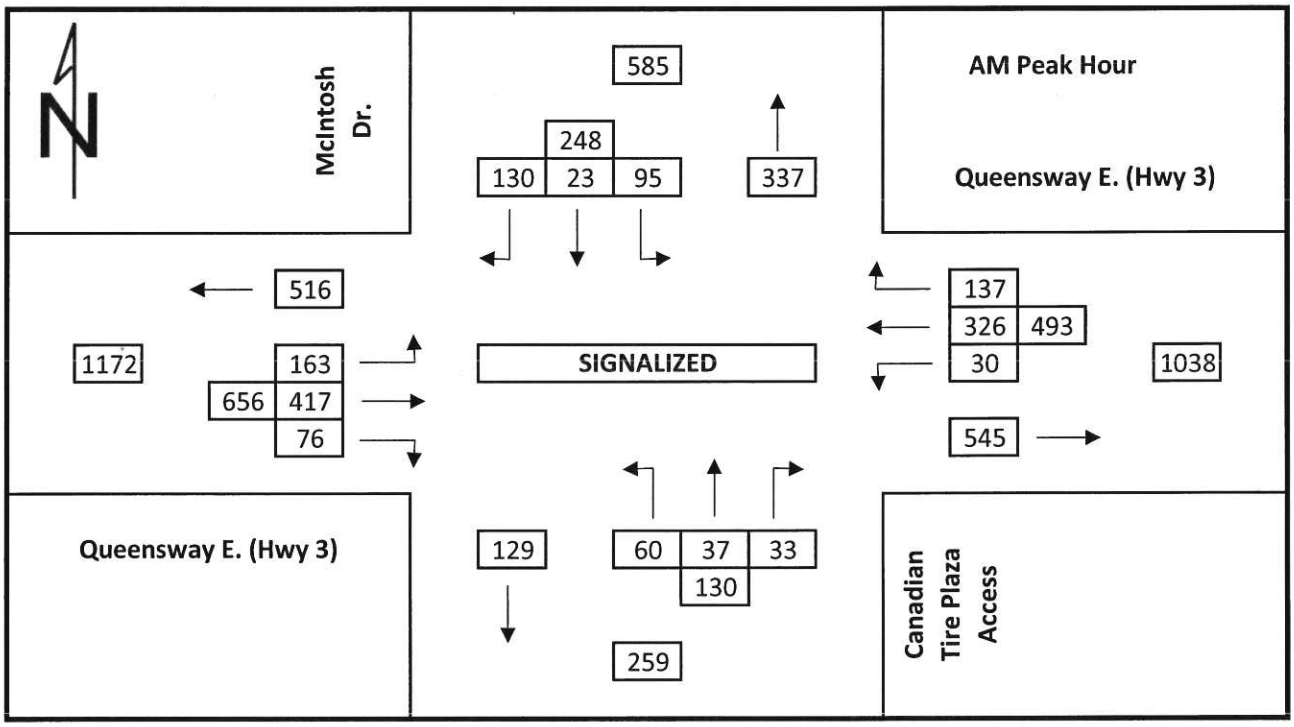
Existing + Site Generated Traffic

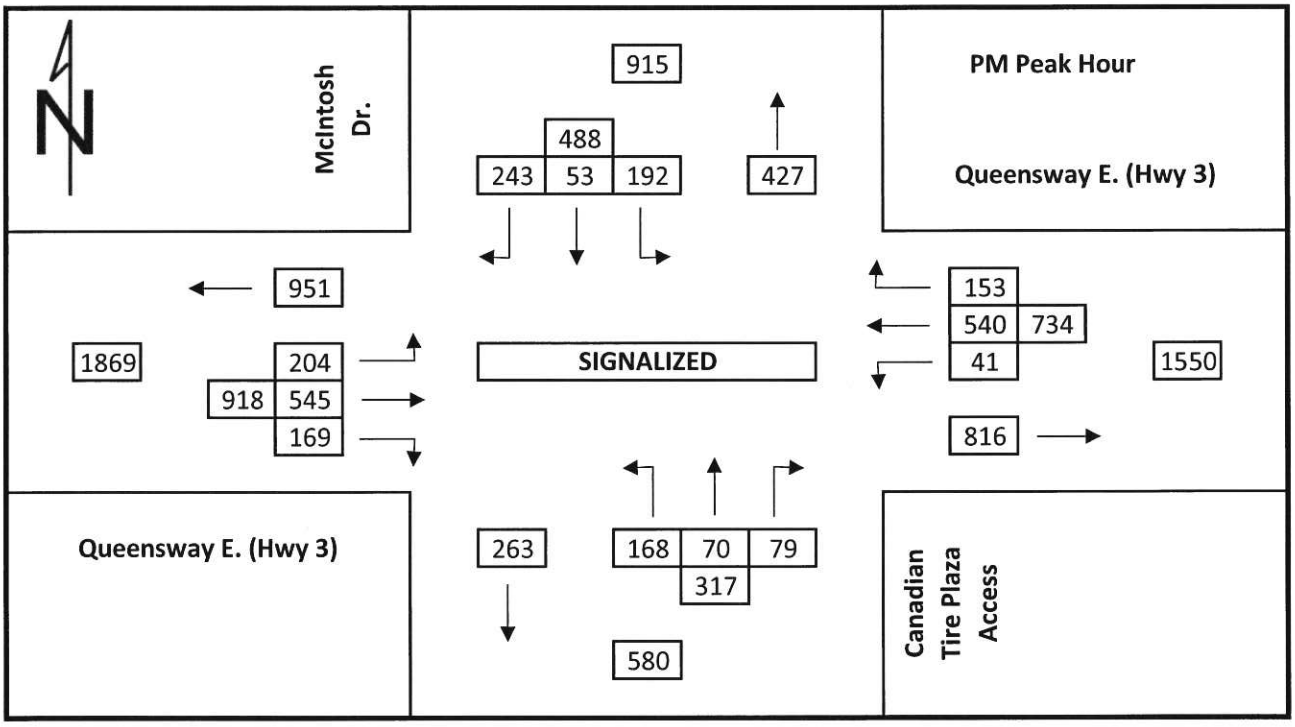
McIntosh Drive at Queensway E. (Hwy 3)



