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## PUBLIC WORKS COMMITTEE MEETING

**Monday, May 9, 2022 at 4:15 p.m.  
Caledonia Village Hall – 5043 Chester Lane**

1. Call to Order
2. Approval of Minutes
3. Payne & Dolan Blasting Permit
4. Racine County Youth Development and Care Center - TIA
5. Adjournment

May 6, 2022

Joslyn Hoeffert  
Village Clerk

Only committee members are expected to attend. However, attendance by all Board members (including non-members of the committee) is permitted. If additional (non-committee) Board members attend, three or more Board members may be in attendance. Section 19.82(2), Wisconsin Statutes, states as follows:

If one-half or more of the members of a governmental body are present, the meeting is rebuttably presumed to be for the purposes of exercising the responsibilities, authority, power or duties delegated to or vested in the body.

To the extent that three or more members of the Caledonia Village Board actually attend, this meeting may be rebuttably presumed to be a "meeting" within the meaning of Wisconsin's open meeting law. Nevertheless, only the committee's agenda will be discussed. Only committee members will vote. Board members who attend the committee meeting do so for the purpose of gathering information and possible discussion regarding the agenda. No votes or other action will be taken by the Village Board at this meeting.

**1. Call to Order**

Trustee Weatherston called the meeting to order at 4:15 p.m. in the Boardroom of the Village Hall, 5043 Chester Lane, Racine, Wisconsin.

Present: Trustee Weatherston. Trustee Stillman sat in for Trustee McManus.

Absent: Trustee McManus was excused.

Staff present: Utility Director Anthony Bunkelman and Village Engineer Ryan Schmidt.

**2. Approval of Minutes**

Motion by Trustee Stillman to approve the minutes from the October 11, 2021 meeting. Seconded by Trustee Weatherston. Motion carried unanimously.

**3. 3146 Dan Mor Lane – Concrete slab Encroachment on Right of Way**

A request was received for an existing concrete slab to remain in the Village Right of Way of Riverbend Drive. It is recommended by staff that the owner execute an agreement with the Village outlining the conditions set forth in Bunkelman's memo.

Motion by Trustee Stillman to recommend approval to the Village Board to allow the 10' x 55' concrete slab to retain in the undeveloped Right of Way of Riverbend Drive subject to the following conditions:

1. The Owner executes an agreement in favor of the Village that retains the full rights of the Right of Way and that the concrete slab does not interfere with access or operation of the Riverbend Lift Station.

Seconded by Trustee Weatherston. Motion carried unanimously.

**4. 6918 Baywood Drive – Concrete Driveway Encroachment on Easement**

A request was received for an existing concrete slab driveway to remain in the 6' Drainage and Utility Easement along the south property line. It is recommended by staff that the owner execute an agreement with the Village outlining the conditions in Bunkelman's memo.

Motion by Trustee Stillman to recommend approval to the Village Board to allow the existing concrete driveway installed in 2016 to remain in the 6' Drainage and Utility Easement subject to the following conditions:

1. The Owner executes an agreement in favor of the Village that retains the full rights to the 6' Drainage and Utility Easement

Seconded by Trustee Weatherston. Motion carried unanimously.

**Public Works Committee  
January 10, 2022**

**5. No Parking for the circle of Packer Drive**

The Highway Department has requested that the circle of Packer Drive be posted with no parking signs. With multiple vehicles parking in the circle on both sides of the street, it makes it hard for trucks and plows to move around the parked vehicles. The Committee discussed about having the no parking signs be posted from November to April.

Motion by Trustee Stillman to forward to the Legislative and Licensing Committee to amend ordinance 10-1-12 to add the circle of Packer Drive to the Parking Prohibited zones. Seconded by Trustee Weatherston. Motion carried unanimously.

**6. Adjournment**

Trustee Stillman motioned to adjourn. Seconded by Trustee Weatherston. Motion carried unanimously. Meeting adjourned at 4:34p.m.

Respectfully submitted,  
Megan O'Brien  
Deputy Village Clerk

## MEMORANDUM

**DATE:** Thursday, April 28, 2022

**TO:** Public Works Committee  
Village Board

**FROM:** Anthony A. Bunkelman  
Public Services Director 

**RE:** Payne & Dolan – Racine Quarry - Explosives and Blasting Permit

### **BACKGROUND INFORMATION**

The Village of Caledonia issues an annual Explosives and Blasting Permit for the Payne & Dolan Racine Quarry. The information and the required permit fees for the Permit was submitted by Payne & Dolan on April 25<sup>th</sup>, 2022.

The information for the permit was reviewed by the Engineering Department and appears to be in order. There is one expiring license during this permit period that will need to be updated. If any new blasting personnel are added, an updated Blaster list is required.

This Explosive and Blasting Permit is valid from July 1, 2022 to June 30, 2023.

This Explosive and Blasting Permit is hereby recommended for approval at the May 9th Public Works Committee meeting and the May 16th Village Board meeting.

### **RECOMMENDATION**

**Move to approve the Explosive and Blasting Permit for Payne & Dolan, Inc. – Racine Quarry subject to the following**

1. An updated Licensed Blasters List for the Racine Quarry is submitted to the Village as licenses are renewed or staff is added so a current list is on file at the Village Hall.



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April 25<sup>th</sup>, 2022

Mr. Tom Lazcano  
Public Works Director  
Village of Caledonia  
6922 Nicholson Road  
Caledonia, WI 53108

**RE: Explosives Use Permit – Racine Quarry**

Dear Mr. Lazcano:

In accordance with the Village of Caledonia's Code of Ordinances, Title 7, Chapter 10, Explosives and Blasting, Payne & Dolan respectively submits this application for renewal of the explosive use permit for our Racine Quarry located at 1501 Three Mile Road in the Village of Caledonia.

Concurrent with this application, Payne & Dolan will notify in writing all village residents or owners located within the scaled distance area in order that they may request a pre-blast survey as allowed by the above ordinance.

The following documents are enclosed and submitted in support of our application:

1. Permit fee of \$500.00
2. Blasting procedures and types of explosive
3. Legal description of explosives use area
4. Scale distance calculations
5. Licensed blasters to be employed at the quarry
6. Explosives Use Permit Map
7. Copy of letter sent to residents or owners regarding the pre-blast survey
8. List of residents or owners notified
9. Copy of Performance Bond in the amount of \$50,000.00
10. Aerial photograph, scaling 1 inch = 200 feet with a 50' x 50' grid showing the permitted use area and the surrounding area within 500 feet

Thank you for your time and effort in this request. We appreciate the opportunity to work in your community. If you have any questions and/or need additional information, please do not hesitate to contact me at (262) 524-1258 or [cweninger@walbecgroup.com](mailto:cweninger@walbecgroup.com)

Sincerely,

Payne & Dolan, Inc.

Clint Weninger, P.G.

Land Resources Manager

## Explosives Use

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### Blasting Designs:

Generally, there are seven different blasting designs that could be used at the Payne & Dolan Racine Quarry. The specific blast design used varies with the blast location, rock formation and/or face height being blasted. All standard blast designs can be described as one of the seven following types:

- Type 1: Production shot, 3-1/2" hole, no deck
- Type 2: Production shot, 3-1/2" hole, single deck
- Type 3: Production shot, 4" hole, no deck
- Type 4: Production shot, 4" hole, single deck
- Type 4: Production shot, 3" hole, no deck
- Type 5: Production shot, 3" hole, single deck
- Type 6: Production shot, 3" hole, double deck

Variations on these methods are occasionally used when development is taking place.

### Explosives Supplier:

Different manufacturers according to cost, efficiency, and availability may supply explosives used in the quarry. The emulsion based blasting agent is supplied by Quick Supply, and is the current standard blasting agent supplier in use at the Racine Quarry. Payne & Dolan, in following normal operating procedures, does intend to seek improvements in blast performance by the introduction of new and/or different explosive products as available. No dynamite products are used at the Racine Quarry.

### Blasting Systems:

An electronic blasting system is the form of blasting technique in use:

Quick Supply: The Digital Control System previously used has been replaced by the new and improved Electronic System which enables previously unobtainable levels of blasting control through its precision timing and flexibility. Delay periods can vary between 0-15,000 milliseconds, with a 1 millisecond increment according to the attached Standard Blast Designs. Electronic blasting system will allow us to be safer, environmental sound, and neighbor friendly.

### Note:

See "Standard Blast Designs" for additional details on the seven standard blast designs.

## Standard Blast Design

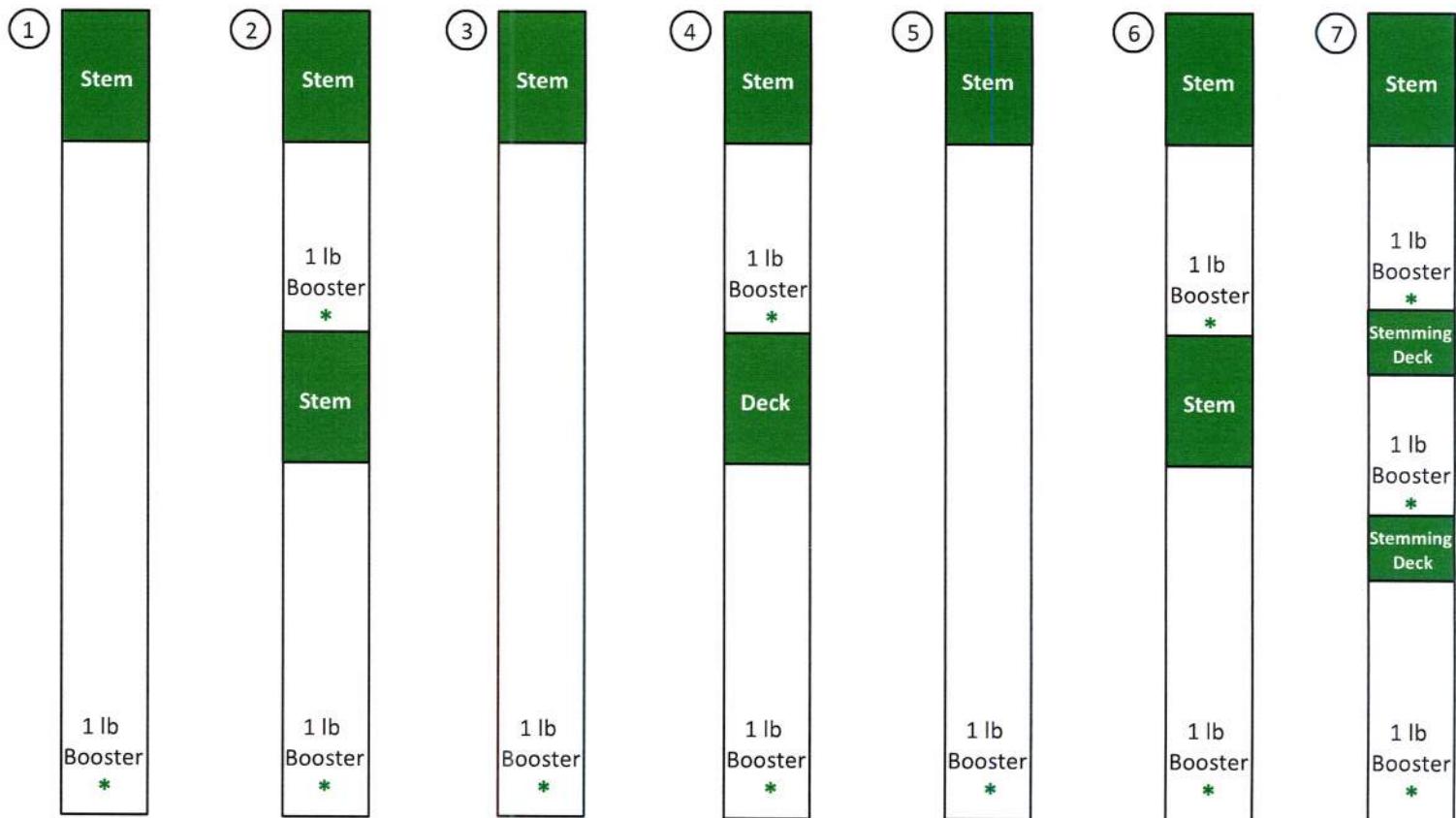
## Racine Quarry

## Village of Caledonia

## Racine County

**Please Note:**

Depending upon distance, decks can be added or removed to reduce pounds/delay. All Main Charges are Emulsion. Timing between Holes & Rows are done electronically, measuring between 1 & 500 ms.



## Standard Hole Charge

## **Explosive Type:**

1. Bottom Load Booster (lbs)      1 or 3/4      1 or 3/4

## Shot Layout

No. Holes	70-100	70-100	70-100	70-100	70-100	70-100	70-100
No. Rows	1-7	1-7	1-7	1-7	1-7	1-7	1-7

Max. LB/Delay: 180 @ 1000' 180 @ 1000' 180 @ 1000' 180 @ 1000' 180 @ 1000' 180 @ 1000' 180 @ 1000' 180 @ 1000'

## Explosives Use Area

### Property Description – East Quarry

That portion of the SE  $\frac{1}{4}$  of Section 29 and SW  $\frac{1}{4}$  of Section 28, T4N-R23E, Village of Caledonia, Racine County, Wisconsin described as follows:

Commencing at the section corner common to Sections 29, 28, 32 and 33 of said T4N-R23E; thence N 39°43'33" W 42.92 feet to the intersection of the North right-of-way line of Three Mile Road and West right-of-way line of Vacated Charles Street, said intersection is the point of beginning of this description; thence, along said North right-of-way line, S 89°59'14" W 1096.15 feet; thence, continuing along said North right-of-way line, N 00°00'46" E 17.01 feet; thence, continuing along said North right-of-way line, N 89°59'18" W 394.00 feet to the easterly right-of-way line of Douglas Avenue; thence, along said easterly right-of-way line, N 44°25'45" W 113.67 feet; thence, continuing along said easterly right-of-way line, N 06°00'00" W 390.35 feet; thence, continuing along said easterly right-of-way line, on the arc of a 956.71 foot radius curve, concave to the southwest, the chord of which bears N 12°39'26" W 221.82 feet; thence, continuing along said easterly right-of-way line, N 19°30'13" W 313.94 feet; thence, continuing along said easterly right-of-way line, N 18°10'08" W 393.39 feet; thence N 40°23'05" E 162.93 feet; thence N 71°49'52" E 8.18 feet; thence N 18°10'08" W 221.10 feet; thence S 71°49'52" W 147.18 feet to said easterly right-of-way line of Douglas Avenue; thence, along said easterly right-of-way line, N 18°10'08" W 200.52 feet; thence S 89°45'06" E 1561.64 feet; thence N 01°17'40" E 462.90 feet; thence S 89°45'06" E 376.77 feet; thence on the arc of a 748.00 foot radius curve, concave to the northeast, the chord of which bears S 50°49'46" E 703.26 feet; thence on the arc of a 272.00 foot radius curve, concave to the southwest, the chord of which bears S 38°48'34" E 350.11 feet; thence S 01°15'02" W 1393.61 feet; thence N 89°50'28" W 634.97 feet to said West right-of-way line of Vacated Charles Street; thence, along said Vacated right-of-way line, S 01°00'35" W 200.09 feet to the point of beginning.

#### **Property Description – West Quarry**

That portion of the SW  $\frac{1}{4}$  and the SE  $\frac{1}{4}$  of Section 29, T4N-R23E, Village of Caledonia, Racine County, Wisconsin described as follows:

Commencing at the  $\frac{1}{4}$  section corner common to Sections 29 and 32 of said T4N-R23E; thence, along the North-South  $\frac{1}{4}$  line of said Section 29, N 01°04'36" E 33.01 feet to the North right-of-way line of Three Mile Road and the point of beginning of this description; thence, along said North right-of-way line, S 89°57'20" W 1545.62 feet; thence N 00°44'40" E 407.00 feet; thence S 89°57'20" W 205.06 feet; thence N 00°44'40" E 1002.47 feet; thence S 89°54'57" E 472.03 feet; thence N 00°44'40" E 553.04 feet; thence S 89°54'57" E 910.70 feet, to the westerly right-of-way line of the Union Pacific Railroad; thence, along said westerly right-of-way line, S 19°48'26" E 1655.87 feet; thence, continuing along said westerly right-of-way line, on the arc of a 5729.58 foot radius curve, concave to the southwest, the chord of which bears S 17°42'05" E 421.06 feet, to said North right-of-way line of Three Mile Road; thence, along said North right-of-way line, N 89°59'14" W 346.68 feet to the point of beginning.

## Scale Distance Calculation

In accordance with Regulation 3 (D) (2) (d) (v), a scale distance factor of 100 has been used to determine the area of pre-blast notification. There is no change to the maximum charge used at the explosives use boundary from previous renewals.

Larger charges may be used inside the explosives use boundary, however, the charge per delay and scale distance notification radius relationship will not exceed that of the max charge listed at the perimeter of each pit. For example, a charge of 125 lbs/delay could be used at 330 ft inside of the East Pit Explosives Use Boundary and be equivalent to the max of 62 lbs/delay at the explosives use boundary. (See Map 1)

The distances from the explosives use boundary for pre-blast notification were calculated as follows:

$$\text{Notification Radius (ft)} = \text{Scale Distance} \times \sqrt{\frac{\text{Max Charge at Perimeter (lbs/delay)}}{62}}$$

### East Quarry Blasting

Max Charge at Explosives Use Boundary = 62 lbs/delay

$$\text{Notification Radius (ft)} = 100 \times \sqrt{62}$$

Notification Radius = 788 ft

### West Quarry Blasting

Max Charge at Explosives Use Boundary = 82 lbs/delay

$$\text{Notification Radius (ft)} = 100 \times \sqrt{82}$$

Notification Radius = 906 ft

## Licensed Blasters

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<b><u>Quick Supply Company</u></b>	<b><u>WI License #</u></b>	<b><u>Class</u></b>	<b><u>Expiration Date</u></b>
Thomas James Burke	1066454	5	4/3/2024
John Henry Sites	1056449	5	8/27/2023
Tommy A. Huff	1226031	5	9/20/2024
Terry Gene Johnson	247772	7	2/22/2026
Gregorick Randall Johnson	1338104	5	1/26/2024
Robert McCollum	1522050	5	3/3/2025
Nicholas Rohloff	1286615	5	8/8/2022
Adam Westhoff	1405495	5	4/3/2025

<b><u>Payne &amp; Dolan</u></b>	<b><u>WI License #</u></b>	<b><u>Class</u></b>	<b><u>Expiration Date</u></b>
John Huebner	210378	5	9/18/2024
Quentin Maxwell	1243501	5	4/4/2025

**Note:** Additional Wisconsin licensed, minimum Class 5, blasters may be added or removed during the year.



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262.524.1700 | [walbecgroup.com](http://walbecgroup.com)

April 25<sup>th</sup>, 2022

**RE: Pre-Blast Survey – Notification Letter**

Dear Neighbor:

To comply with the blasting ordinance set forth by the Town of Caledonia, Chapter 10, Section 7-10-5(c)(4)(c), Payne and Dolan Inc. is offering you a preblast survey of your home upon request. This service is offered annually as part of our Blasting Permit renewal process, however, the ordinance does limit property owners to one preblast survey every six years unless the dwelling or structure has been substantially modified or improved.

If you have not had a preblast survey completed within the last six years and would wish to request one, please contact the Village Public Works Director or Bryanna Bucholtz with Payne & Dolan at [bbucholtz@walbecgroup.com](mailto:bbucholtz@walbecgroup.com) or:

Payne and Dolan Inc.  
c/o Bryanna Bucholtz  
N3W23650 Badiner Road  
PO Box 781  
Waukesha, WI 53187-0781

Notices should be received by June 1<sup>st</sup>, 2022 to insure that all requested surveys can be completed in a timely manner.

If you have any questions, please don't hesitate to contact me at (262) 524-1258.

Sincerely,

**Payne & Dolan, Inc.**

Clint Weninger, P.G.  
Land Resources Manager

**Explosives Use Permit - Pre-Blast Survey Notification List**

Names and addresses of landowners of dwellings or structures located within the affected permitted explosives use

<b>Site Address</b>	<b>Landowner</b>	<b>Mailing Address #1</b>	<b>Mailing Address #22</b>
1000 Mayfair Dr	Ashlie N Slade	1000 Mayfair Dr	Racine, WI 53402
1000 Three Mile Rd	Catherine A Tice	1000 3 Mile Rd	Racine, WI 53402
1008 Berkeley Dr	Garrett G Grow	1008 Berkeley Dr	Racine, WI 53402
1009 Berkeley Dr	Michael & Mary Dacquisto	1009 Berkeley Dr	Racine, WI 53402
1009 Mayfair Dr	Helen L Clark	3024 Old Mill Dr	Racine, WI 53405
1009 Three Mile Rd	Susan & James Seitz	1009 3 Mile Rd	Racine, WI 53402
1014 Berkeley Dr	Chelsea A Gruhn	1014 Berkeley Dr	Racine, WI 53402
1014 Mayfair Dr	Thomas J Schaefer	4410 Cobblestone Dr	Racine, WI 53405
1014 Three Mile Rd	Christiane G Minakian	2509 N Main St	Racine, WI 53402
1015 Berkeley Dr	Ashley Grill & Connie Lance	1015 Berkeley Dr	Racine, WI 53402
1015 Three Mile Rd	Ione Jander & Cheryl Daams	1015 3 Mile Rd	Racine, WI 53402
1017 Mayfair Dr	David Nash Baumann	1017 Mayfair Dr	Racine, WI 53402
1018 Three Mile Rd	Sarah Elizabeth Castellanos	1018 3 Mile Rd	Racine, WI 53402
1020 Berkeley Dr	Nicole & Alejandro Rivera	1020 Berkeley Dr	Racine, WI 53402
1020 Saxony Dr	Paul & Marc Torosian	1020 Saxony Dr	Racine, WI 53402
1021 Berkeley Dr	Amy & Richard Haman	1021 Berkeley Dr	Racine, WI 53402
1021 Three Mile Rd	Samuel M Daams	1432 Monroe Ave	Racine, WI 53405
1024 Three Mile Rd	Kristie A Sargent	1024 3 Mile Rd	Racine, WI 53402
1025 Mayfair Dr	Lynnann & Tony Shoup	12109 Adams Rd	Franksville, WI 53126
1026 Berkeley Dr	Clinton & Mary Bryant	1026 Berkeley Dr	Racine, WI 53402
1026 Saxony Dr	Marci & Daniel Weise	1026 Saxony Dr	Racine, WI 53402
1027 Berkeley Dr	Lamberton Trust	5120 Worsley Ln	Racine, WI 53402
1032 Berkeley Dr	Le Roy E Miller	1032 Berkeley Dr	Racine, WI 53402
1100 Saxony Dr	Rebecca & John Hilliard	1100 Saxony Dr	Racine, WI 53402
1101 Berkeley Dr	Susan M Klus	1101 Berkeley Dr	Racine, WI 53402
1104 Berkeley Dr	Damian Vaughn	1104 Berkeley Dr	Racine, WI 53402
1104 Saxony Dr	Mary L Hansen	1104 Saxony Dr	Racine, WI 53402
1107 Berkeley Dr	Cynthia & Steve Thompsonson	1107 Berkeley Dr	Racine, WI 53402
1110 Berkeley Dr	Sara S Finley	1110 Berkeley Dr	Racine, WI 53402
1110 Saxony Dr	Timothy L Ellis	1110 Saxony Dr	Racine, WI 53402
1111 Berkeley Dr	Michael Muniz	1111 Berkeley Dr	Racine, WI 53402
1116 Berkeley Dr	Jeanette L Simmons	1116 Berkeley Dr	Racine, WI 53402
1116 Saxony Dr	Mary E Schroeder	1116 Saxony Dr	Racine, WI 53402
1117 Berkeley Dr	Katherine & Daniel Miller	1117 Berkeley Dr	Racine, WI 53402
1122 Berkeley Dr	Farrah J Stephan	4733 Elizabeth St	Racine, WI 53402
1122 Saxony Dr	Cecilia M Hutcherson-Smith	1122 Saxony Dr	Racine, WI 53402
1123 Berkeley Dr	William T Mertins	1123 Berkeley Dr	Racine, WI 53402
1128 Berkeley Dr	Omelina	1128 Berkeley Dr	Racine, WI 53402
1134 Berkeley Dr	Robert J Broshat	3700 Wooddale Ave S Unit 10	St Louis Park, MN 55416
1140 Berkeley Dr	June Anderson Grandchildren's Trust	1140 Berkeley Dr	Racine, WI 53402
1205 Ellis Ave	Stephen & Mary George	1205 Ellis Ave	Racine, WI 53402
1211 Ellis Ave	Maple Park Ns Ki, LLC	6400 Shafer Court #325	Rosemont, IL 60018
1215 Ellis Ave	Keith Christensen	6249 Patridge Hills	Mount Pleasant, WI 53406
1223 Ellis Ave	Julianne Becker	1223 Ellis Ave	Racine, WI 53402
1224 Ellis Ave	Pamela & Jeffrey Nelson	1224 Ellis Avenue	Racine, WI 53402
1231 Ellis Ave	Rocky & Joann Rockwell	1231 Ellis Avenue	Caledonia, WI 53402
1307 Ellis Ave	Maricela & Jose Mora	1307 Ellis Ave	Racine, WI 53402
1315 Ellis Ave	Joshua D Enoch	1315 Ellis Ave	Racine, WI 53402
1323 Ellis Ave	Patricia Lee Petersen	1323 Ellis Av	Racine, WI 53402
1414 Ellis Ave	David & Donna Wilson	1414 Ellis Av	Racine, WI 53402

1419 Ellis Ave	Kurt & Arlys Altenbach	1419 Ellis Ave	Racine, WI 53402
1419 Kremer Ave	Matthew H Zitterman	1419 Kremer Av	Racine, WI 53402
1420 Ellis Ave	Harlon & Jacqueline Hall	1420 Ellis Avenue	Racine, WI 53402
1425 Ellis Ave	Shawn A Hewitt	1301 Cedar Creek St	Racine, WI 53402
1427 Kremer Ave	Robert Prill	1427 Kremer Ave	Caledonia, WI 53108
1431 Kremer Ave	Michael L Cole	1431 Kremer Av	Racine, WI 53402
1432 Ellis Ave	Bradley W Hoover	1432 Ellis Avenue	Racine, WI 53402
1433 Ellis Ave	Chelcee H Daley	P.O. Box 121	Cudahy, WI 53110
1437 Kremer Ave	James L Mc Cluskey	1437 Kremer Ave	Racine, WI 53402
1438 Ellis Ave	Kyle & Summer Ostlund	1438 Ellis Avenue	Racine, WI 53402
1439 Ellis Ave	Vanderhoef Revocable Trust	1503 Ellis Ave	Racine, WI 53402
1444 Ellis Ave	Terrance A Klus	1444 Ellis Av	Racine, WI 53402
1445 Kremer Ave	John Maney	1445 Kremer Ave	Racine, WI 53402
1502 Ellis Ave	Shirley A Meyer	1502 Ellis Avenue	Racine, WI 53402
1503 Ellis Ave	Michael Vanderhoef Rev Trust	1503 Ellis Ave	Racine, WI 53402
1505 Kremer Ave	Mallory Cagle	1505 Kremer Ave.	Racine, WI 53402
1509 Ellis Ave	Bradley & Victoria Rusch	1509 Ellis Av	Racine, WI 53402
1510 Ellis Ave	Eugene Pagel	1510 Ellis Ave	Racine, WI 53402
1515 Ellis Ave	Brian M Doe	1515 Ellis Av	Racine, WI 53402
1517 Kremer Ave	Michael & Sheryl Sharp	S63 W18011 College Ave	Muskego, WI 53150
1518 Ellis Ave	Todd M Anderson	1518 Ellis Ave	Racine, WI 53402
1519 Kremer Ave	Gary & Patricia Halverson	1519 Kremer Av	Racine, WI 53402
1527 Ellis Ave	Karen Demint Rev Trust	1135 Hastings Court #102	Mount Pleasant, WI 53406
1527 Kremer Ave	Tammy L Johnson	1527 Kremer Ave	Racine, WI 53402
1528 Ellis Ave	Gary Beaudry	1528 Ellis Avenue	Caledonia, WI 53402
1532 Ellis Ave	Pamela J Koonz	6615 Fieldstone Court	Racine, WI 53402
1533 Kremer Ave	James R Zold	1533 Kremer Av	Racine, WI 53402
1539 Ellis Ave	Lawrence A Klein	1539 Ellis Ave	Racine, WI 53402
1540 Ellis Ave	Steven C Baumstark	4318 Wood Rd	Racine, WI 53403
1544 Melvin Ave	Wisconsin Electric Power	231 W Michigan St Rm A252	Milwaukee, WI 53290
1545 Ellis Ave	Lawrence A Klein	1539 Ellis Av	Racine, WI 53402
1546 Ellis Ave	Joseph & Victoria Noll	1546 Ellis Avenue	Racine, WI 53402
1605 Ellis Ave	Larry Lamb & Carol Stutzke	1605 Ellis Av	Racine, WI 53402
1611 Ellis Ave	Jacob Seppi	1611 Ellis Av	Racine, WI 53402
1612 Ellis Ave	James G & Mary B Kroes Irrev Trust	1612 Ellis Avenue	Racine, WI 53402
1618 Ellis Ave	Walter B Pelky	1618 Ellis Ave	Racine, WI 53402
1619 Ellis Ave	Thomas Borowski	1619 Ellis Av	Racine, WI 53402
1625 Ellis Ave	David J Krome	1625 Ellis Ave	Racine, WI 53402
1629 Ellis Ave	Ronald C Fetzer	10645 6-1/2 Mile Rd	Caledonia, WI 53108
1635 Ellis Ave	Joseph R Butler	1635 Ellis Avenue	Racine, WI 53402
1641 Ellis Ave	Timothy Christensen	4128 Walsh Road	Racine, WI 53405
1707 Ellis Ave	Joseph & Hwa Yong Gallagher	1707 Ellis Ave	Racine, WI 53402
1711 Ellis Ave	Carol L Deschler Rev Trust	1711 Ellis Ave	Racine, WI 53402
1721 Ellis Ave	Rachel & Randal Sinnott	1721 Ellis Ave	Racine, WI 53402
1725 Ellis Ave	Daniel J Rombca	1725 Ellis Av	Racine, WI 53402
1731 Ellis Ave	Joseph Mayer & Pamela Strzelecki	1731 Ellis Ave	Racine, WI 53402
1743 Ellis Ave	Elma L Ynocencio	3233 90Th Street	Sturtevant, WI 53177
1803 Ellis Ave	Nicholas & Jenny Gutknecht	1803 Ellis Ave	Racine, WI 53402
1809 Ellis Ave	William & Lynne Leete	1809 Ellis Av	Racine, WI 53402
1815 Ellis Ave	David J Christenson	7236 7 Mile Rd	Racine, WI 53402
1821 Ellis Ave	Betty Levandoski	1821 Ellis Ave	Racine, WI 53402
1900 3 Mile Rd	Shane Johansen	4579 68Th St	Franksville, WI 53126
2305 St Ritas Rd	Timothy & Joyce Hempel	2305 St Ritas Road	Racine, WI 53402
2308 St Ritas Rd	Clifford & Tammy Kainz	2308 St Ritas Rd	Racine, WI 53402
2314 St Ritas Rd	Ruth E Hazlett	2314 St Ritas Rd	Racine, WI 53402