Total Traffic 2028

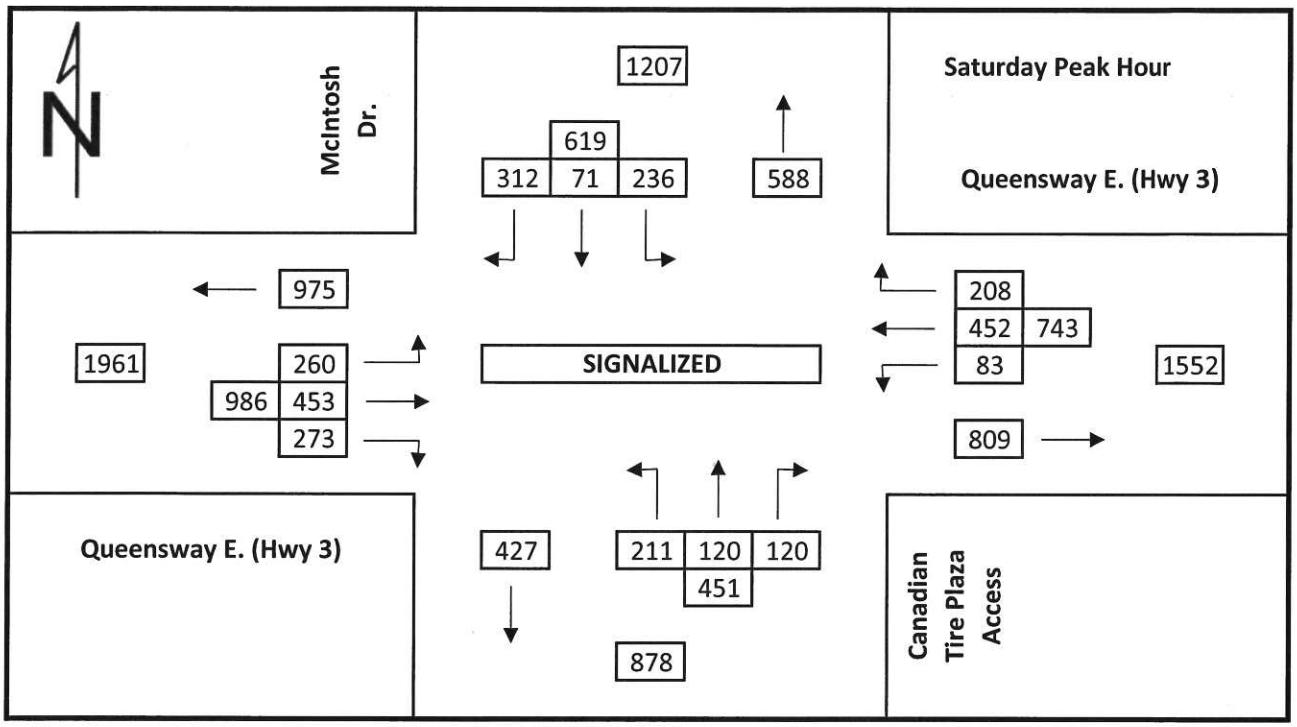
McIntosh Drive at Queensway E. (Hwy 3)





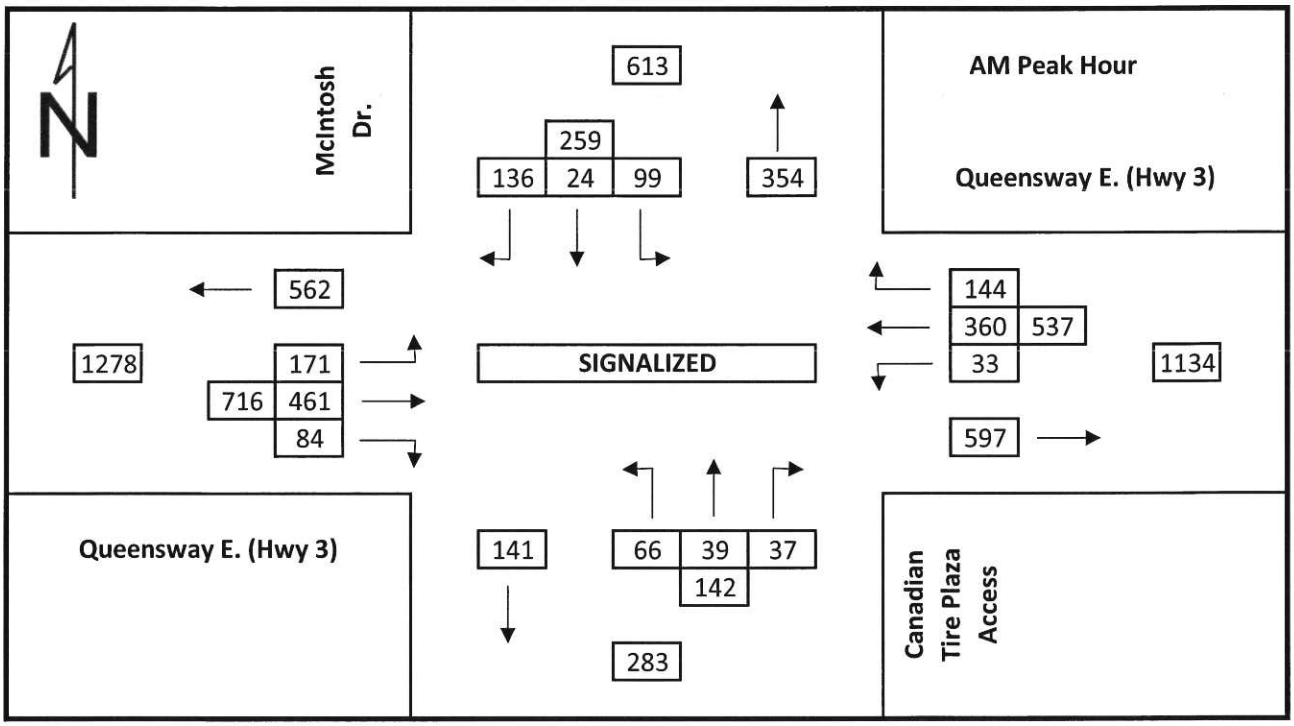
Total Traffic 2028

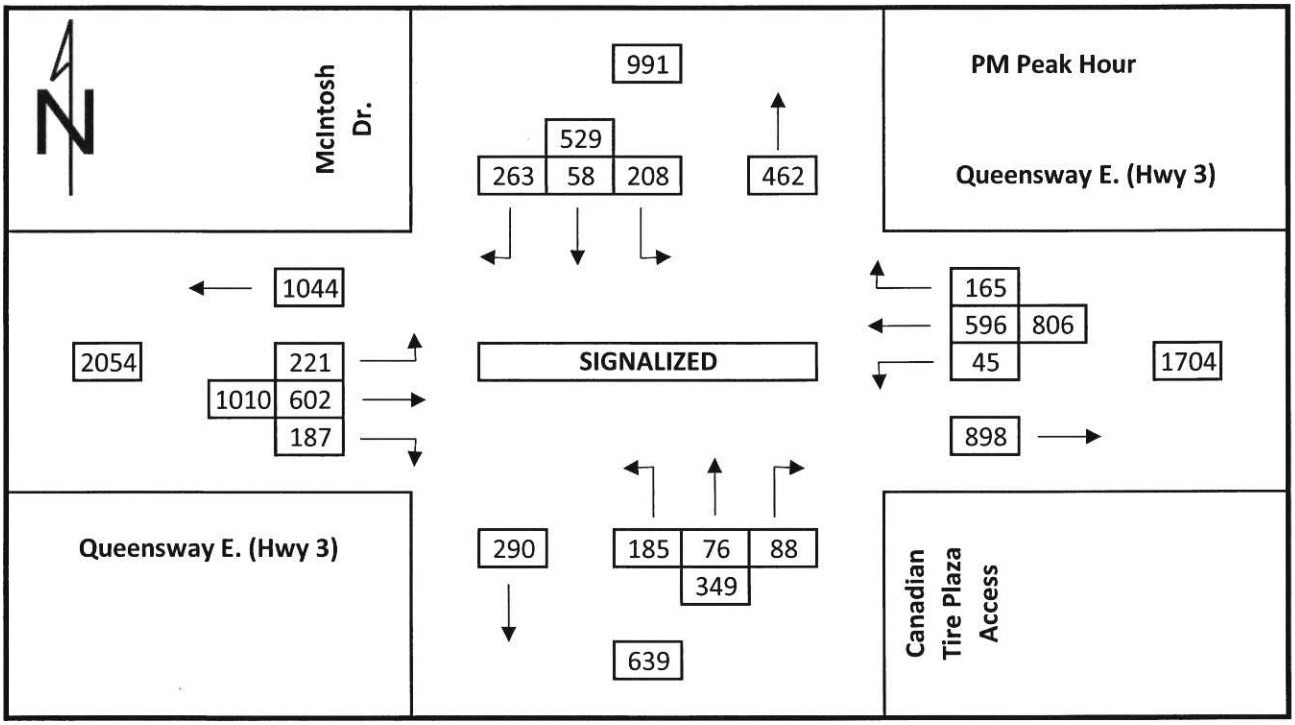
McIntosh Drive at Queensway E. (Hwy 3)