2400 St Ritas Rd	Vernon Fink Sr Irrev Special Needs Trust	4318 Garden Drive	Racine, WI 53403
2415 St Ritas Rd	Helena Jean Llc	725 East Marshall Ave	Oak Creek, WI 53154
2505 St Ritas Rd	Megan M Goers	2505 St Rita Rd	Caledonia, WI 53404
2508 St Ritas Rd	Lloyd & Margaret Dejong	10842 Durand Ave	Sturtevant, WI 53177
2514 St Ritas Rd	Duane E Fink	2514 St Ritas Rd	Racine, WI 53404
2518 St Ritas Rd	Herbert & Arthur Krupp	620 Hagerer St	Racine, WI 53402
2521 St Ritas Rd	Richard J Zepnick	2612 Gilson St	Racine, WI 53403
2522 St Ritas Rd	Herbert & Arthur Krupp	620 Hagerer St	Racine, WI 53402
2525 3 Mile Rd	Watt Real Estate Llc	2415 Green Haze Avenue	Mount Pleasant, WI 53406
2600 St Ritas Rd	Gary W Mott	2600 St Ritas Rd	Racine, WI 53404
2600 Stonebridge Dr	Patrick & Wendy Parker	2600 Stonebridge Dr	Racine, WI 53404
2601 Stonebridge Dr	Lawrence & Julane Lamberton	2601 Stonebridge Dr	Racine, WI 53404
2603 Stonebridge Dr	Freddie & Debra Usmiller	2603 Stoneridge Dr	Racine, WI 53404
2605 St Ritas Rd	Frank J Mirr	2605 St Ritas Rd	Racine, WI 53404
2605 Stonebridge Dr	Nine Oaks Llc	735 North Water Street Ste 926	Milwaukee, WI 53202
2609 Stonebridge Dr	James & Sarah Dykstra	2609 Stonebridge Drive	Racine, WI 53404
2610 Stonebridge Dr	Rebecka Demark & Neil Raffensperger	2610 Stonebridge Drive	Racine, WI 53404
2611 St Ritas Rd	Jeanne M Matalik	2621 St Rita Rd	Racine, WI 53404
2616 St Ritas Rd	Mark & Barbara Schmitz	2616 St Rita'S Road	Racine, WI 53404
2617 3 Mile Rd	Shannon W Coey	2617 3 Mile Road	Racine, WI 53404
2617 Stonebridge Dr	Daniel & Catherine Van Koningsveld	2617 Stonebridge Dr	Racine, WI 53404
2618 3 Mile Rd	William J Olive	6540 Apollo Dr	Mt Pleasant, WI 53406
2618 Stonebridge Dr	Jeffery & Mary Greene	2618 Stonebridge Dr	Racine, WI 53404
2621 St Ritas Rd	Jeanne E Matalik	2621 St Rita Rd	Racine, WI 53404
2625 Stonebridge Dr	Marvin D Harrell	2625 Stonebridge Drive	Racine, WI 53404
2626 St Ritas Rd	David & Victoria Blakely	2626 St Ritas Rd	Racine, WI 53404
2630 Stonebridge Dr	Craig & Alissoulae Perkowski	2630 Stonebridge Dr	Racine, WI 53404
2631 Stonebridge Dr	Eric & Kathryn Butcher	2631 Stonebridge Dr.	Racine, WI 53404
2635 St Ritas Rd	Rachel & Daniel Vice	2635 St. Rita'S Road	Racine, WI 53404
2636 St Ritas Rd	Steven A Ladwig	2636 St Ritas Rd	Racine, WI 53404
2642 St Ritas Rd	Mark Beck	2642 St Ritas Rd	Racine, WI 53402
2701 3 Mile Rd	Luis Moreno & Ana Reynoso-Ruiz	2701 3 Mile Road	Caledonia, WI 53404
2706 St Ritas Rd	David & Dianna Hudzinski	2706 St Rita'S Rd	Racine, WI 53402
2707 Stonebridge Dr	Rahil & Braina Shah	2707 Stonebridge Drive	Racine, WI 53404
2708 3 Mile Rd	Amy J Wesner	2708 3 Mile Rd	Racine, WI 53404
2708 Stonebridge Dr	Ronald & Susan Datthy	2708 Stonebridge Dr	Racine, WI 53404
2710 Santa Fe Trl	Joseph R Schweitzer	S106 W16806 Muskego Dam Dr.	Muskego, WI 53150
2713 3 Mile Rd	Paul E Sherwood	2713 3 Mile Rd	Racine, WI 53404
2713 Stonebridge Dr	Daniel & Michelle Pederson	2713 Stonebridge Dr	Racine, WI 53404
2714 Stonebridge Dr	Eric & Laura Rinehart	2714 Stonebridge Dr	Racine, WI 53404
2715 St Ritas Rd	Gregory A Vash	2715 St Ritas Rd	Racine, WI 53404
2716 St Ritas Rd	Michael Robert Davis	2716 St Ritas Rd	Racine, WI 53404
2718 Sante Fe Trl	O'Connor Corp *	S30 W24670 West Sunset Dr	Waukesha, WI 53189
2721 Stonebridge Dr	Steven & Magdalena Vento	2721 Stonebridge Dr	Racine, WI 53404
2722 3 Mile Rd	Stephanie Cordero & Misael Perez	2722 3 Mile Rd	Caledonia, WI 53404
2725 Sante Fe Trl	O'Connor Corp *	S30 W24670 West Sunset Dr	Waukesha, WI 53189
2725 St Ritas Rd	Denise J Moriarity	2725 St Rita Rd	Racine, WI 53404
2727 Stonebridge Dr	Bruce & Laurie Steinmetz	2727 Stonebridge Dr	Racine, WI 53404
2730 St Ritas Rd	Douglas Avenue Investments	2525 Douglas Ave	Racine, WI 53402
2735 Stonebridge Dr	Carrie Prondzinski	2735 Stonebridge Dr	Racine, WI 53402
2800 Santa Fe Trl	Thomas J Bruno	2800 Santa Fe Tr	Racine, WI 53404
2801 Santa Fe Trl	Kurtis Kinard & Jolene Young	3748 Cheyenne Ct	Racine, WI 53404
2804 3 Mile Rd	Donald G Boyle	2804 3 Mile Rd	Racine, WI 53402
2807 Santa Fe Trl	Shannon M Smentek	2807 Santa Fe Trl	Racine, WI 53404
2808 St Ritas Rd	Joseph M Stromski	2808 St Ritas Rd	Racine, WI 53404

2810 Santa Fe Trl	Jean L Makovsky	2810 Santa Fe Trail	Racine, WI 53404
2815 Santa Fe Trl	Jessica & Michael Sherman	2815 Santa Fe Trail	Racine, WI 53404
2816 3 Mile Rd	Dennis & Marilyn Ferg	4040 Goleys Ln	Racine, WI 53402
2816 Santa Fe Trl	Darren & Ashley Wricks	2816 Santa Fe Trail	Racine, WI 53404
2820 St Ritas Rd	Manfried L Hoch	2820 St Ritas Rd	Racine, WI 53404
2821 Santa Fe Trl	Ann & Ronald Muller	2821 Santa Fe Trail	Racine, WI 53402
2824 Santa Fe Trl	Michael & Mary Lou Ortiz	2824 Santa Fe Trail	Racine, WI 53404
2827 Santa Fe Trl	Aubrey & Vicki Shamberger	2827 Santa Fe Trail	Racine, WI 53404
2830 Santa Fe Trl	Judith (Judy) A Gayhart	2830 Santa Fe Tr	Racine, WI 53404
2835 Santa Fe Trl	Morris P Lewis	2835 Santa Fe Trail	Racine, WI 53404
2836 Santa Fe Trl	Angela Marie Pemberton	2836 Santa Fe Tr	Caledonia, WI 53404
2841 Santa Fe Trl	Brian & Debra Watkins	4132 80Th St	Franksville, WI 53126
2855 3 Mile Rd	Jeffrey Brian Barker	2855 3 Mile Road	Racine, WI 53404
2865 3 Mile Rd	William & Roxanne Alexander	2865 3 Mile Rd	Racine, WI 53404
2875 3 Mile Rd	William Lehmann	2875 3 Mile Rd	Racine, WI 53404
2885 3 Mile Rd	Martin & Judy Torres	P O Box 44068	Racine, WI 53404
2895 3 Mile Rd	Jacque R Vita	2895 3 Mile Rd	Racine, WI 53404
2900 3 Mile Rd	Michael & Carolyn Kasprzak	2900 3 Mile Road	Racine, WI 53404
2900 Santa Fe Trl	Thomas & Terry Flitsch	6530 High Hill Circle	Racine, WI 53402
2905 3 Mile Rd	Chong Cha Johnson	2905 3 Mile Rd	Racine, WI 53404
2906 Santa Fe Trl	Terri & Earl Campbell	2906 Santa Fe Trail	Racine, WI 53404
2909 Santa Fe Trl	James & Margaret Carpenter	838 Cheshire Castle Way	Verona, WI 53593
2909 St Ritas Rd	Bernice Paden	2909 St Rita'S Road	Racine, WI 53404
2910 3 Mile Rd	Neil Campbell	2910 3 Mile Road	Racine, WI 53404
2912 Santa Fe Trl	Nancy A Willis	2912 Santa Fe Trail	Racine, WI 53404
2918 Santa Fe Trl	Patricia Kruchten & John Hailbach	2918 Sante Fe Tr	Racine, WI 53404
2922 3 Mile Rd	Fernando Quiles Manzano	2922 3 Mile Rd	Caledonia, WI 53404
3 Mile Rd	Union Pacific Railroad Co	1400 Douglas St	Omaha, NE 68179
3 Mile Rd	Union Pacific Railroad Co	1400 Douglas St	Omaha, NE 68179
3 Mile Rd	R R Chicago & Northwestern	1400 Douglas St, Stop 1640	Omaha, NE 68179
3239 N Green Bay Rd	Racine Commercial Airport	3239 N Green Bay Rd	Racine, WI 53404
3239 N Green Bay Rd	Racine Commercial Airport	3239 N Green Bay Rd	Racine, WI 53404
3726 Wyoming Adj Way	Sundance Heights Condominium	3800 Wyoming Way	Racine, WI 53404
3803 Wyoming Way	Roy R Emmerling	3803 Wyoming Way	Racine, WI 53404
3805 Wyoming Way	Melissa Curtis	3805 Wyoming Way	Racine, WI 53404
3807 Wyoming Way	Jennifer L Anderson	3807 Wyoming Way	Racine, WI 53404
3808 Wyoming Way	Diane V Steiner	3808 Wyoming Way	Racine, WI 53404
3809 Wyoming Way	Richard & Judith Kimball	3809 Wyoming Way	Racine, WI 53405
3810 Carter St	Racine, City Of	730 Washington Ave	Racine, WI 53403
3810 Wyoming Way	Pamela L Person	3810 Wyoming Way Unit 2	Racine, WI 53404
3811 Wyoming Way	Christine Holliman	3811 Wyoming Way	Racine, WI 53404
3813 Cheyenne Ct	Cassie Laine Mcdannel	3813 Cheyenne Court Unit F	Racine, WI 53403
3813 Cheyenne Ct	Raymond Rorek	3813 Cheyenne Court Unit A	Racine, WI 53404
3813 Cheyenne Ct	Robin M Demetriou	3813 Cheyenne Ct #B	Racine, WI 53404
3813 Cheyenne Ct	Michael L Yager	3813 Cheyenne Court Unit C	Racine, WI 53404
3813 Cheyenne Ct	Bruno A Schrader	3813 Cheyenne Ct Unit E	Racine, WI 53404
3813 Cheyenne Ct	Tammi L Navis	3813 Cheyenne CT	Racine, WI 53404
3813 Cheyenne Ct	Savannah Ann Lee	3813 Cheyenne Court Unit H	Racine, WI 53404
3813 Cheyenne Ct	Zubeda & Shafaat Haider	3813 Cheyenne Court	Racine, WI 53404
3813 Wyoming Way	Randall A Osvatic	3813 Wyoming Way	Racine, WI 53404
3815 Wyoming Way	Thomas Knitter	3815 Wyoming Way	Racine, WI 53404
3817 Wyoming Way	Calvin Theodore Stang	3817 Wyoming Way	Racine, WI 53404
3818 Cheyenne Ct	Michael J Crum	3818 Cheyenne Ct, Unit E	Caledonia, WI 53404
3818 Cheyenne Ct	Dolores R Rosplock Irrev Trust	3818 Cheyenne Court Unit C	Racine, WI 53404
3818 Cheyenne Ct	Gladys J Brehm	3818 Cheyenne Ct Unit D	Racine, WI 53404

3818 Cheyenne Ct	Zbigniew Polikowski	3818 Cheyenne Ct #F	Racine, WI 53404
3818 Cheyenne Ct	Nathan Jerome Jones	3818 Cheyenne Court Unit G	Racine, WI 53404
3818 Cheyenne Ct	Brian J Konieczko	3818 Cheyenne Court Unit H	Racine, WI 53404
3818 Cheyenne Ct	Benjamin & Dawn Flegel	3818 Cheyenne Ct Unit B	Racine, WI 53404
3818 Cheyenne Ct	Kristin Felsman & Scott Larsen	3818 Cheyenne Ct Unit A	Racine, WI 53404
3818 Wyoming Way	Jeanne P Grant	3818 Wyoming Way	Racine, WI 52340
3819 Douglas Ave	Jeffery & Karen Servi	4032 Miller Ln	Mount Pleasant, WI 53405
3820 Wyoming Way	Beverly A Nelson	3820 Wyoming Way	Racine, WI 53404
3821 Wyoming Way	James & Marilyn Eisenhut	16162 W Casa Bonita Ct	Surprise, AZ 85374
3823 Cheyenne Ct	O'Connor Corporation *	S30 W24670 West Sunset Dr	Waukesha, WI 53189
3823 Wyoming Way	Patricia A Labucki	3823 Wyoming Way	Racine, WI 53404
3825 Wyoming Way	Anthony & Andria Haag	3825 Wyoming Way #11-3825	Racine, WI 53404
3827 Wyoming Way	Carole A Rouse	3827 Wyoming Way	Racine, WI 53404
3828 Cheyenne Ct	O'Connor Corp *	S30 W24670 West Sunset Dr	Waukesha, WI 53189
3829 Douglas Ave	S And H Investments, LLC	3829 Douglas Ave	Racine, WI 53402
3830 Douglas Ave	Russell D Kortendick	3806 Douglas Ave	Racine, WI 53402
3832 Wyoming Way	Vukota & Nada Romanovic	9511 41St Ave	Pleasant Prairie, WI 53158
3835 Cheyenne Ct	O'Connor Corporation *	S30 W24670 West Sunset Dr	Waukesha, WI 53189
3840 Douglas Ave	Domenico & Mirella De Rango Trust	4304 Woodview Ln	Racine, WI 53404
3841 Douglas Ave	Constance & Alexander George	16800 W Cleveland Ave	New Berlin, WI 53151
3843 Cheyenne Ct	Nagra Real Estate Holding, Inc	8731 Shadowood Trail	Racine, WI 53403
3844 Wilshire Dr	Joshua & April Driver	3844 Wilshire Dr	Racine, WI 53402
3900 Wilshire Dr	Gerald A Hooyman Jr	3900 Wilshire Dr	Racine, WI 53402
3901 Wilshire Dr	Jamie & Jodi Carr	3901 Wilshire Dr	Racine, WI 53402
3901 Wyoming Way	P L Cabush LLC	10928 Kentworth Way	Jacksonville, FL 32256
3904 Wilshire Dr	Patricia Paragamian & Lisa Mahnke	3904 Wilshire Dr	Racine, WI 53402
3910 Wilshire Dr	David & Janeen Bohn	3910 Wilshire Dr	Racine, WI 53402
3910 Wyoming Way	Aurelio & Anna Fardella	3910 Wyoming Way	Racine, WI 53404
3912 Douglas Ave	Racine Commercial Airport	3239 N Green Bay Rd	Racine, WI 53404
3915 Douglas Ave	Purath-Strand Investments, LLC	3915 Douglas Ave	Racine, WI 53402
3915 Wilshire Dr	Katherine & Celestina Vick	2401 Dombrowski Blvd	Racine, WI 53405
3916 Wilshire Dr	Jennifer D Betchkal	3916 Wilshire Dr	Racine, WI 53402
3918 Wyoming Way	Steven & Linda Emmerling	3918 Wyoming Way	Racine, WI 53404
3922 Wilshire Dr	Sherry L Natynski	3922 Wilshire Dr	Racine, WI 53402
3924 Wyoming Way	Ivan & Biserka Ivic	3924 Wyoming Way	Racine, WI 53404
3930 La Salle St	Tamera S Rossman	3930 Lasalle St	Racine, WI 53402
3935 Douglas Ave	Tcf Bank Wisconsin Fsb	1405 Xenuim Ln N	Plymouth, MN 55441
3940 La Salle St	Donald & Georgene Kapla	3940 Lasalle St	Racine, WI 53402
3945 Western Way	Ashley Daoust & Ryan Thomas	3945 Western Way	Racine, WI 53404
4 Mile Rd	Wisconsin Electric Power Company	231 W Michigan St	Milwaukee, WI 53201
4011 La Salle St	Bryon & Erika Perona	4011 Lasalle St	Racine, WI 53402
4016 La Salle St	Dylan J Glonek	4016 Lasalle St	Racine, WI 53402
4019 La Salle St	Michael Guzman	4019 Lasalle St	Racine, WI 53402
4023 Coachlight Dr	Chad & Dawn Martinez	4023 Coachlight Dr	Racine, WI 53404
4023 Goleys Ln	Matthew M Debonis	4023 Goleys Lne	Racine, WI 53404
4024 Marquette Dr	Naketha Campbell	424 Lake Ave Apt 309	Racine, WI 53403
4032 Marquette Dr	Flashinski Family Trust	5508 River Hills Rd	Racine, WI 53402
4035 Goleys Ln	Rosa Dearment	4035 Goleys Ln	Racine, WI 53404
4036 La Salle St	Jerry & Kathleen Schultz	4036 Lasalle St	Racine, WI 53402
4037 Marquette Dr	Tws Investments V, LLC	4410 Cobblestone Dr	Racine, WI 53405
4039 La Salle St	Linnea & John Brooke	4039 Lasalle St	Racine, WI 53402
4040 Goleys Ln	Dennis & Marilyn Ferg	4040 Goley Lane	Racine, WI 53404
4040 Marquette Dr	Herbert And Marlyn Schaefer Trust	26204 S Wind Lake Rd	Wind Lake, WI 53185
4042 La Salle St	Shiraune & Cavell Samuels	4042 Lasalle St	Racine, WI 53402
4043 Marquette Dr	Tws Investments, LLC	4410 Cobblestone Dr	Racine, WI 53405