Total Traffic 2033

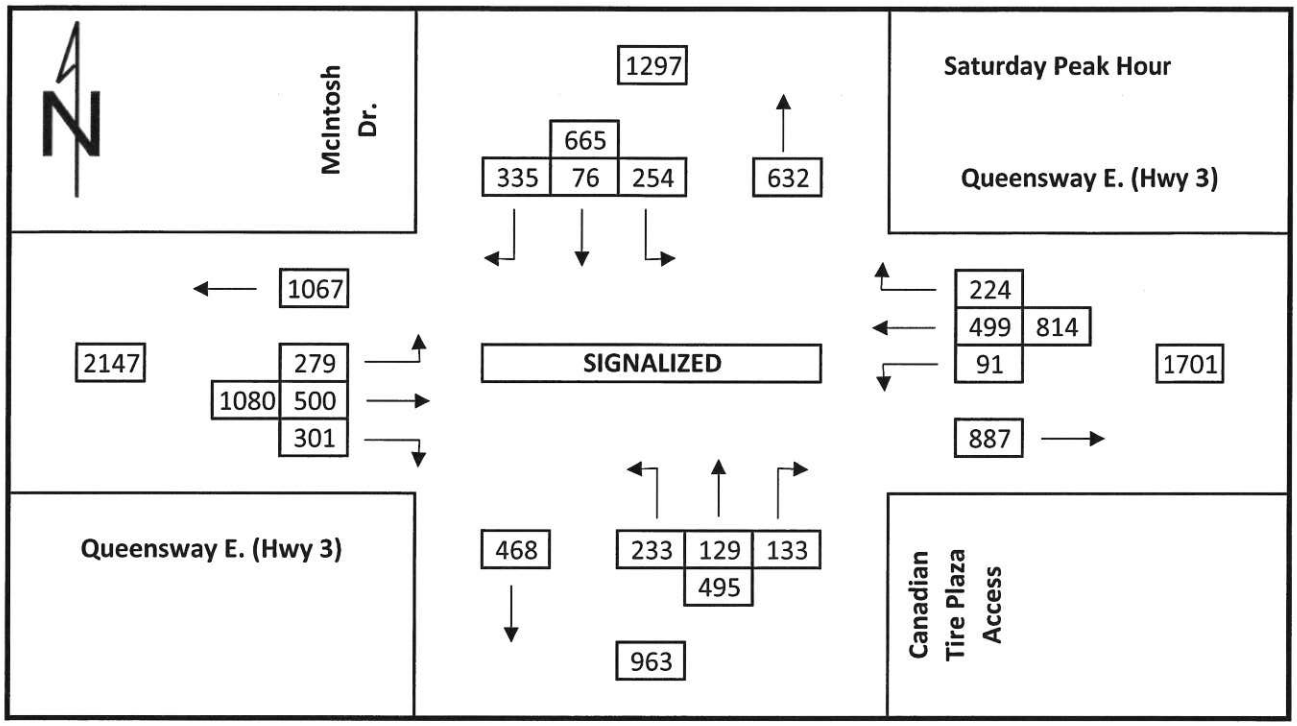
McIntosh Drive at Queensway E. (Hwy 3)





Total Traffic 2033

McIntosh Drive at Queensway E. (Hwy 3)



Appendix D

DETAILED SYNCHRO RESULTS

McIntosh Drive at Queensway East (Highway 3)

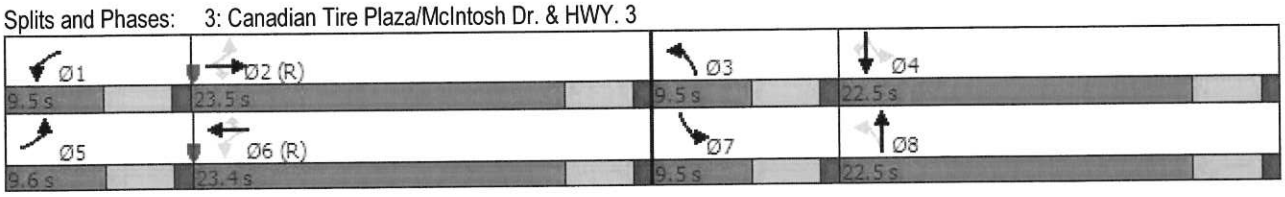
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	378	69	27	295	63	54	17	30	37	9	51
Future Volume (vph)	75	378	69	27	295	63	54	17	30	37	9	51
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.903				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	3107	1430	1599	3167	1458	1568	1519	0	1614	1750	1403
Flt Permitted	0.535			0.446			0.656			0.724		
Satd. Flow (perm)	927	3107	1430	750	3167	1458	1083	1519	0	1230	1750	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			176		33				176
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	7%	4%	4%	5%	2%	6%	6%	3%	3%	0%	6%
Adj. Flow (vph)	82	411	75	29	321	68	59	18	33	40	10	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	411	75	29	321	68	59	51	0	40	10	55
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	9.6	23.5	23.5	9.5	23.4	23.4	9.5	22.5		9.5	22.5	22.5
Total Split (%)	14.8%	36.2%	36.2%	14.6%	36.0%	36.0%	14.6%	34.6%		14.6%	34.6%	34.6%
Maximum Green (s)	5.1	19.0	19.0	5.0	18.9	18.9	5.0	18.0		5.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	24.1	19.0	19.0	23.9	18.9	18.9	25.7	23.7		23.0	18.0	18.0
Actuated g/C Ratio	0.37	0.29	0.29	0.37	0.29	0.29	0.40	0.36		0.35	0.28	0.28
v/c Ratio	0.20	0.45	0.14	0.09	0.35	0.12	0.13	0.09		0.09	0.02	0.11
Control Delay	12.4	20.7	0.5	11.3	19.5	0.5	12.2	9.7		11.8	17.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	12.4	20.7	0.5	11.3	19.5	0.5	12.2	9.7		11.8	17.3	0.4
LOS	B	C	A	B	B	A	B	A		B	B	A
Approach Delay		16.9			15.8			11.0			6.4	
Approach LOS		B			B			B			A	
Queue Length 50th (m)	5.9	22.2	0.0	2.0	16.7	0.0	4.3	1.3		2.9	0.9	0.0
Queue Length 95th (m)	13.2	34.3	0.0	6.2	26.8	0.0	10.6	8.8		7.9	4.1	0.0
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	400	908	542	341	920	548	465	574		464	484	515
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.20	0.45	0.14	0.09	0.35	0.12	0.13	0.09		0.09	0.02	0.11

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 15.1 Intersection LOS: B
Intersection Capacity Utilization 36.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