4045 La Salle St	Joshua M Willis	4045 Lasalle St	Racine, WI 53402
4046 Goleys Ln	Dennis & Marilyn Ferg	4046 Goley Lane	Racine, WI 53404
4047 Goleys Ln	Kyle Lamay	4047 Goleys Lane	Racine, WI 53404
4048 La Salle St	Brittney Lampshire	4048 Lasalle St	Racine, WI 53402
4048 Marquette Dr	Amal Jaber	431 William St	Racine, WI 53402
4049 Marquette Dr	Tws Investments, LLC	4410 Cobblestone Dr	Racine, WI 53405
4052 Goleys Ln	Maria Ruiz & Soledad Beltran	4052 Goleys Ln	Racine, WI 53404
4101 Coachlight Dr	Thomas & Rebecca Johnson	4101 Coachlight Drive	Racine, WI 53404
4101 Goleys Ln	Jaime C Pawelski	4101 Goleys Lane	Racine, WI 53404
4101 La Salle St	Christopher John Kroupa	4101 Lasalle St	Racine, WI 53402
4102 La Salle St	Susan Savkur & Marilyn Hirschboeck	4102 Lasalle St	Racine, WI 53402
4103 Marquette Dr	Samual & Rebecca Wahlen	14334 Marina Dr	Sturtevant, WI 53177
4104 Marquette Dr	Michael A Schaefer	1713 Cleveland Ave	Racine, WI 53405
4107 La Salle St	Derrick & Rachel Large	4107 Lasalle St	Racine, WI 53402
4108 Goleys Ln	Jordan Butch	4108 Goleys Ln	Racine, WI 53404
4108 La Salle St	Casey Loew & Paige Breu	4108 Lasalle St	Racine, WI 53402
4109 Marquette Dr	4109 Marquette Drive, LLC	8333 402Nd Ave	Genoa City, WI 53128
4112 Marquette Dr	Jm-Jbsc Family Limited Partnership	Po Box 533	Hartland, WI 53029
4113 Coachlight Dr	Quintin & Julie Vincent	4113 Coachlight Dr	Racine, WI 53404
4113 La Salle St	Mary Jane & Kim Svoboda	4113 Lasalle St	Racine, WI 53402
4114 La Salle St	Tina & Kevin Buckley	4114 Lasalle St	Racine, WI 53402
4115 Goleys Ln	Kim Styhan	4115 Goleys Lane	Caledonia, WI 53404
4115 Marquette Dr	Michael A Schaefer	1713 Cleveland Ave	Racine, WI 53405
4119 La Salle St	Patsy J Munoz	3127 Debra Ln	Racine, WI 53403
4120 La Salle St	Cherie A Luckow	4120 Lasalle St	Racine, WI 53402
4120 Marquette Dr	Jm-Jbsc Family Lmted Parternship	Po Box 533	Hartland, WI 53029
4121 Coachlight Dr	Anthony & Sarah Wilkey	4121 Coachlight Drive	Racine, WI 53404
4121 Goleys Ln	Justin & Stephanie Lafountain	4121 Goleys Lane	Caledonia, WI 53404
4121 Marquette Dr	David Michael Schaefer	4123 Marquette Dr	Racine, WI 53402
4122 Goleys Ln	Michael L Willan	4122 Goleys Ln	Racine, WI 53404
4125 La Salle St	Seyong & Myong Kwak	4125 Lasalle St	Racine, WI 53402
4126 La Salle St	Zachary Haase & Allison Stanke	4126 Lasalle St	Racine, WI 53402
4127 Marquette Dr	Michael A Schaefer	1713 Cleveland Ave	Racine, WI 53405
4130 Goleys Ln	Karen E Uick	4130 Goley Ln	Racine, WI 53404
4130 Marquette Dr	Tws Investments Ii, LLC	4410 Cobblestone Dr	Racine, WI 53405
4131 Coachlight Dr	Deborah K Vartanian	4131 Coachlight Dr	Racine, WI 53404
4131 Goleys Ln	Alvaro Henrique Dias	4131 Goleys Ln	Racine, WI 53404
4131 La Salle St	April Windham & Murdell Davis	4131 Lasalle St	Racine, WI 53402
4132 La Salle St	Kristin Graf & Justin Surber	4132 Lasalle St	Racine, WI 53402
4133 Marquette Dr	Michael A Schaefer	1713 Cleveland Ave	Racine, WI 53405
4136 Marquette Dr	Tws Investment Ix, LLC	4410 Cobblestone Dr	Racine, WI 53405
4137 La Salle St	Darlene Margaret Hall	4137 Lasalle St	Racine, WI 53402
4138 La Salle St	Jeffrey D Wade	4138 Lasalle St	Racine, WI 53402
4139 Marquette Dr	Daniel J Schaefer	2811 Manor Ave	Mount Pleasant, WI 53406
4140 Goleys Ln	Mark Schmidt	C/O Irene 4140 Goley Lane	Racine, WI 53404
4142 Marquette Dr	Tws Investments Vii, LLC	4410 Cobblestone Dr	Racine, WI 53405
4143 Goleys Ln	Heller & Heller & Heller	4143 Goleys Lane	Racine, WI 53404
4143 La Salle St	David & Norma Benavente	4143 Lasalle St	Racine, WI 53402
4144 La Salle St	Marie & Melvin Hargrove	4144 Lasalle St	Racine, WI 53402
4145 Marquette Dr	Tjs Realty Vii, LLC	4410 Cobblestone Dr	Racine, WI 53405
4149 La Salle St	Gar, LLC	9406 Dunkelow Rd	Franksville, WI 53126
4150 Goleys Ln	Thomas A Christensen	4150 Goley Ln	Racine, WI 53404
4150 La Salle St	Linda & Alan Krause	148 N Larch Ave	Elmhurst, IL 60126
4151 Coachlight Dr	Curt Nelson	7015 44Th Avenue	Kenosha, WI 53142
4200 Marquette Dr	Herbert & Marilyn Schaefer Trust	2811 Manor Ave	Mount Pleasant, WI 53406

4201 Marquette Dr	Tjs Realty Vii, LLC	4410 Cobblestone Dr	Racine, WI 53405
4205 La Salle St	David Dettmann & Erica Cruz	4205 Lasalle St	Racine, WI 53402
4206 La Salle St	Rachael L Petersen	4206 Lasalle St	Racine, WI 53402
4207 Marquette Dr	Michael A Schaefer	1713 Cleveland Ave	Racine, WI 53405
4208 Marquette Dr	4208 Marquette Trust	639 19Th Ave	San Francisco, CA 94121
4210 Douglas Ave	Quarry View Enterprises	730 St Sylvester Dr	South Milwaukee, WI 53172
4211 La Salle St	Maribeth Waterfield	4211 Lasalle St	Racine, WI 53402
4212 Goleys Ln	Leon & Luan Guntly	4212 Goley Lane	Racine, WI 53404
4212 La Salle St	Donnell & Vala Claybrook	4212 Lasalle St	Racine, WI 53402
4213 Goleys Ln	Dennis & Judith Held	4213 Goley Lane	Racine, WI 53404
4213 Marquette Dr	Tws Investments li, LLC	4410 Cobblestone Dr	Racine, WI 53405
4216 Marquette Dr	Joseph Simmons	1460 67Th St	Kenosha, WI 53143
4218 La Salle St	Robb & Margaret Mueller	4218 Lasalle St	Racine, WI 53402
4219 Marquette Dr	Tws Investments li, LLC	4410 Cobblestone Dr	Racine, WI 53405
4223 Goleys Ln	Mark & Caryl Schuit	4223 Goleys Ln	Racine, WI 53404
4227 Goleys Ln	Karen H Fawcett	4227 Goleys Ln	Racine, WI 53404
4232 Goleys Ln	Brandon Edwards	4232 Goleys Ln	Racine, WI 53404
4234 Douglas Ave	Kroes Holdings LLC	4234 Douglas Ave	Racine, WI 53402
4241 Coachlight Dr	Adam & Mary Rogan	4241 Coachlight Dr	Racine, WI 53404
4241 Goleys Ln	John Gross	P O Box 33	Racine, WI 53401
4241 Goleys Ln	Noel Lopez & Azucena Mora Munez	4241 Goleys Lane	Racine, WI 53404
4242 Goleys Ln	Lauren Martell & Michael Ebersole	4242 Goleys Ln	Racine, WI 53404
4244 Douglas Ave	Theodore J Demetriou	4244 Douglas Av	Racine, WI 53402
4244 Douglas Ave	Theodore J Demetriou	4224 Douglas Ave	Racine, WI 53402
4245 Douglas Ave	Rainer & Ruth Sellin	4245 Douglas Av	Racine, WI 53402
4252 Douglas Ave	Tshabalala Enterprises, LLC	4252 Douglas Ave	Racine, WI 53402
4252 Goleys Ln	Lorraine & Dale Ibarra	4252 Goleys Lane	Racine, WI 53402
4254 Douglas Ave	Anita Carpenter	4254 Douglas Ave	Racine, WI 53402
4301 Douglas Ave	Joann E Demark	4301-4307 Douglas Av	Racine, WI 53402
4310 Douglas Ave	Debra K Durham	4310 Douglas Av	Racine, WI 53402
4318 Douglas Ave	Randy G Enterprises LLC	4318 Douglas Ave.	Racine, WI 53402
4318 Goleys Ln	Jeffrey Macemon	1528 Quincy Ave	Racine, WI 53405
4319 Coachlight Dr	Sam & Kristy Langley	4319 Coachlight Drive	Racine, WI 53404
4328 Goleys Ln	Ronald & Mary Reading Rev Trust	4328 Goley'S Ln	Racine, WI 53404
4329 Coachlight Dr	Keith Jensen & Kristine Spiess	4329 Coachlight Dr	Racine, WI 53404
4336 Goleys Ln	Ronald & Mary Reading Rev Trust	4328 Goley'S Ln	Racine, WI 53404
4344 Douglas Ave	1897 Holdings LLC	830 Waters Edge Road	Racine, WI 53402
4352 Goleys Ln	Leon & Luan Guntly	4212 Goleys Ln	Racine, WI 53404
4410 Goleys Ln	Tori Ann & Anthony Bronaugh	1547 Roanoke Ave	Aurora, IL 60506
4418 Douglas Ave	Stephen & Cheryl Stauss	12728 Bell Road	Caledonia, WI 53108
4423 Douglas Ave	Church St Rita'S Congregation	4339 Douglas Ave	Racine, WI 53402
4432 Douglas Ave	Ryan J Gresk	4432 Douglas Avenue	Racine, WI 53402
4435 Scout Trl	Robert Braam & Sarah Faust	4435 Scout Tr	Racine, WI 53404
4436 Douglas Ave	Ronald Annette Gillespie	4436 Douglas Av	Racine, WI 53402
4440 Scout Trl	Kelly & Steven Andrasic	4440 Scout Trail	Racine, WI 53404
4442 Douglas Ave	Michael'S Machine Co Inc *	4442 Douglas Ave	Racine, WI 53402
4445 Scout Trl	Peter T Henning	4445 Scout Tr	Racine, WI 53404
4450 Scout Trl	Miles & Krysten Merten	4450 Scout Trail	Racine, WI 53404
4455 Scout Trl	Susan M Roberts	4455 Scout Tr	Racine, WI 53404
4505 Scout Trl	Christopher & Erin Cimbalnik	4505 Scout Tr	Racine, WI 53404
4507 Douglas Ave	John & Shirley Longo Rev Trust	3112 4 Mile Rd	Racine, WI 53404
4508 Charles St	Gavin J White	4508 Charles St	Racine, WI 53402
4512 Charles St	Shannon & Jennifer Jozwiak	6652 Lone Elm Drive	Racine, WI 53402
4516 Charles St	David R Mc Farland	4516 Charles St	Racine, WI 53402
4528 Carter Dr	Jonathan & Terri Lisowski	4528 Carter Dr	Racine, WI 53402

4530 Charles St	Mitchell H Katt	4530 Charles St	Racine, WI 53402
4533 Charles St	Lon & Linda Milton	4533 Charles St	Racine, WI 53402
4534 Douglas Ave	JL Storage LLC	3112 Four Mile Rd	Racine, WI 53404
4536 Charles St	Kathryn H Glass	4536 Charles St	Racine, WI 53402
4540 Carter Dr	Allison R Coleman	4540 Carter Dr	Racine, WI 53402
4541 Charles St	Michael J Pokora	4541 Charles St	Racine, WI 53402
4542 Charles St	Stephen F Rodriguez	4914 Charles St	Racine, WI 53402
4542 Douglas Ave	Gigi North LLC	722 S Sylvania Ave	Sturtevant, WI 53177
4548 Charles St	Catherine Molinaro	4548 Charles St	Racine, WI 53402
914 Mayfair Dr	Nancy A Fritch	914 Mayfair Dr	Racine, WI 53402
915 Thunderbird Dr	Thomas & Mona Lewis	915 Thunderbird Dr	Racine, WI 53402
922 Three Mile Rd	Gregory & Linda St Martin	922 3 Mile Rd	Racine, WI 53402
Douglas Ave	Stephen & Cheryl Stauss	12728 Bell Road	Caledonia, WI 53108
Douglas Ave	1897 Holdings LLC	830 Waters Edge Road	Racine, WI 53402
Douglas Ave	1897 Holdings LLC	830 Waters Edge Road	Racine, WI 53402
Douglas Ave	JL Storage LLC	3112 Four Mile Rd	Racine, WI 53404
Ellis Ave	St Rita's Congregation	4339 Douglas Ave	Racine, WI 53402
Goleys Ln	Robert Jensen & Kristine Spiess	4329 Coachlight Dr	Racine, WI 53404

BOND NO. 929478846

**WESTERN SURETY COMPANY**

**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, Payne & Dolan, Inc. of N3 W23650 Badger Road - Waukesha, WI 53187, as Principal, and Western Surety Company - 333 S. Wabash Avenue - Chicago, IL 60604, as Surety, are held and firmly bound unto the Village of Caledonia - 6922 Nicholson Road - Caledonia, WI 53108, in the full and just sum of Fifty Thousand and 00/100 Dollars (\$50,000.00), good and lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally by these presents.

WHEREAS, the Village of Caledonia requires a performance bond under the provisions of Section 7-10 of the Code of Ordinances of the Village of Caledonia as a condition to the issuance of a blasting permit from the Village of Caledonia for Principal's nonmetallic mineral extraction site, the Racine Quarry Aggregate Site (site #80360 – formerly known as the Vulcan Racine Quarry), on property described as part of the South ½ of Section 29, Town 4 North, Range 23 East, Village of Caledonia, Racine County, Wisconsin.

NOW, THEREFORE, the condition of this obligation is such that if said Principal shall well and truly pay to the Village for all damages suffered by the Village, including any damages to utilities and property of the Village, and all costs incurred by the Village to enforce the provisions of Section 7-10 of the Code of Ordinances for the Village of Caledonia and the blasting permit issued to Principal pursuant to such ordinances, then this obligation shall be void, otherwise to remain in full force and effect.

THE SURETY may cancel this bond at any time by filing with the Village of Caledonia ninety (90) days written notice by registered or certified mail of its desire to be relieved of future liability.

Signed, sealed and dated this 12th day of June, 2013

WITNESS

Nadine Bentz

PAYNE & DOLAN, INC.