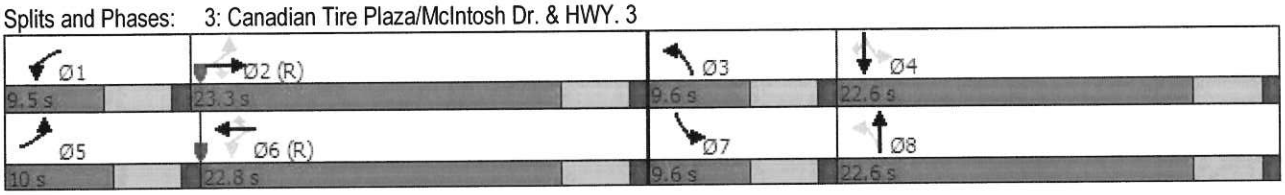
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	494	153	37	489	111	152	51	72	142	39	180
Future Volume (vph)	148	494	153	37	489	111	152	51	72	142	39	180
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.912				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3260	1488	1662	3292	1488	1646	1596	0	1646	1750	1473
Flt Permitted	0.333			0.354			0.693			0.672		
Satd. Flow (perm)	571	3260	1488	620	3292	1488	1201	1596	0	1164	1750	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			176		78				196
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	0%	0%	1%	0%	1%	0%	0%	1%	0%	1%
Adj. Flow (vph)	161	537	166	40	532	121	165	55	78	154	42	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	161	537	166	40	532	121	165	133	0	154	42	196
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	10.0	23.3	23.3	9.5	22.8	22.8	9.6	22.6		9.6	22.6	22.6
Total Split (%)	15.4%	35.8%	35.8%	14.6%	35.1%	35.1%	14.8%	34.8%		14.8%	34.8%	34.8%
Maximum Green (s)	5.5	18.8	18.8	5.0	18.3	18.3	5.1	18.1		5.1	18.1	18.1
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	24.3	18.8	18.8	23.3	18.3	18.3	24.1	20.0		23.2	18.1	18.1
Actuated g/C Ratio	0.37	0.29	0.29	0.36	0.28	0.28	0.37	0.31		0.36	0.28	0.28
v/c Ratio	0.53	0.57	0.30	0.13	0.57	0.22	0.34	0.24		0.34	0.09	0.36
Control Delay	19.3	22.5	4.6	11.9	23.0	2.4	14.9	10.2		14.8	18.0	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.3	22.5	4.6	11.9	23.0	2.4	14.9	10.2		14.8	18.0	5.4
LOS	B	C	A	B	C	A	B	B		B	B	A
Approach Delay		18.5			18.7			12.8			10.4	
Approach LOS		B			B			B			B	
Queue Length 50th (m)	12.2	30.2	0.0	2.8	30.2	0.0	12.8	5.2		11.8	3.9	0.0
Queue Length 95th (m)	23.5	45.0	11.3	7.7	44.8	5.1	24.5	17.2		23.0	10.6	13.4
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	303	942	555	302	926	545	480	545		453	487	551
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.53	0.57	0.30	0.13	0.57	0.22	0.34	0.24		0.34	0.09	0.36

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 16.4 — Intersection LOS: B
Intersection Capacity Utilization 54.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



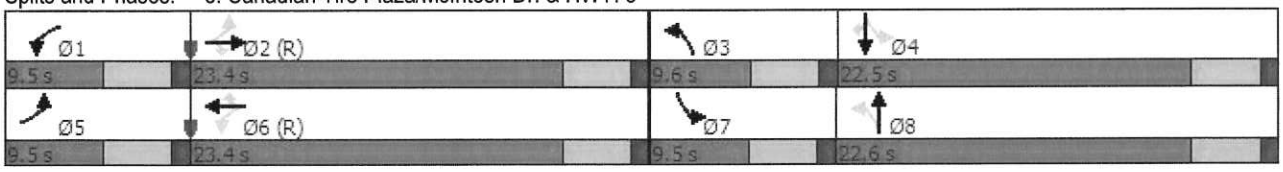
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	410	247	75	409	136	191	79	109	157	47	207
Future Volume (vph)	170	410	247	75	409	136	191	79	109	157	47	207
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.913				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3292	1488	1662	3292	1488	1662	1598	0	1646	1750	1473
Flt Permitted	0.432			0.431			0.720			0.581		
Satd. Flow (perm)	756	3292	1488	754	3292	1488	1260	1598	0	1007	1750	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			268			176		105				225
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%
Adj. Flow (vph)	185	446	268	82	445	148	208	86	118	171	51	225
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	446	268	82	445	148	208	204	0	171	51	225
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	9.5	23.4	23.4	9.5	23.4	23.4	9.6	22.6		9.5	22.5	22.5
Total Split (%)	14.6%	36.0%	36.0%	14.6%	36.0%	36.0%	14.8%	34.8%		14.6%	34.6%	34.6%
Maximum Green (s)	5.0	18.9	18.9	5.0	18.9	18.9	5.1	18.1		5.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	23.9	18.9	18.9	23.9	18.9	18.9	23.2	18.1		23.0	18.0	18.0
Actuated g/C Ratio	0.37	0.29	0.29	0.37	0.29	0.29	0.36	0.28		0.35	0.28	0.28
v/c Ratio	0.53	0.47	0.43	0.24	0.46	0.27	0.43	0.39		0.42	0.11	0.39
Control Delay	19.1	20.9	5.2	12.9	20.8	3.7	16.6	12.2		16.6	18.3	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.1	20.9	5.2	12.9	20.8	3.7	16.6	12.2		16.6	18.3	5.4
LOS	B	C	A	B	C	A	B	B		B	B	A
Approach Delay		15.8			16.1			14.4			11.1	
Approach LOS		B			B			B			B	
Queue Length 50th (m)	14.2	24.2	0.0	5.9	24.2	0.0	16.6	9.6		13.3	4.8	0.0
Queue Length 95th (m)	26.7	36.9	15.2	13.2	36.7	8.6	30.7	25.6		25.4	12.2	14.5
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	347	957	622	347	957	557	481	520		405	484	570
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.53	0.47	0.43	0.24	0.46	0.27	0.43	0.39		0.42	0.11	0.39

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 14.8 Intersection LOS: B
Intersection Capacity Utilization 58.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



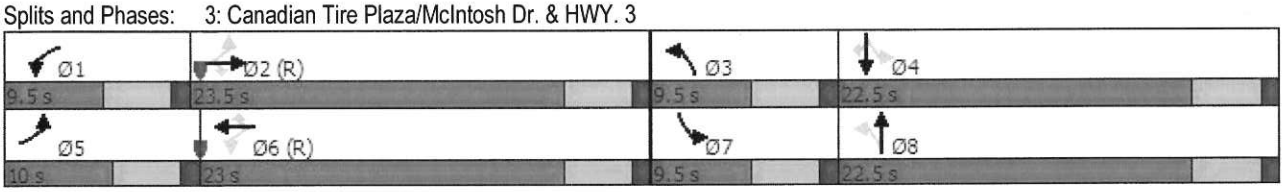
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	378	69	27	295	130	54	35	30	91	22	125
Future Volume (vph)	155	378	69	27	295	130	54	35	30	91	22	125
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.930				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	3107	1430	1599	3167	1458	1568	1556	0	1614	1750	1403
Flt Permitted	0.525			0.464			0.674			0.711		
Satd. Flow (perm)	910	3107	1430	781	3167	1458	1113	1556	0	1208	1750	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			176		33				176
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	7%	4%	4%	5%	2%	6%	6%	3%	3%	0%	6%
Adj. Flow (vph)	168	411	75	29	321	141	59	38	33	99	24	136
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	411	75	29	321	141	59	71	0	99	24	136
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	10.0	23.5	23.5	9.5	23.0	23.0	9.5	22.5		9.5	22.5	22.5
Total Split (%)	15.4%	36.2%	36.2%	14.6%	35.4%	35.4%	14.6%	34.6%		14.6%	34.6%	34.6%
Maximum Green (s)	5.5	19.0	19.0	5.0	18.5	18.5	5.0	18.0		5.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	24.5	19.0	19.0	23.5	18.5	18.5	24.8	21.8		23.0	18.0	18.0
Actuated g/C Ratio	0.38	0.29	0.29	0.36	0.28	0.28	0.38	0.34		0.35	0.28	0.28
v/c Ratio	0.41	0.45	0.14	0.08	0.36	0.26	0.13	0.13		0.22	0.05	0.26
Control Delay	15.5	20.7	0.5	11.3	19.9	3.4	12.3	11.9		13.2	17.7	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	15.5	20.7	0.5	11.3	19.9	3.4	12.3	11.9		13.2	17.7	3.3
LOS	B	C	A	B	B	A	B	B		B	B	A
Approach Delay		17.1			14.7			12.1			8.4	
Approach LOS		B			B			B			A	
Queue Length 50th (m)	12.7	22.2	0.0	2.0	16.8	0.0	4.3	3.6		7.4	2.2	0.0
Queue Length 95th (m)	24.3	34.3	0.0	6.2	27.2	7.7	10.6	12.3		15.9	7.2	7.2
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	405	908	542	345	901	540	459	543		458	484	515
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.41	0.45	0.14	0.08	0.36	0.26	0.13	0.13		0.22	0.05	0.26

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 14.4 Intersection LOS: B
Intersection Capacity Utilization 41.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



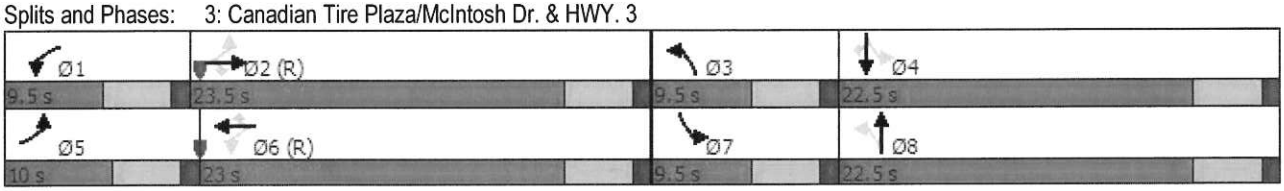
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	494	153	37	489	141	152	65	72	177	49	224
Future Volume (vph)	189	494	153	37	489	141	152	65	72	177	49	224
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.921				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3260	1488	1662	3292	1488	1646	1612	0	1646	1750	1473
Flt Permitted	0.336			0.356			0.686			0.662		
Satd. Flow (perm)	576	3260	1488	623	3292	1488	1189	1612	0	1147	1750	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			176		78				243
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	0%	0%	1%	0%	1%	0%	0%	1%	0%	1%
Adj. Flow (vph)	205	537	166	40	532	153	165	71	78	192	53	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	205	537	166	40	532	153	165	149	0	192	53	243
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	10.0	23.5	23.5	9.5	23.0	23.0	9.5	22.5		9.5	22.5	22.5
Total Split (%)	15.4%	36.2%	36.2%	14.6%	35.4%	35.4%	14.6%	34.6%		14.6%	34.6%	34.6%
Maximum Green (s)	5.5	19.0	19.0	5.0	18.5	18.5	5.0	18.0		5.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	24.5	19.0	19.0	23.5	18.5	18.5	23.9	19.9		23.0	18.0	18.0
Actuated g/C Ratio	0.38	0.29	0.29	0.36	0.28	0.28	0.37	0.31		0.35	0.28	0.28
v/c Ratio	0.67	0.56	0.30	0.13	0.57	0.28	0.35	0.27		0.43	0.11	0.42
Control Delay	26.1	22.2	4.6	11.8	22.7	4.0	15.2	11.2		16.8	18.3	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	26.1	22.2	4.6	11.8	22.7	4.0	15.2	11.2		16.8	18.3	5.5
LOS	C	C	A	B	C	A	B	B		B	B	A
Approach Delay		19.9			18.2			13.3			11.3	
Approach LOS		B			B			B			B	
Queue Length 50th (m)	15.9	30.0	0.0	2.8	30.1	0.0	12.8	6.8		15.2	5.0	0.0
Queue Length 95th (m)	#34.8	44.7	11.2	7.6	44.7	9.4	24.7	19.7		28.5	12.6	15.0
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	306	952	559	305	936	549	472	547		444	484	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.67	0.56	0.30	0.13	0.57	0.28	0.35	0.27		0.43	0.11	0.42

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 16.8 Intersection LOS: B
Intersection Capacity Utilization 60.2% ICU Level of Service B
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



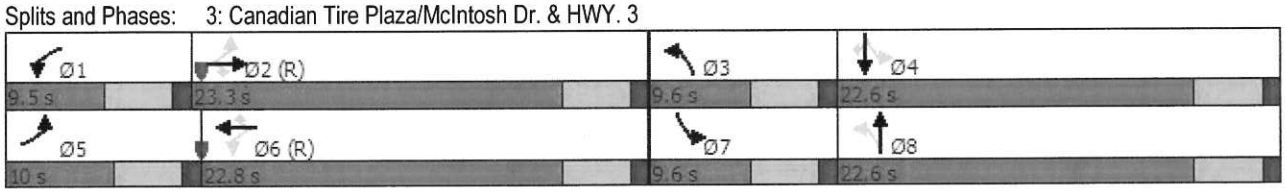
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	242	410	247	75	409	194	191	112	109	220	66	290
Future Volume (vph)	242	410	247	75	409	194	191	112	109	220	66	290
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.926				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3292	1488	1662	3292	1488	1662	1620	0	1646	1750	1473
Flt Permitted	0.416			0.442			0.710			0.518		
Satd. Flow (perm)	728	3292	1488	774	3292	1488	1242	1620	0	898	1750	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			268			211		74				315
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%
Adj. Flow (vph)	263	446	268	82	445	211	208	122	118	239	72	315
Shared Lane Traffic (%)												
Lane Group Flow (vph)	263	446	268	82	445	211	208	240	0	239	72	315
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	10.0	23.3	23.3	9.5	22.8	22.8	9.6	22.6		9.6	22.6	22.6
Total Split (%)	15.4%	35.8%	35.8%	14.6%	35.1%	35.1%	14.8%	34.8%		14.8%	34.8%	34.8%
Maximum Green (s)	5.5	18.8	18.8	5.0	18.3	18.3	5.1	18.1		5.1	18.1	18.1
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	24.3	18.8	18.8	23.3	18.3	18.3	23.2	18.1		23.2	18.1	18.1
Actuated g/C Ratio	0.37	0.29	0.29	0.36	0.28	0.28	0.36	0.28		0.36	0.28	0.28
v/c Ratio	0.75	0.47	0.43	0.24	0.48	0.37	0.44	0.48		0.63	0.15	0.49
Control Delay	30.4	21.0	5.2	13.0	21.5	5.3	16.7	17.0		23.0	18.7	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	30.4	21.0	5.2	13.0	21.5	5.3	16.7	17.0		23.0	18.7	5.6
LOS	C	C	A	B	C	A	B	B		C	B	A
Approach Delay		19.2			15.9			16.8			13.8	
Approach LOS		B			B			B			B	
Queue Length 50th (m)	21.4	24.2	0.0	5.9	24.4	0.0	16.6	16.8		19.5	6.8	0.0
Queue Length 95th (m)	#48.4	37.0	15.3	13.3	37.3	13.9	30.6	36.1		#35.9	15.8	16.8
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	351	952	620	345	926	570	476	504		379	487	637
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.75	0.47	0.43	0.24	0.48	0.37	0.44	0.48		0.63	0.15	0.49