By:

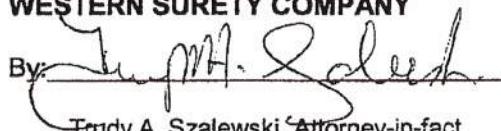
  
Mark E. Filmanowicz, Executive Vice President

WITNESS

Tony Krause

WESTERN SURETY COMPANY

By:

  
Trudy A. Szalewski, Attorney-in-fact

# Western Surety Company

## POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

**Jeffrey R Meisinger, Kelly Cody, Kent Arps, Roxanne Jensen, Individually of Green Bay,  
Wisconsin**

**Trudy A Szalewski, Christopher H Kondrick, Brian Krause, Individually of Milwaukee,  
Wisconsin**

of Green Bay, WI, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

### - In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 6th day of May, 2013.

WESTERN SURETY COMPANY



Paul T. Bruflat, Vice President

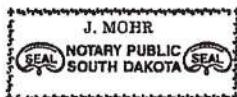
State of South Dakota  
County of Minnehaha

} ss

On this 6th day of May, 2013, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

June 23, 2015



### CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 12<sup>th</sup> day of June, 2013.

WESTERN SURETY COMPANY



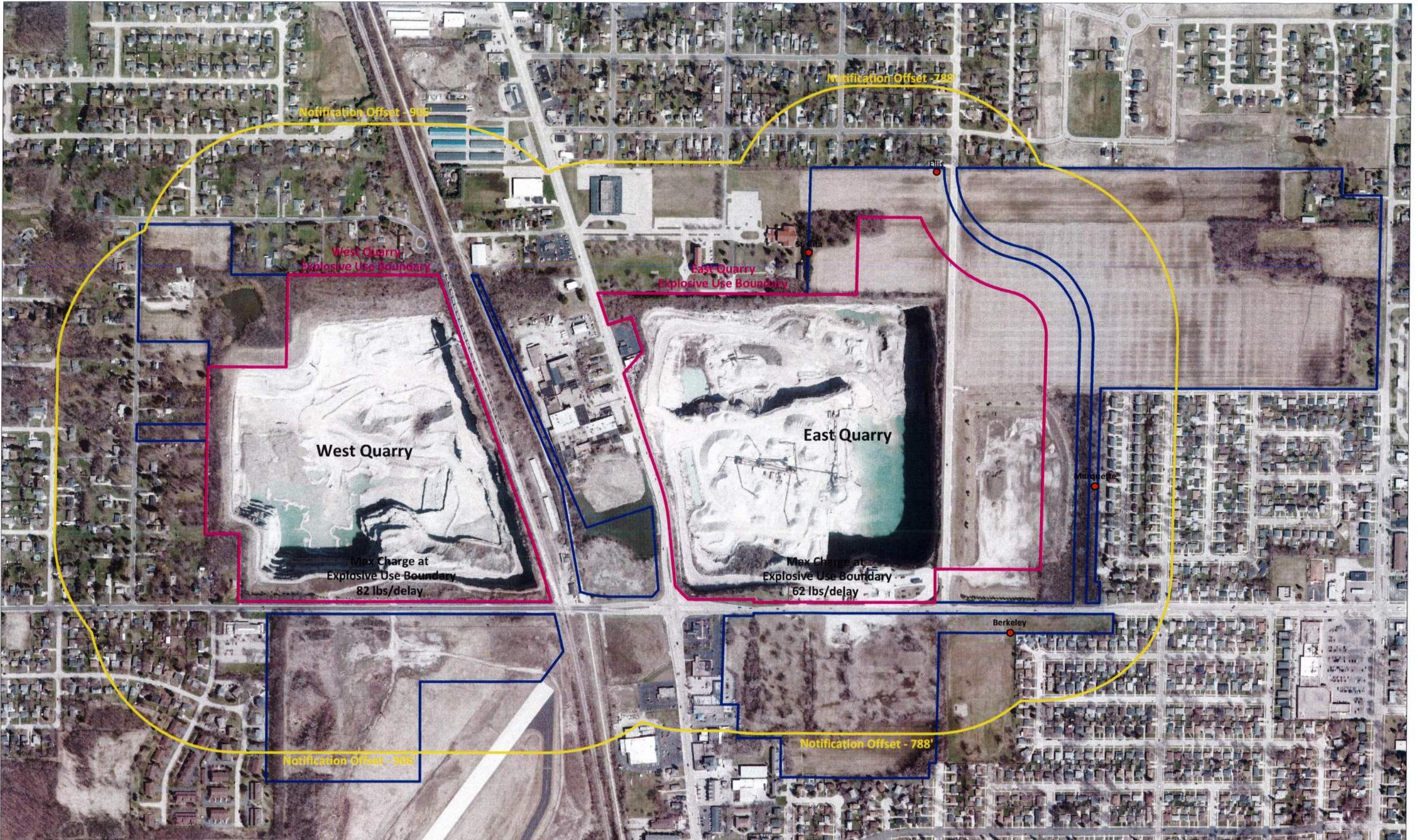
L. Nelson, Assistant Secretary

## Explosives Use - Notification Radius

Aerial Imagery Obtained from Racine County GIS  
Aerial Date - Fall 2015

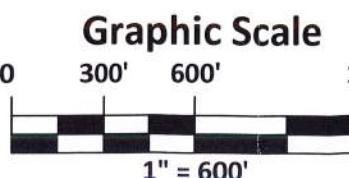
Date: 3/18/2022 Site #: 80360 Drawn By: BLB

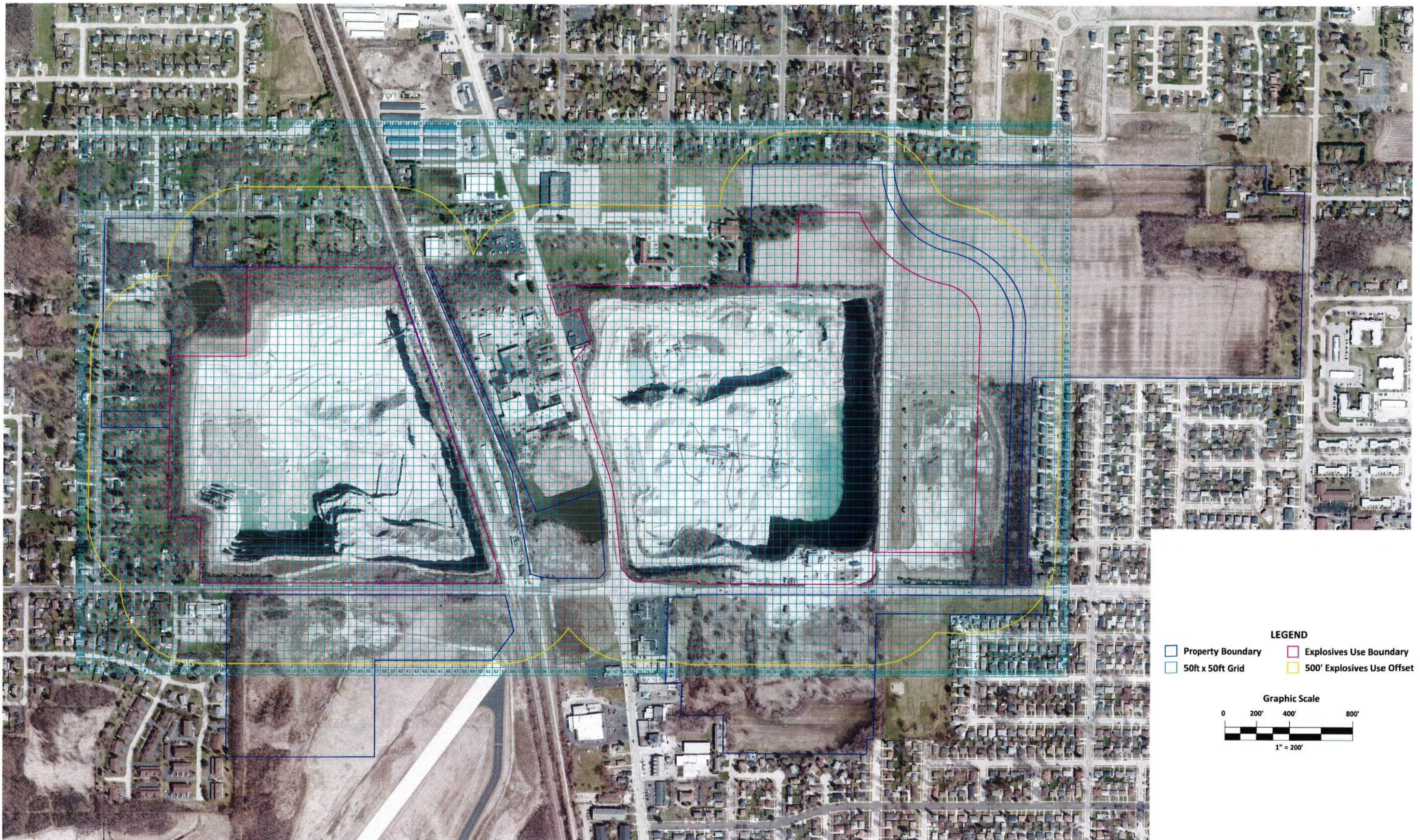
THIS PRINT IS THE PROPERTY OF PAYNE AND DOLAN, INC. AND THE CONTENTS CONTAINED HEREIN ARE CONSIDERED CONFIDENTIAL AND SHOULD NOT BE USED OUTSIDE OF THE COMPANY WITHOUT PERMISSION.



### LEGEND

- |                                                             |                                        |                                                               |                              |
|-------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|------------------------------|
| <span style="border: 1px solid blue; padding: 2px;"></span> | Property Boundary                      | <span style="border: 1px solid yellow; padding: 2px;"></span> | Notification Radius          |
| <span style="border: 1px solid pink; padding: 2px;"></span> | Explosives Use Boundary                | <span style="border: 1px solid red; padding: 2px;"></span>    | Production Blasting Boundary |
| <span style="color: red;">●</span>                          | Current Permanent Seismograph Location |                                                               |                              |





2

Explosives Use Plan

# Racine Quarry

Fall 2021 Aerial



0 250 500 1,000  
Feet

 **Payne + Dolan**  
A WALBEC COMPANY



## MEMORANDUM

**DATE:** May 3<sup>rd</sup>, 2022

**TO:** Public Works Committee  
Village Board

**FROM:** Anthony A. Bunkelman  
Public Services Director



**RE:** Racine County Youth Development and Care Center - TIA

### BACKGROUND INFORMATION

As part of the proposed Racine County Youth Development and Care Center on 3 Mile Road, the Village of Caledonia required a Traffic Impact Analysis (TIA) per Resolution 2011-06 and Village Ordinance for High/Moderate Impact Development as defined in Title 16.

Traffic Analysis and Design, Inc. (TADI) performed and submitted the TIA to Village Staff in April for approval. The study area included 3 Mile Road from STH 32/Douglas Ave. to the intersection at Wyoming Way. The TIA documents the peak hour traffic impacts expected at the aforementioned intersections along 3 Mile Road with the volume expected to be added by the proposed development. The TIA also analyzed and evaluated the sight distance for vehicles at the proposed access to the development due to the nature of the topography along 3 Mile Road.

With a range of 55-65 staff being employed over 3 different daily shifts, the study showed that all traffic movements operated at a Level of Service B or better during peak traffic hours with the proposed buildout. The TIA also recommended that no changes to the existing geometrics occur on 3 Mile Road. The proposed access is recommended to be located 75-145 feet east of the existing gravel driveway to meet the proper intersection and stopping sight distance requirements.

### RECOMMENDATION

**Move to approve the Traffic Impact Analysis performed by TADI for the Racine County Youth Development and Care Center on the condition that the final driveway location is surveyed, cross-checked, and verified for all applicable sight distance requirements by the developer.**

# TRAFFIC IMPACT ANALYSIS

**DATE:** April 13, 2022

**TO:** Julie Anderson  
Racine County

**FROM:** Tammi Czewska, P.E., PTOE  
Traffic Analysis & Design, Inc.

**SUBJECT: Racine County Youth Development & Care Center Traffic Impact Analysis  
Caledonia, WI**

---

## INTRODUCTION

A 70,000-square foot Racine County Youth Development and Care Center that can house up to 48 youths is being proposed on about 29 acres south of 3 Mile Road in Caledonia, Racine County, Wisconsin. A range of 55-65 staff will be employed over three different daily shifts.

The development site is located on the north side of the John H. Batten Airport property, and so a portion of the 29 acres on site are within the airport clear zone/no development area.

Development is expected to begin in 2022 with completion in 2024. The location of the site with respect to the surrounding roadway system is shown on [Exhibit 1](#). The conceptual site plan is shown on [Exhibit 2](#).

This traffic impact analysis (TIA) technical memorandum was prepared to document the peak hour traffic impacts expected at adjacent intersections along 3 Mile Road with the existing traffic volumes and with additional traffic from the proposed development. The TIA also evaluates the sight distance for vehicles at the proposed site driveway to 3 Mile Road.

## STUDY AREA

### Study Intersections

The study area for this traffic study includes the following intersections:

- 3 Mile Road & Wyoming Way
- 3 Mile Road & Douglas Avenue (STH 32)
- 3 Mile Road & the proposed site driveway

The 3 Mile Road intersection with Douglas Avenue operates with traffic signal control and the 3 Mile Road intersection with Wyoming Way operates with stop sign control on Wyoming Way. A transportation detail illustrating existing intersection lane configurations, speed limits, and approximate intersection spacing is shown in [Exhibit 3](#).

### **Study Area Roadways**

*Douglas Avenue (STH 32)* is a north/south Principal Arterial with a four-lane undivided cross-section and a 35-mph speed limit. Douglas Avenue has sidewalks along both sides of the roadway, south of 3 Mile Road, but no sidewalks north of 3 Mile Road. The 2021 WisDOT annual average daily traffic (AADT) on Douglas Avenue was 14,200 vehicles per day (vpd) north of 3 Mile Road and 15,800 vpd south of 3 Mile Road.

*3 Mile Road* is an east/west Minor Arterial with a two-lane undivided rural cross-section, no sidewalks, and 35-mph speed limit. 3 Mile Road widens to a four-lane cross-section about 400 feet west of Douglas Avenue. The 2021 WisDOT AADT on 3 Mile Road was 5,600 vpd east of Wyoming Way.

*Wyoming Way* is a north/south local road with a two-lane undivided cross-section, no sidewalks, and 25-mph speed limit. Wyoming Way is part of the roadway network for the residential neighborhood on the south side of 3 Mile Road.

### **DATA COLLECTION/EXISTING TRAFFIC VOLUMES**

TADI collected weekday turning movement traffic counts at the study intersections on March 31 and April 1, 2022. The traffic counts were collected from 6:00-9:00 a.m. and from 3:00-6:00 p.m. Based on the traffic count data, the peak traffic hours occur from 8:00-9:00 a.m. (AM peak hour) and from 4:00-5:00 p.m. (PM peak hour). The traffic volumes were compiled for these peak hours and are shown on [Exhibit 4](#). All traffic count data collected for the study intersections and roadways are in [Appendix A](#).

### **FUTURE TRAFFIC VOLUMES**

The expected traffic volumes generated by the proposed youth development and care center were calculated based on trip rates or fitted curve equations published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11<sup>th</sup> Edition*. The trip generation was based on the ITE land use #571 – Adult Detention Facility as it is the ITE land use that is most closely related to the use type (juvenile detention facility) of the proposed site. The trip generation for the site was based on number of employees as the size of this independent variable (65 total employees) was within the range of data for land use #571.

The trip generation table for the proposed youth development and care center is on [Exhibit 5](#). As shown, the proposed development is expected to generate about 200 trips on a typical weekday, with 20 trips (10 in/10 out) during the weekday AM peak hour and 15 trips (5 in/10 out) during the weekday PM peak hour. The new site trips were distributed to the study intersections based on existing peak hour traffic patterns at the study intersections. The site trip distribution is listed below:

- 10% to/from the west on 3 Mile Road
- 20% to/from the east on 3 Mile Road
- 35% to/from the north on Douglas Avenue
- 35% to/from the south on Douglas Avenue

The new trips were assigned to the study intersections based on these trip distribution percentages. The site traffic assignment is shown on [Exhibit 6](#). The on-site development new trips were added to the Existing traffic volumes to generate the Build traffic volumes, as shown on [Exhibit 7](#).

## PEAK HOUR TRAFFIC OPERATIONS & QUEUES

The study intersections were analyzed using the Synchro 11 traffic analysis model (outputs based on the Highway Capacity Manual, 6<sup>th</sup> Edition) and the peak hour turning movement volumes developed for each intersection. Intersection operation is defined by “level of service”. Level of Service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS ‘A’, to very poor, represented by LOS ‘F’. For the purposes of this study, LOS D or better was used to define acceptable peak hour operating conditions. The descriptions of each LOS are in [Table 1](#).

**Table 1. LOS Descriptions – Unsignalized Intersections**

LOS	Signalized Intersections Control Delay/Vehicle (sec/veh)	Unsignalized Intersections Avg. Control Delay (sec/veh)	Relative Delay
A	≤10	≤10	Short Delays
	Free-flow traffic operations at average travel speeds. Vehicles completely unimpeded in ability to maneuver. Minimal delay at signalized intersections		
B	> 10 - 20	> 10 - 15	
	Reasonably unimpeded traffic operations at average travel speeds. Vehicle maneuverability slightly restricted. Low traffic delays.		
C	> 20 - 35	> 15 - 25	
	Stable traffic operations. Lane changes becoming more restricted. Travel speeds reduced to half of average free flow travel speeds. Longer intersection delays.		
D	> 35 - 55	> 25 - 35	Moderate Delays
	Small increases in traffic flow can cause increased delays. Delays likely attributable to increased traffic, reduced signal progression, and adverse timing.		
E	> 55 - 80	> 35 - 50	
	Significant delays. Travel speeds reduced to one-third of average free flow travel speed.		
F	> 80	> 50	Long Delays
	Extremely low speeds. Intersection congestion. Long delays. Extensive traffic queues at intersections.		

*Source: Highway Capacity Manual, Transportation Research Board, Washington, D.C., 2010*

For both the Existing and Build traffic volume scenarios, the study intersections were modeled with the existing geometrics and traffic control, signal timings, peak hour factors, and heavy vehicle percentages. The proposed site driveway to 3 Mile Road was evaluated with no changes to 3 Mile Road and a single, shared left-turn/right-turn lane with stop sign control on the site driveway approach. The base saturation flow rates for the signalized intersection were calculated using WisDOT researched methodologies (saturation flow calculation worksheet is in [Appendix A](#)).