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 16.7 Intersection LOS: B
Intersection Capacity Utilization 68.7% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



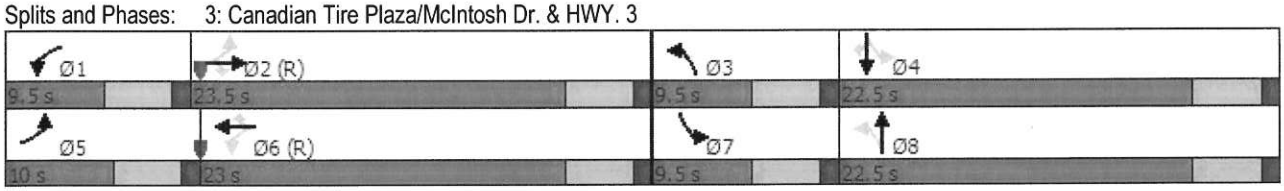
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	417	76	30	326	137	60	37	33	95	23	130
Future Volume (vph)	163	417	76	30	326	137	60	37	33	95	23	130
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.929				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	3107	1430	1599	3167	1458	1568	1555	0	1614	1750	1403
Flt Permitted	0.490			0.423			0.673			0.708		
Satd. Flow (perm)	849	3107	1430	712	3167	1458	1111	1555	0	1203	1750	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			176		36				176
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	7%	4%	4%	5%	2%	6%	6%	3%	3%	0%	6%
Adj. Flow (vph)	177	453	83	33	354	149	65	40	36	103	25	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	453	83	33	354	149	65	76	0	103	25	141
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	10.0	23.5	23.5	9.5	23.0	23.0	9.5	22.5		9.5	22.5	22.5
Total Split (%)	15.4%	36.2%	36.2%	14.6%	35.4%	35.4%	14.6%	34.6%		14.6%	34.6%	34.6%
Maximum Green (s)	5.5	19.0	19.0	5.0	18.5	18.5	5.0	18.0		5.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	24.5	19.0	19.0	23.5	18.5	18.5	24.8	21.8		23.0	18.0	18.0
Actuated g/C Ratio	0.38	0.29	0.29	0.36	0.28	0.28	0.38	0.34		0.35	0.28	0.28
v/c Ratio	0.46	0.50	0.15	0.10	0.39	0.28	0.14	0.14		0.23	0.05	0.27
Control Delay	16.5	21.4	0.6	11.5	20.3	3.9	12.4	11.8		13.3	17.7	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	16.5	21.4	0.6	11.5	20.3	3.9	12.4	11.8		13.3	17.7	3.6
LOS	B	C	A	B	C	A	B	B		B	B	A
Approach Delay		17.7			15.2			12.1			8.6	
Approach LOS		B			B			B			A	
Queue Length 50th (m)	13.4	24.8	0.0	2.3	18.8	0.0	4.8	3.8		7.7	2.3	0.0
Queue Length 95th (m)	25.6	38.0	0.0	6.7	29.8	8.9	11.5	12.8		16.4	7.3	7.9
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	387	908	542	325	901	540	459	545		457	484	515
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.46	0.50	0.15	0.10	0.39	0.28	0.14	0.14		0.23	0.05	0.27

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 15.0 Intersection LOS: B
Intersection Capacity Utilization 43.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



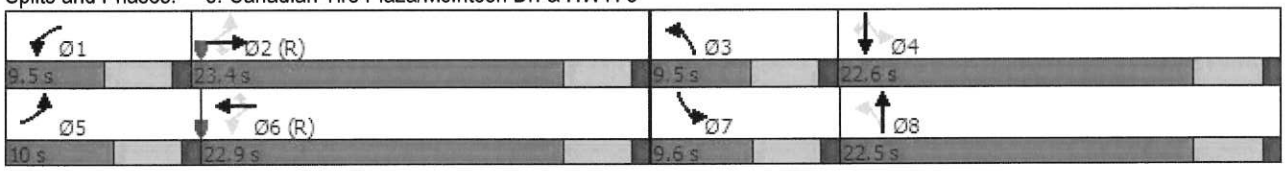
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	545	169	41	540	153	168	70	79	192	53	243
Future Volume (vph)	204	545	169	41	540	153	168	70	79	192	53	243
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.920				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3260	1488	1662	3292	1488	1646	1610	0	1646	1750	1473
Flt Permitted	0.291			0.310			0.719			0.481		
Satd. Flow (perm)	499	3260	1488	542	3292	1488	1246	1610	0	833	1750	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			184			176		86				264
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	0%	0%	1%	0%	1%	0%	0%	1%	0%	1%
Adj. Flow (vph)	222	592	184	45	587	166	183	76	86	209	58	264
Shared Lane Traffic (%)												
Lane Group Flow (vph)	222	592	184	45	587	166	183	162	0	209	58	264
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	10.0	23.4	23.4	9.5	22.9	22.9	9.5	22.5		9.6	22.6	22.6
Total Split (%)	15.4%	36.0%	36.0%	14.6%	35.2%	35.2%	14.6%	34.6%		14.8%	34.8%	34.8%
Maximum Green (s)	5.5	18.9	18.9	5.0	18.4	18.4	5.0	18.0		5.1	18.1	18.1
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	24.4	18.9	18.9	23.4	18.4	18.4	19.4	15.5		24.1	18.1	18.1
Actuated g/C Ratio	0.38	0.29	0.29	0.36	0.28	0.28	0.30	0.24		0.37	0.28	0.28
v/c Ratio	0.78	0.63	0.33	0.16	0.63	0.30	0.46	0.36		0.49	0.12	0.44
Control Delay	36.3	23.5	5.1	12.2	23.9	4.7	18.2	12.1		18.3	18.4	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	36.3	23.5	5.1	12.2	23.9	4.7	18.2	12.1		18.3	18.4	5.5
LOS	D	C	A	B	C	A	B	B		B	B	A
Approach Delay		22.9			19.3			15.3			11.9	
Approach LOS		C			B			B			B	
Queue Length 50th (m)	17.5	33.9	0.0	3.2	33.9	0.0	14.4	7.3		16.7	5.5	0.0
Queue Length 95th (m)	#44.6	49.8	12.8	8.3	49.8	11.4	27.1	20.8		30.7	13.4	15.5
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	283	947	563	281	931	547	402	508		428	487	600
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.78	0.63	0.33	0.16	0.63	0.30	0.46	0.32		0.49	0.12	0.44

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 18.7 Intersection LOS: B
Intersection Capacity Utilization 64.3% ICU Level of Service C
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