The capacity analysis tables showing the peak hour LOS, delays (in seconds per vehicle), and queues (in feet) are shown on [Exhibit 8](#) for the Existing and Build traffic analysis. The Synchro

capacity analysis worksheets for the existing traffic volumes are in [Appendix B](#). The Synchro capacity analysis worksheets for the build traffic volumes are in [Appendix C](#).

As shown on [Exhibit 8](#), all study intersections are expected to operate acceptably at LOS B or better for each turning movement during weekday AM and PM peak hours. Very little difference in peak hour delays and queues are expected with the buildup of the proposed development.

## DRIVEWAY SIGHT DISTANCE EVALUATION

Based on the site plan, the primary entrance for the proposed youth development and care center is located at the existing property driveway, which is approximately 1,080 feet east of Wyoming Way. The driveway is at the top of a rise on 3 Mile Road. Therefore, a sight distance evaluation was completed for both passenger cars and single-unit trucks (delivery vehicles) to determine the adequacy of vehicle visibility at this location.

Driveways should be designed for intersection sight distance (ISD) and stopping sight distance (SSD) in accordance with the latest edition of the American Association of State Highway Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets*. Based on AASHTO requirements for two-lane undivided roadways with no turn lanes and a 35-mph speed limit (40-mph design speed), the required SSD on 3 Mile Road for all vehicles is 305 feet. The ISD to the left of the site driveway (for right-turn movements) is 385 feet for passenger cars and 500 feet for single-unit trucks. The ISD to the right of the site driveway (for left-turn movements) is 445 feet for passenger cars and 560 feet for single-unit trucks. Worksheets and tables for ISD and SSD are in [Appendix D](#).

The ISD and SSD for the site driveway were measured using elevation profiles and aerial view images from Google Earth. Per AASHTO, the evaluations used a passenger car eye height of 3.5 feet, a single-unit truck eye height of 7.6 feet, an ISD target of 3.5 feet, and an SSD target of two feet. The SSD evaluation was completed only for passenger cars as this is the controlling/worst-case condition for that analysis.

The ISD and SSD for the site driveway at the existing property driveway location is shown on [Exhibit 9](#). The placement of the proposed site driveway at this location results in inadequate visibility for both design vehicles that are turning from the site driveway onto 3 Mile Road as well as for passenger cars that are approaching the site driveway from 3 Mile Road. Positioning the site driveway about 75-145 feet east of the existing location would improve visibility to acceptable levels for both design vehicles. The ISD and SSD evaluation for the proposed driveway location is shown on [Exhibit 10](#).

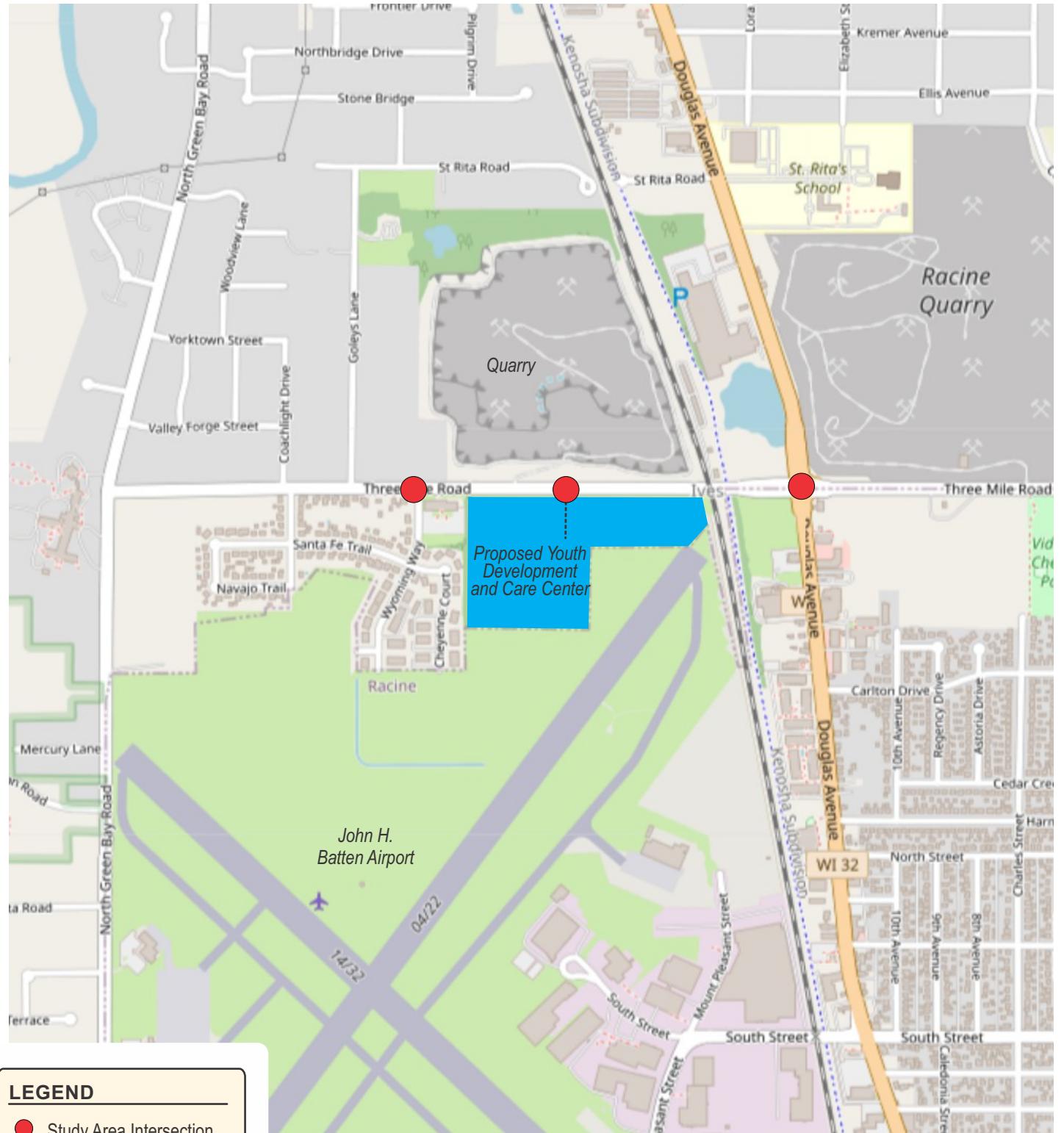
## RECOMMENDATIONS/CONCLUSIONS

Based on the traffic analysis, the study intersections are expected to operate acceptably with all traffic movements at LOS B or better during the weekday AM and PM peak traffic hours with full buildup of the proposed Racine County Youth Development and Care Center on 3 Mile Road. A single shared left-turn/right-turn approach lane with stop sign control is recommended for the primary site driveway intersection with 3 Mile Road. No changes to the existing geometrics (no left or right-turn lanes) are recommended on 3 Mile Road.

With placement of the exiting lanes for the primary site driveway approximately 75-145 feet east of the existing gravel drive on the property, both intersection and stopping sight distance requirements are met for passenger cars and single-unit trucks. Note that the sight distance

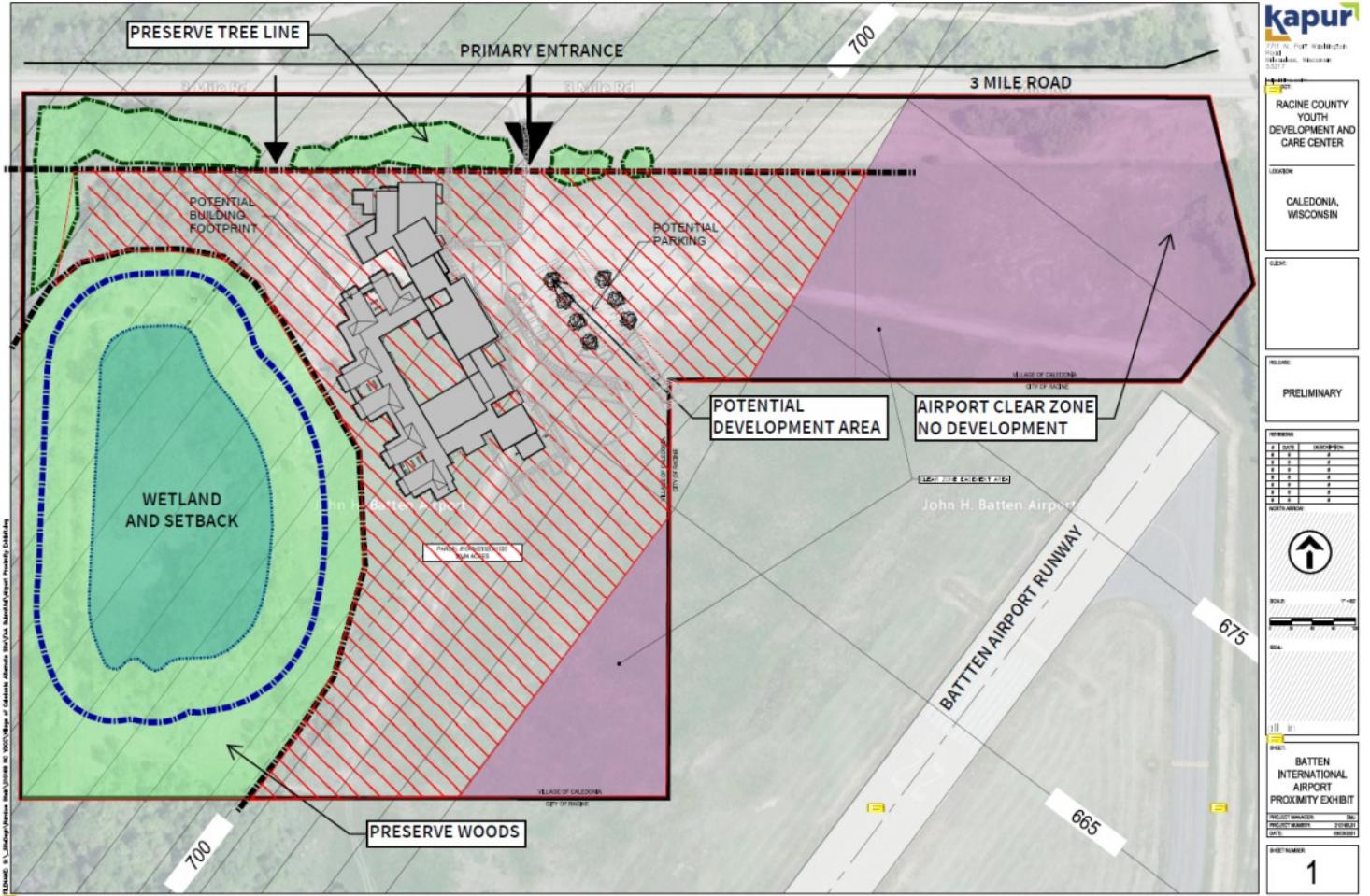
measurements and photographs discussed in this report are based on the proposed placement of the site driveways and on-line aerial and street view photography. Surveyed profiles of 3 Mile Road may result in suitable driveway placement that varies from what was presented in this report and at other locations further east and west of the primary entrance shown on the development site plan. The party responsible for designing the intersection is responsible for cross-checking, verifying and designing for all applicable sight distances.

The recommendations for the study area are shown on [Exhibit 11](#).



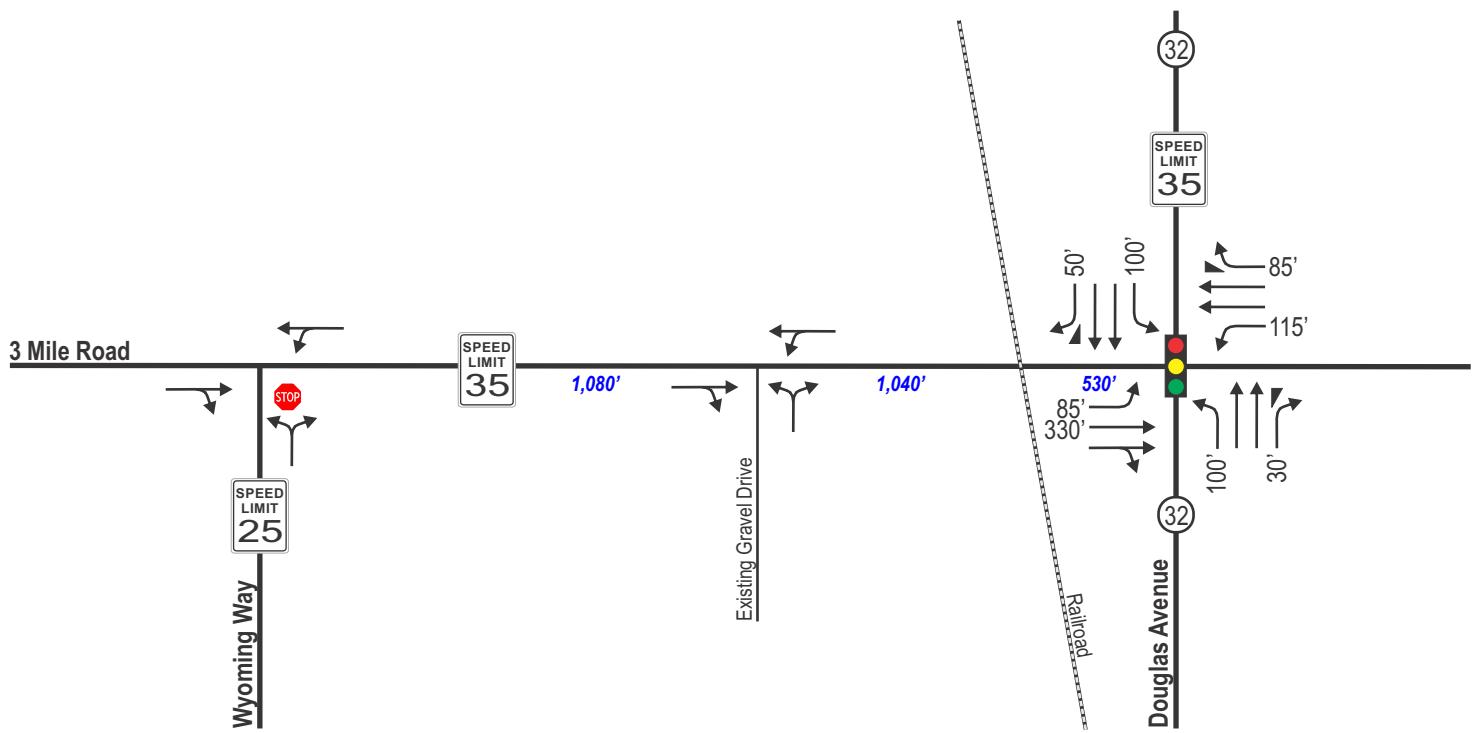
**EXHIBIT 1  
PROJECT LOCATION MAP**

CALEDONIA, WISCONSIN



**EXHIBIT 2**

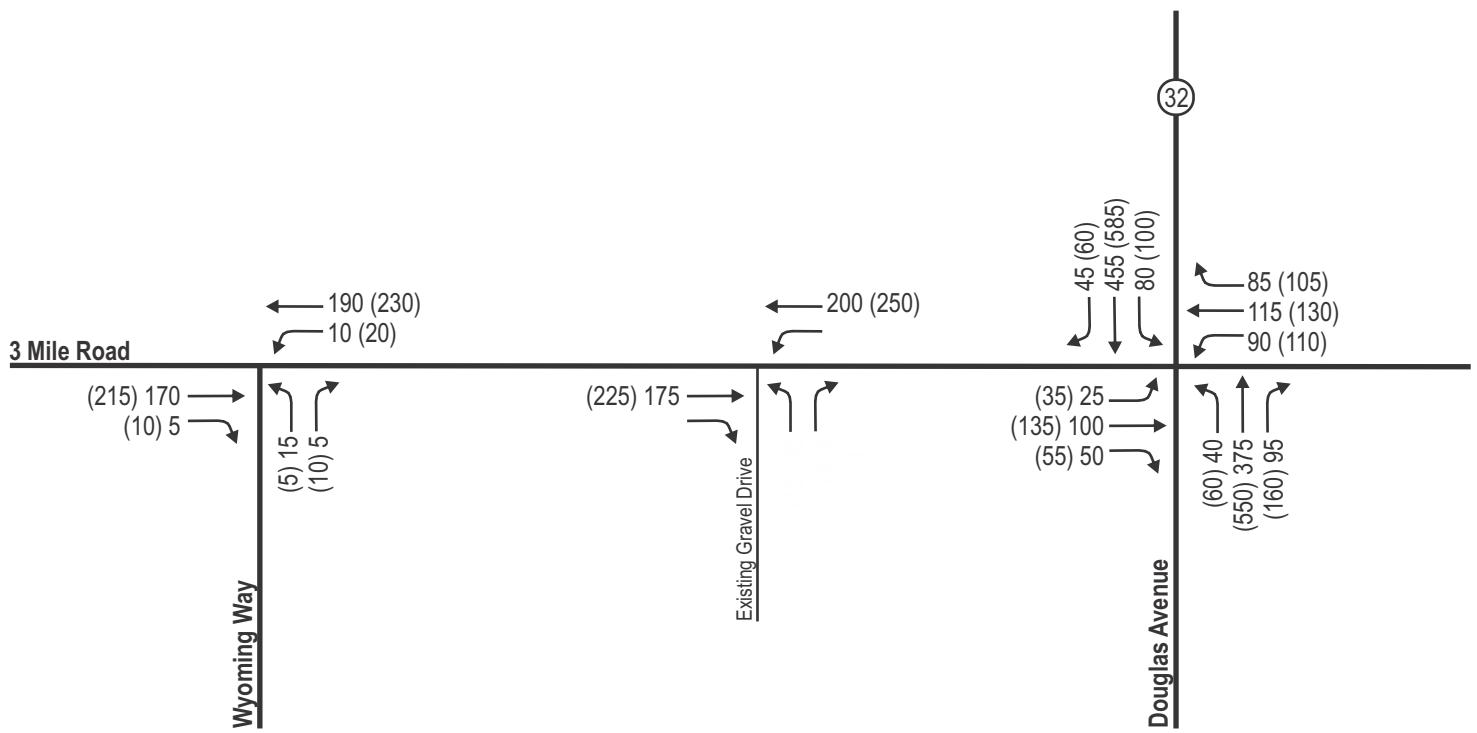
## CALEDONIA, WISCONSIN



#### LEGEND

- Traffic Signal
- STOP Sign
- Lane Configuration
- XX' Turn Bay Length (In Feet)
- XX' Centerline Distance Between Intersections (in Feet)