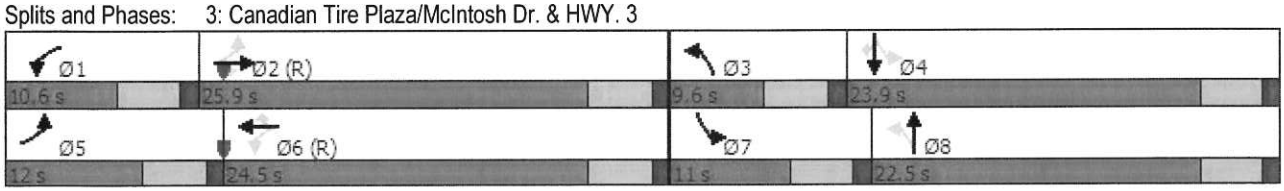
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	453	273	83	452	208	211	120	120	236	71	312
Future Volume (vph)	260	453	273	83	452	208	211	120	120	236	71	312
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.925				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3292	1488	1662	3292	1488	1662	1619	0	1646	1750	1473
Flt Permitted	0.356			0.419			0.707			0.423		
Satd. Flow (perm)	623	3292	1488	733	3292	1488	1237	1619	0	733	1750	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			297			226		69				339
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%
Adj. Flow (vph)	283	492	297	90	491	226	229	130	130	257	77	339
Shared Lane Traffic (%)												
Lane Group Flow (vph)	283	492	297	90	491	226	229	260	0	257	77	339
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	12.0	25.9	25.9	10.6	24.5	24.5	9.6	22.5		11.0	23.9	23.9
Total Split (%)	17.1%	37.0%	37.0%	15.1%	35.0%	35.0%	13.7%	32.1%		15.7%	34.1%	34.1%
Maximum Green (s)	7.5	21.4	21.4	6.1	20.0	20.0	5.1	18.0		6.5	19.4	19.4
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	28.9	21.4	21.4	26.1	20.0	20.0	23.1	18.0		25.9	19.4	19.4
Actuated g/C Ratio	0.41	0.31	0.31	0.37	0.29	0.29	0.33	0.26		0.37	0.28	0.28
v/c Ratio	0.77	0.49	0.45	0.25	0.52	0.39	0.52	0.56		0.72	0.16	0.52
Control Delay	30.4	21.9	5.1	13.2	23.4	5.3	20.8	21.6		29.8	20.3	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	30.4	21.9	5.1	13.2	23.4	5.3	20.8	21.6		29.8	20.3	5.9
LOS	C	C	A	B	C	A	C	C		C	C	A
Approach Delay		19.5			17.2			21.3			16.7	
Approach LOS		B			B			C			B	
Queue Length 50th (m)	24.3	28.8	0.0	6.8	29.7	0.0	20.7	22.2		23.7	8.0	0.0
Queue Length 95th (m)	#53.1	42.6	16.2	14.5	43.8	14.8	36.7	44.6		#49.2	17.8	17.9
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	368	1006	661	354	940	586	439	467		355	485	653
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.77	0.49	0.45	0.25	0.52	0.39	0.52	0.56		0.72	0.16	0.52

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 18.5 Intersection LOS: B
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



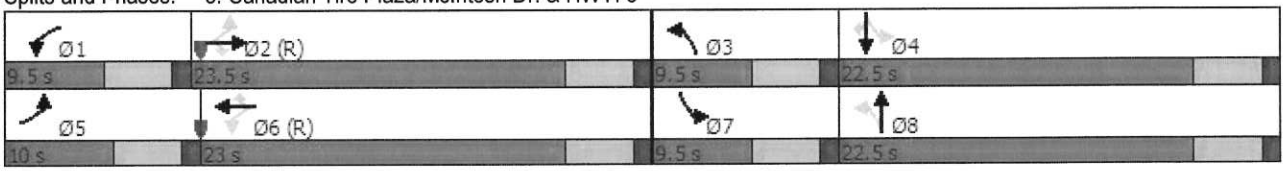
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	461	84	33	360	144	66	39	37	99	24	136
Future Volume (vph)	171	461	84	33	360	144	66	39	37	99	24	136
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.927				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	3107	1430	1599	3167	1458	1568	1552	0	1614	1750	1403
Flt Permitted	0.460			0.387			0.703			0.704		
Satd. Flow (perm)	797	3107	1430	651	3167	1458	1161	1552	0	1196	1750	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			176		40				176
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	7%	4%	4%	5%	2%	6%	6%	3%	3%	0%	6%
Adj. Flow (vph)	186	501	91	36	391	157	72	42	40	108	26	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	501	91	36	391	157	72	82	0	108	26	148
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	10.0	23.5	23.5	9.5	23.0	23.0	9.5	22.5		9.5	22.5	22.5
Total Split (%)	15.4%	36.2%	36.2%	14.6%	35.4%	35.4%	14.6%	34.6%		14.6%	34.6%	34.6%
Maximum Green (s)	5.5	19.0	19.0	5.0	18.5	18.5	5.0	18.0		5.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	24.5	19.0	19.0	23.5	18.5	18.5	23.9	19.9		23.0	18.0	18.0
Actuated g/C Ratio	0.38	0.29	0.29	0.36	0.28	0.28	0.37	0.31		0.35	0.28	0.28
v/c Ratio	0.50	0.55	0.17	0.12	0.43	0.29	0.16	0.16		0.24	0.05	0.29
Control Delay	17.6	22.2	0.9	11.7	20.8	4.3	12.5	11.8		13.5	17.8	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	17.6	22.2	0.9	11.7	20.8	4.3	12.5	11.8		13.5	17.8	4.0
LOS	B	C	A	B	C	A	B	B		B	B	A
Approach Delay		18.6			15.8			12.2			8.9	
Approach LOS		B			B			B			A	
Queue Length 50th (m)	14.2	28.0	0.0	2.5	21.1	0.0	5.3	4.0		8.1	2.4	0.0
Queue Length 95th (m)	26.8	42.1	1.0	7.1	32.9	10.0	12.3	13.4		17.1	7.5	8.9
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	372	908	542	308	901	540	458	502		455	484	515
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.50	0.55	0.17	0.12	0.43	0.29	0.16	0.16		0.24	0.05	0.29

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 15.6 Intersection LOS: B
Intersection Capacity Utilization 45.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



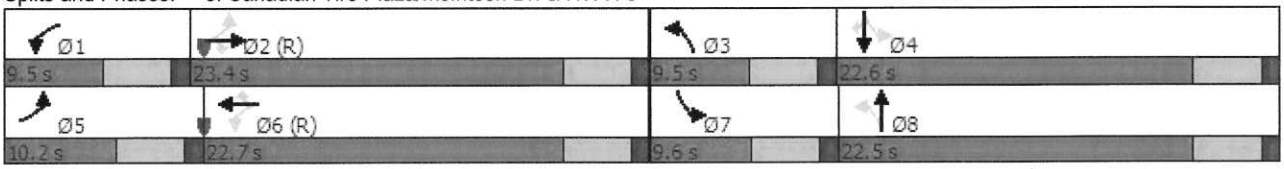
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	602	187	45	596	165	185	76	88	208	58	263
Future Volume (vph)	221	602	187	45	596	165	185	76	88	208	58	263
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.920				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3260	1488	1662	3292	1488	1646	1610	0	1646	1750	1473
Flt Permitted	0.252			0.277			0.716			0.616		
Satd. Flow (perm)	432	3260	1488	485	3292	1488	1241	1610	0	1067	1750	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			203			176		89				286
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	0%	0%	1%	0%	1%	0%	0%	1%	0%	1%
Adj. Flow (vph)	240	654	203	49	648	179	201	83	96	226	63	286
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	654	203	49	648	179	201	179	0	226	63	286
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	10.2	23.4	23.4	9.5	22.7	22.7	9.5	22.5		9.6	22.6	22.6
Total Split (%)	15.7%	36.0%	36.0%	14.6%	34.9%	34.9%	14.6%	34.6%		14.8%	34.8%	34.8%
Maximum Green (s)	5.7	18.9	18.9	5.0	18.2	18.2	5.0	18.0		5.1	18.1	18.1
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	24.6	18.9	18.9	23.2	18.2	18.2	23.0	18.0		23.2	18.1	18.1
Actuated g/C Ratio	0.38	0.29	0.29	0.36	0.28	0.28	0.35	0.28		0.36	0.28	0.28
v/c Ratio	0.90	0.69	0.35	0.19	0.70	0.33	0.43	0.35		0.53	0.13	0.46
Control Delay	52.9	25.0	5.1	12.6	25.9	5.5	16.6	12.2		19.1	18.5	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	52.9	25.0	5.1	12.6	25.9	5.5	16.6	12.2		19.1	18.5	5.5
LOS	D	C	A	B	C	A	B	B		B	B	A
Approach Delay		27.4			21.0			14.6			12.3	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	19.2	38.3	0.0	3.4	38.4	0.3	16.0	8.7		18.3	6.0	0.0
Queue Length 95th (m)	#49.8	55.6	13.4	8.9	55.9	13.3	29.7	23.4		33.3	14.3	16.1
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	268	947	576	263	921	543	470	510		426	487	616
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.90	0.69	0.35	0.19	0.70	0.33	0.43	0.35		0.53	0.13	0.46

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 20.8 Intersection LOS: C
Intersection Capacity Utilization 68.9% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



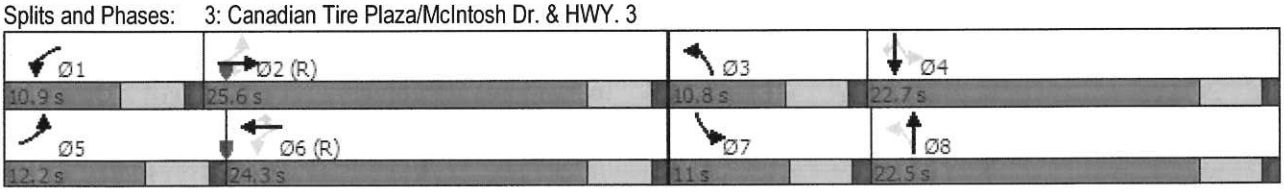
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	279	500	301	91	499	224	233	129	133	254	76	335
Future Volume (vph)	279	500	301	91	499	224	233	129	133	254	76	335
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (m)	95.0		63.0	88.0		21.0	41.0		0.0	48.0		48.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	70.0			60.0			12.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.924				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3292	1488	1662	3292	1488	1662	1617	0	1646	1750	1473
Flt Permitted	0.317			0.372			0.703			0.409		
Satd. Flow (perm)	555	3292	1488	651	3292	1488	1230	1617	0	709	1750	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			327			222		72				332
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		222.6			216.6			107.5			81.7	
Travel Time (s)		16.0			15.6			7.7			5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%
Adj. Flow (vph)	303	543	327	99	542	243	253	140	145	276	83	364
Shared Lane Traffic (%)												
Lane Group Flow (vph)	303	543	327	99	542	243	253	285	0	276	83	364
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5
Total Split (s)	12.2	25.6	25.6	10.9	24.3	24.3	10.8	22.5		11.0	22.7	22.7
Total Split (%)	17.4%	36.6%	36.6%	15.6%	34.7%	34.7%	15.4%	32.1%		15.7%	32.4%	32.4%
Maximum Green (s)	7.7	21.1	21.1	6.4	19.8	19.8	6.3	18.0		6.5	18.2	18.2
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	C-Max	C-Max	Max	C-Max	C-Max	Max	None		None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	28.8	21.1	21.1	26.2	19.8	19.8	24.3	18.0		24.7	18.2	18.2
Actuated g/C Ratio	0.41	0.30	0.30	0.37	0.28	0.28	0.35	0.26		0.35	0.26	0.26
v/c Ratio	0.87	0.55	0.48	0.29	0.58	0.42	0.54	0.61		0.82	0.18	0.58
Control Delay	41.7	23.0	5.2	13.8	24.6	6.6	20.6	23.3		39.0	21.5	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	41.7	23.0	5.2	13.8	24.6	6.6	20.6	23.3		39.0	21.5	8.1
LOS	D	C	A	B	C	A	C	C		D	C	A
Approach Delay		22.9			18.4			22.0			21.4	
Approach LOS		C			B			C			C	
Queue Length 50th (m)	26.4	32.6	0.0	7.5	33.5	2.1	23.3	25.3		25.8	8.9	3.3
Queue Length 95th (m)	#56.4	47.5	17.0	15.6	48.9	17.9	40.6	49.7		#60.4	19.3	24.6
Internal Link Dist (m)		198.6			192.6			83.5			57.7	
Turn Bay Length (m)	95.0		63.0	88.0		21.0	41.0			48.0		48.0
Base Capacity (vph)	350	992	676	336	931	580	465	469		337	455	628
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.87	0.55	0.48	0.29	0.58	0.42	0.54	0.61		0.82	0.18	0.58

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 21.2 Intersection LOS: C
Intersection Capacity Utilization 78.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Canadian Tire Plaza/McIntosh Dr. & HWY. 3



STORM WATER MANAGEMENT BRIEF

TO BE READ IN CONJUNCTION WITH SITE PLAN
FOR

Proposed Plaza and Coffee Shop

129 Queensway East, Simcoe, On
owner- Kyle Kowtaluk
(Zellers property)

PREPARED BY:
MC ENGINEERING
(519) 428 6790

REVISION #0 April 28 2023

M C ENGINEERING, A DIVISION OF 392583 ALBERTA LTD., P.O. BOX 1002, SIMCOE, ONT. N3Y 5B3
TEL: 519-428-6790 FAX: 519-426-8960 • E-MAIL: max@mcengineering.net

GENERAL:

This document is to be read in conjunction with Site Plan drawings SP1 through SP4 prepared by MC Engineering (Rev 2, May 1 2023).

FORWARD:

The proposal is to develop two buildings on the existing asphalt parking lot serving the Zellers store at 129 Queensway East. There is a 789m2 retail plaza proposed as well as a 223m2 coffee shop.

It should be noted that the existing on site storm sewer system will continue to receive runoff from the subject property. There are no proposed changes or alterations to the existing on site storm sewer system.

The buildings are to be constructed on the existing asphalt parking lot, as such there is no increase in the post development absorption coefficient. Therefore there will be no impact on storm water quantity. No new storm quantity controls are proposed.

There is no proposed new asphalt. The area of existing asphalt will be reduced by the combined area of the proposed buildings (1,012m2 +/-). Therefore there will be no impact on storm water quality. No new storm quality controls are proposed.

OUTLET:

The outlet for the subject property is STM MH #1A (adjacent to south west corner of the Zellers building). Downstream of this outlet, runoff is directed through the storm sewer system on the adjacent property to the west (Superstore). Storm runoff eventually discharges to a SWM pond at the west side of the Superstore property.

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SUMMARY OF AREAS

TOTAL LOT AREA = 36,948m2
TOTAL EXISTING BUILDING = 6,495m2
TOTAL NEW BUILDING = 1,012m2

IMPERVIOUSNESS COEFFICIENTS

PRE DEVELOPMENT: 0.90
POST DEVELOPMENT: 0.90

SUMMARY

Because there are no proposed impacts on stormwater quantity or stormwater quality, no storm controls are proposed. The existing on site storm sewer will continue to serve the subject property. There will be no impact to adjacent properties or the downstream SWM Pond.

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