#### EXHIBIT 3 EXISTING TRANSPORTATION SYSTEM



#### LEGEND

- XX Weekday Morning Peak Hour Traffic (8:00-9:00 AM)
- (XX) Weekday Evening Peak Hour Traffic (4:00-5:00 PM)
- Fewer than 3 vehicles per hour

**Trip Generation Table<sup>1</sup>**

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
Youth Development & Care Center <i>ITE Adult Detention Facility</i>	571	65 Employees	200 (3.04)	10 (59%)	10 (41%)	20 (0.34)	5 (18%)	10 (82%)	15 (0.25)
<b>Total New Trips</b>			<b>200</b>	<b>10</b>	<b>10</b>	<b>20</b>	<b>5</b>	<b>10</b>	<b>15</b>

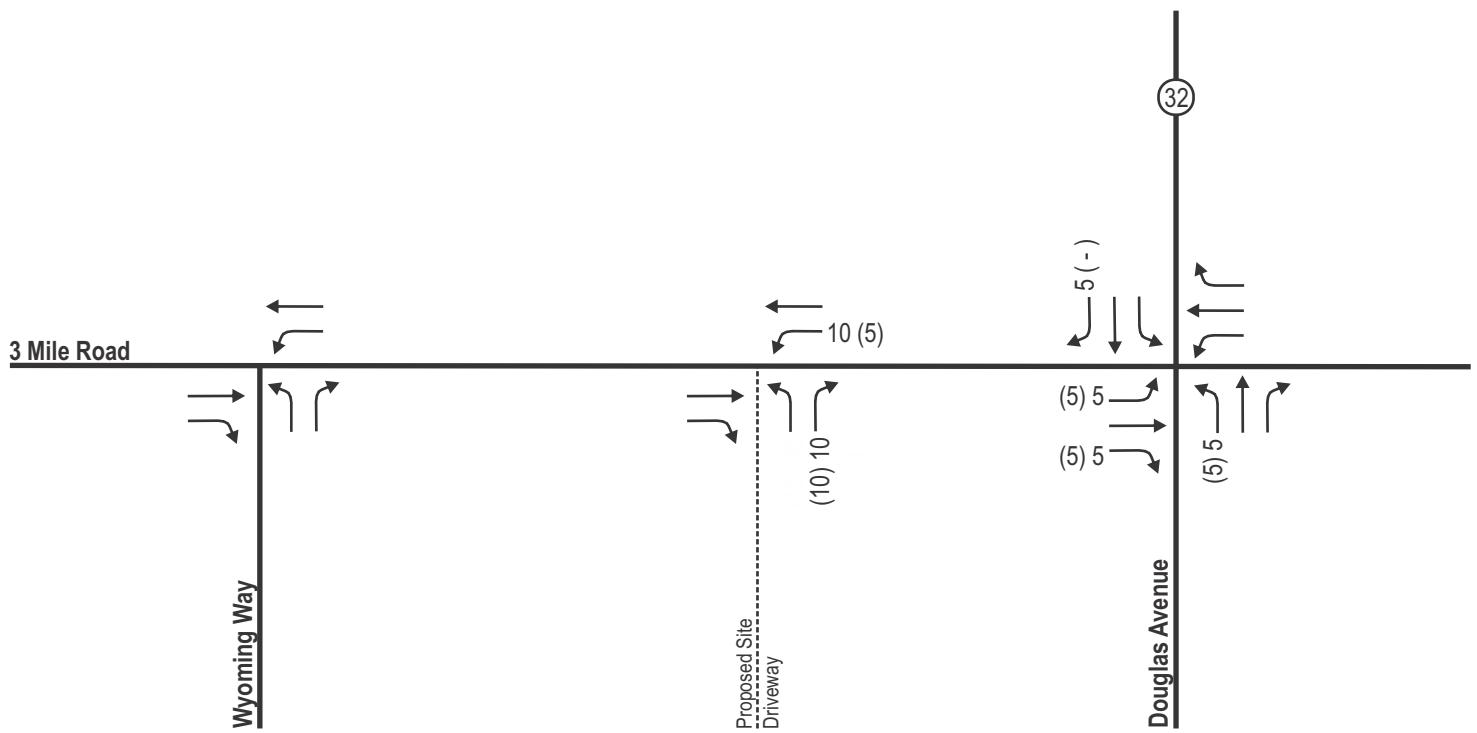
<sup>1</sup> ITE Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 10th Edition.

**TRIP DISTRIBUTION (New Trips)**

W. on 3 Mile Road	10%	20	0	0		0	0
E. on 3 Mile Road	20%	40	0	0		0	0
N. on Douglas Avenue	35%	70	5	5		0	5
S. on Douglas Avenue	35%	70	5	5		5	5
	<b>100%</b>	<b>200</b>	<b>10</b>	<b>10</b>		<b>5</b>	<b>10</b>



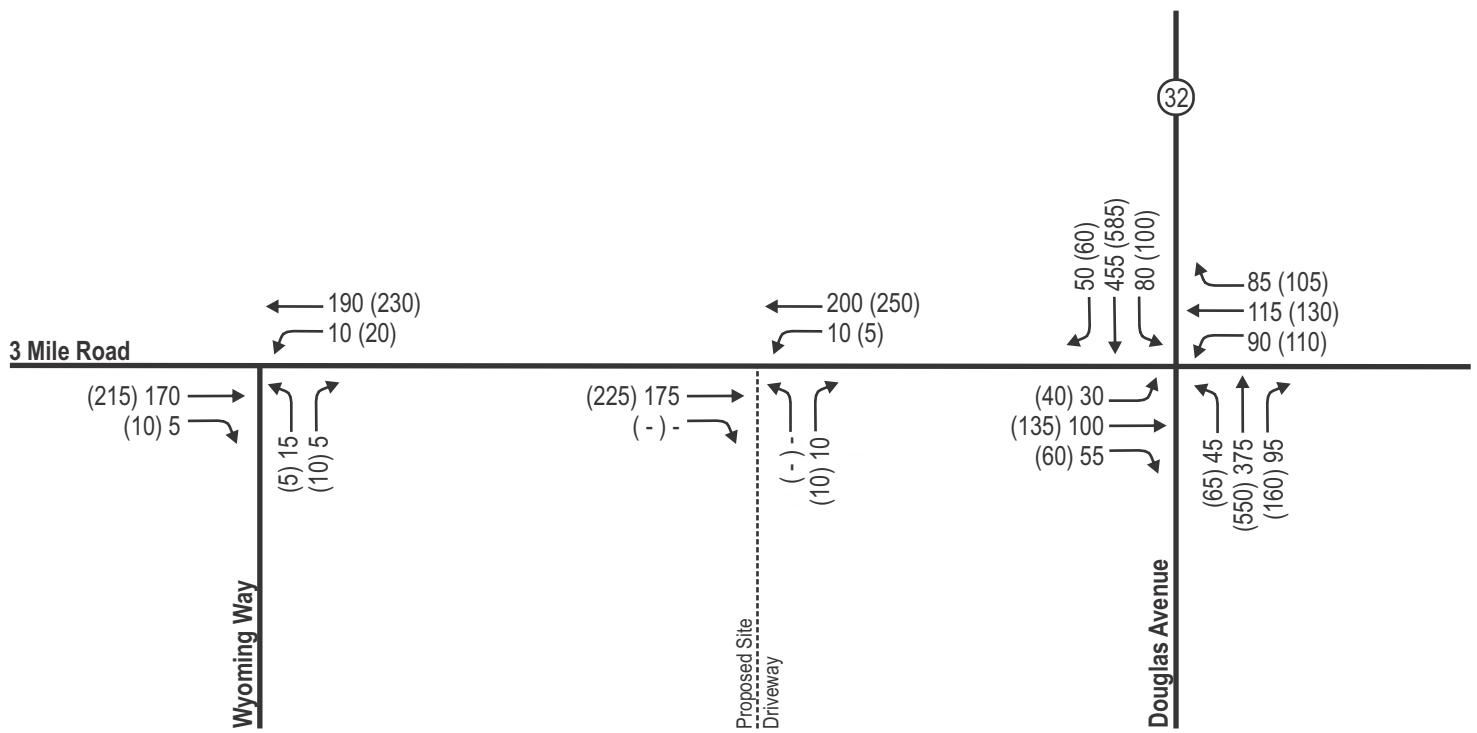
**EXHIBIT 5**  
**ON-SITE DEVELOPMENT TRIP GENERATION TABLE**



#### LEGEND

- XX Weekday Morning Peak Hour Traffic (8:00-9:00 AM)
- ((XX)) Weekday Evening Peak Hour Traffic (4:00-5:00 PM)
- Fewer than 3 vehicles per hour

#### EXHIBIT 6 ON-SITE DEVELOPMENT NEW TRIPS



#### LEGEND

- XX Weekday Morning Peak Hour Traffic (8:00-9:00 AM)
- (XX) Weekday Evening Peak Hour Traffic (4:00-5:00 PM)
- Fewer than 3 vehicles per hour



NOT TO SCALE

**Existing Peak Hour Traffic Operations**  
**Existing Geometrics & Traffic Control**

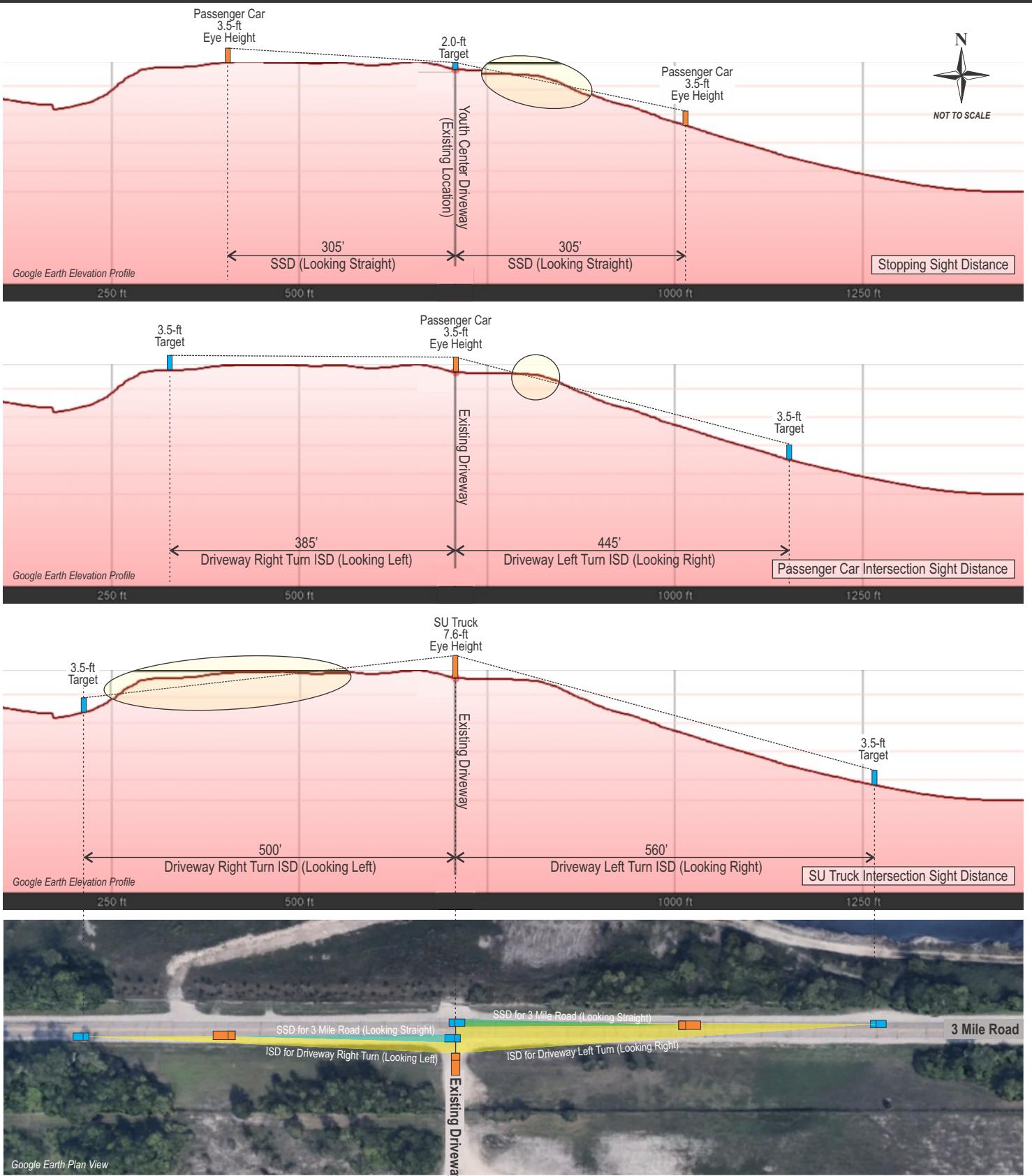
Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay	
			Eastbound			Westbound			Northbound			Southbound				
			↑	→	↓	↓	←	↑	↔	↑	→	↔	↓	↔		
#100: 3 Mile Road & Wyoming Way Stop Sign Control (NB)	AM	Lanes->	-	1		1		-	1			-				
		LOS	-	*		A		-	B			-			A 0.7	
		Delay	-	*		7		-	10			-				
	PM	Queue	-	*		0'		-	5'			-				
		LOS	-	*		A		-	B			-			A 0.6	
		Delay	-	*		7		-	10			-				
	#200: 3 Mile Road & Douglas Avenue (STH 32) Traffic Signal Control	Queue	-	*		0'		-	5'			-				
		Lanes->	1	2	>	1	2	1	1	2	1	1	2	1		
		AM	LOS	B	B	B	B	B	B	B	B	A	B	B	B 13.4	
		Delay	16	15	15	18	15	15	10	13	12	9	12	10		
		Queue	25'	45'	45'	65'	35'	40'	15'	85'	40'	25'	100'	20'		
	PM	LOS	B	B	B	B	B	B	B	B	B	A	B	B	B 14.2	
		Delay	16	16	16	19	15	15	10	14	12	9	13	11		
		Queue	35'	60'	60'	90'	45'	55'	25'	135'	60'	35'	140'	30'		

**Build Peak Hour Traffic Operations**  
**Existing Geometrics & Traffic Control**

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay	
			Eastbound			Westbound			Northbound			Southbound				
			↑	→	↓	↓	←	↑	↔	↑	→	↔	↓	↔		
#100: 3 Mile Road & Wyoming Way Stop Sign Control (NB)	AM	Lanes->	-	1		1		-	1			-				
		LOS	-	*		A		-	B			-			A 0.7	
		Delay	-	*		7		-	10			-				
	PM	Queue	-	*		0'		-	5'			-			A 0.6	
		LOS	-	*		A		-	B			-				
		Delay	-	*		7		-	10			-				
	#200: 3 Mile Road & Douglas Avenue (STH 32) Traffic Signal Control	Queue	-	*		0'		-	5'			-				
		Lanes->	1	2	>	1	2	1	1	2	1	1	2	1		
		AM	LOS	B	B	B	B	B	A	B	B	A	B	B	B 13.5	
	PM	Delay	16	15	15	18	15	15	9	13	12	9	12	10		
		Queue	25'	45'	45'	65'	35'	40'	20'	85'	40'	30'	105'	25'		
		LOS	B	B	B	B	B	B	B	B	B	A	B	B	B 14.2	
		Delay	16	16	16	19	15	15	10	14	12	9	13	11		
	#300: 3 Mile Road & Site Driveway Stop Sign Control (NB)	Queue	40'	65'	65'	90'	45'	55'	25'	140'	60'	35'	145'	30'		
		Lanes->	-	1		1		-	1			-				
		AM	LOS	-	*	A		-	A			-			A 0.5	
	PM	Delay	-	*		7		-	9			-			A 0.3	
		Queue	-	*		0'		-	0'			-				
		LOS	-	*		A		-	A			-				
		Delay	-	*		7		-	9			-				
		Queue	-	*		0'		-	0'			-				

(-) indicates a movement that is prohibited or does not exist; (\*) indicates a freeflow movement.

Where zero is shown for the volume at a particular movement, a minimum value of 1 was used in the model.

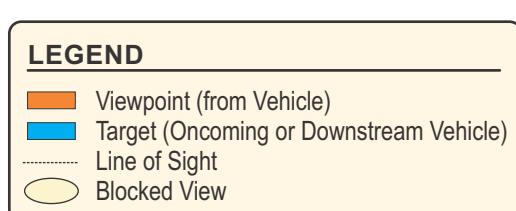
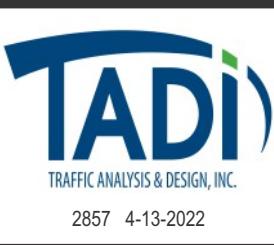
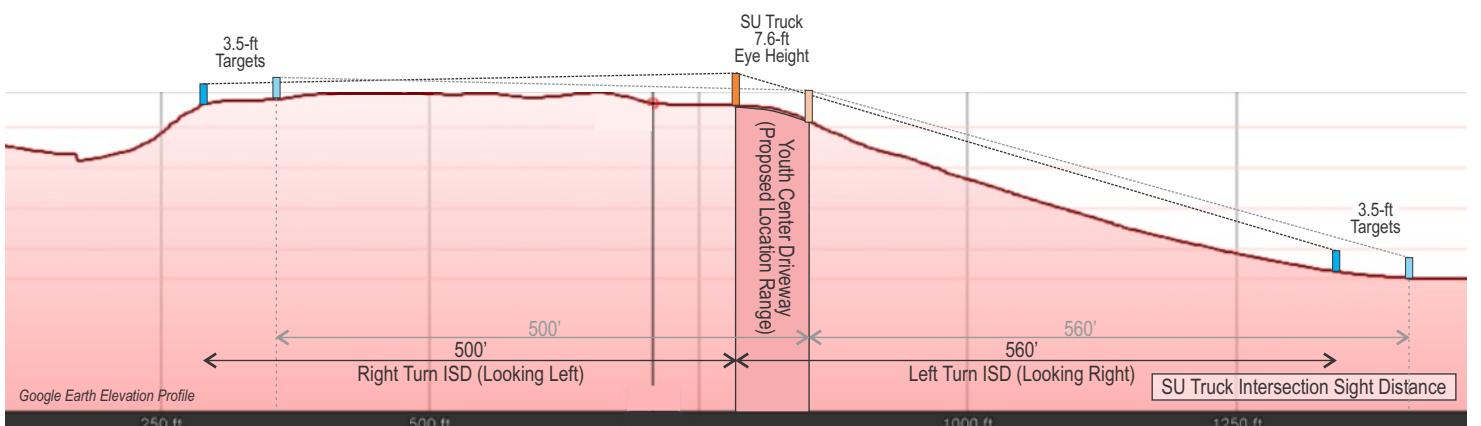
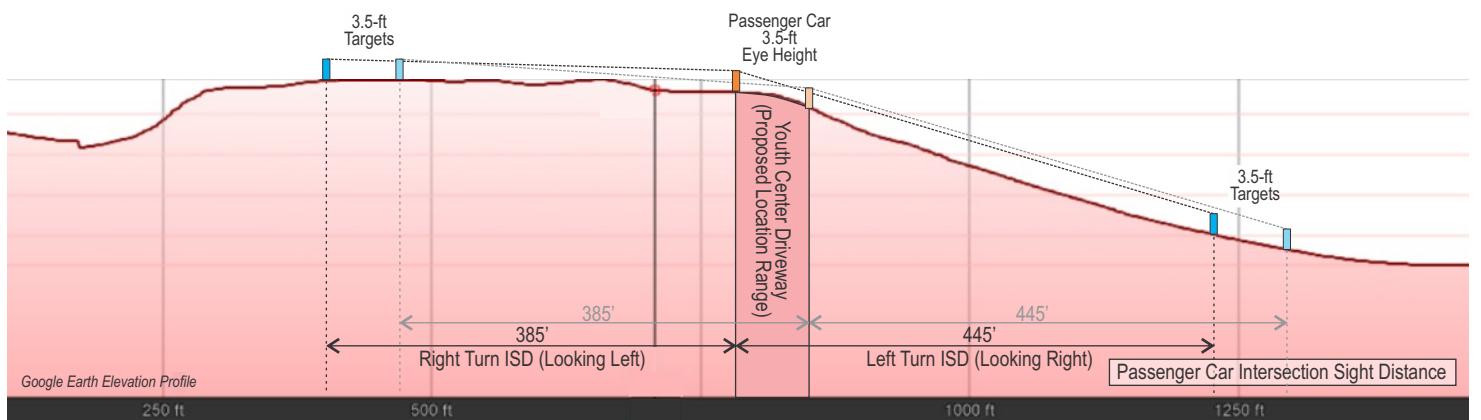
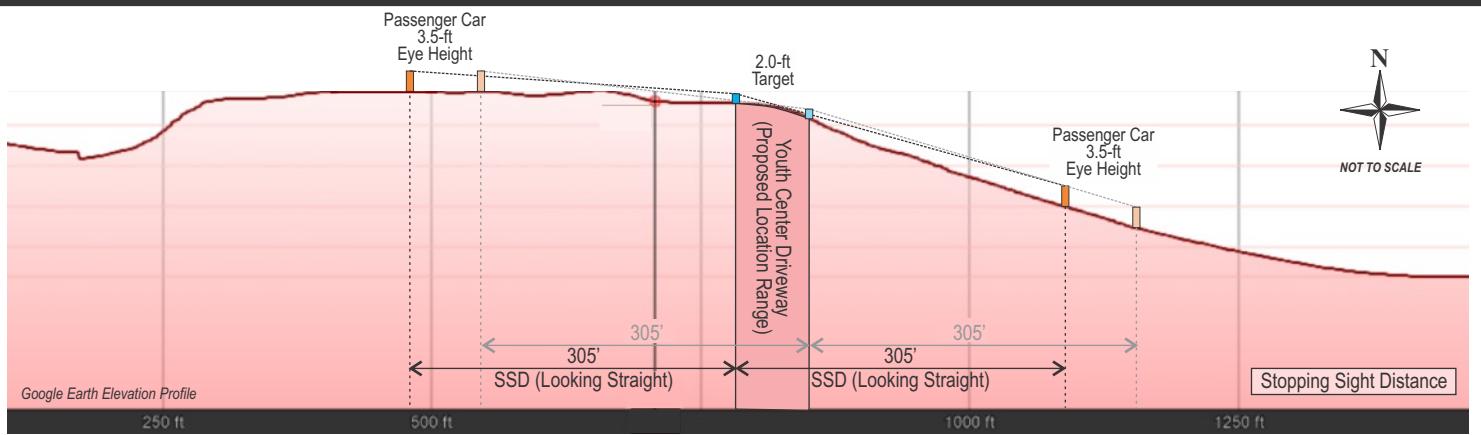


#### LEGEND

- Viewpoint (from Vehicle)
- Target (Oncoming or Downstream Vehicle)
- Line of Sight
- Blocked View

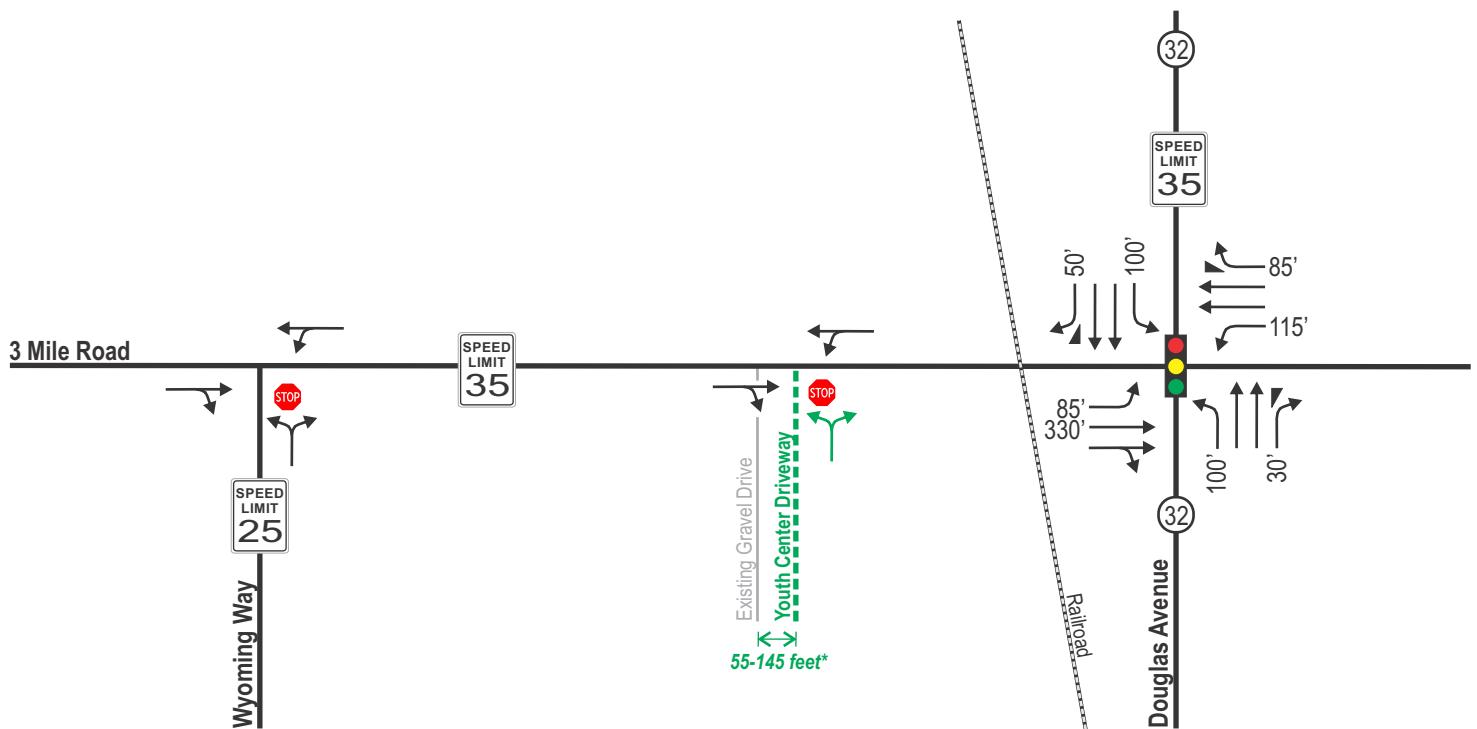
#### EXHIBIT 9 SIGHT DISTANCE EVALUATION EXISTING SITE DRIVEWAY LOCATION

CALEDONIA, WISCONSIN



## EXHIBIT 10

## CALEDONIA, WISCONSIN



#### LEGEND

- Traffic Signal
- Stop Sign
- Lane Configuration
- XX' Turn Bay Length (In Feet)
- XX' Centerline Distance Between Intersections (in Feet)

Recommendations are shown in GREEN

\*Note: Driveway location based on sight distance estimated from Google Earth imagery, and only for locations immediately adjacent to the driveway location shown on the development site plan. Other suitable locations may exist further east or west on the property. The party responsible for designing the intersection is responsible for cross-checking, verifying, and designing for all applicable sight distances.

## **APPENDIX A**

### **TRAFFIC COUNT DATA**

#### **Intersection Turning Movement Counts Saturation Flow Rate Calculation**

---

# Intersection Traffic Volume Report

Count Basics		Version 2013.J4.1		Page 1 of 13	
Start Date:	Thursday, March 31, 2022	Weekday		Schools in Session	
Total Number of Hours Counted:	6	Non-Holiday		No Special Events	

## Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Wyoming Way and 3 Mile Road

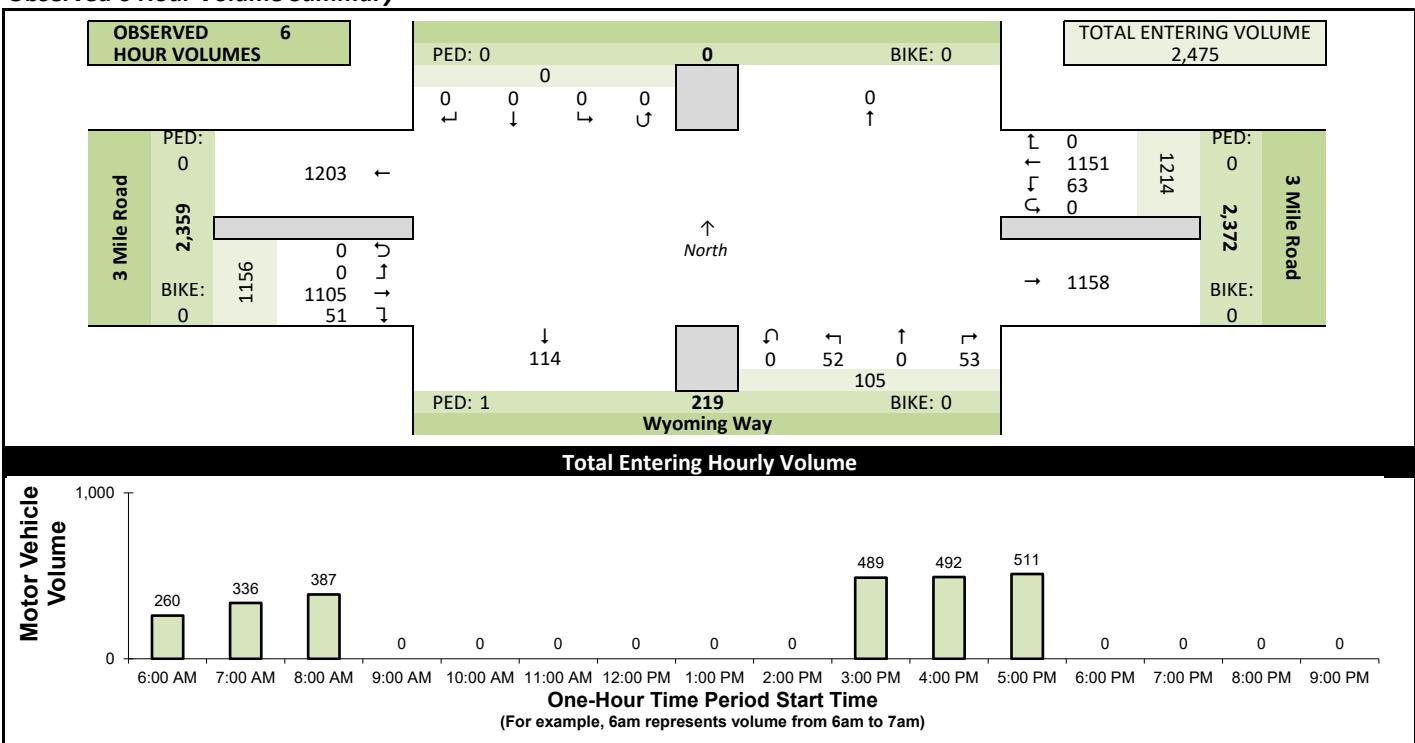
### Site Information

Municipality	Village of Caledonia
County	Racine
Traffic Control	Partial Stop Control
Roadway Names	North Direction ↑
North Leg	
East Leg	3 Mile Road
South Leg	Wyoming Way
West Leg	3 Mile Road
Special Considerations	
Schools	In Session
Holidays	None
Special Events	None
Special Pedestrians Observed	
Pre-school children	None
Elementary school age children	None
Visually impaired (white cane/helper dog)	None
Elderly/disabled (except wheelchairs)	None
Wheelchairs/electric scooters	None
Other (describe)	None

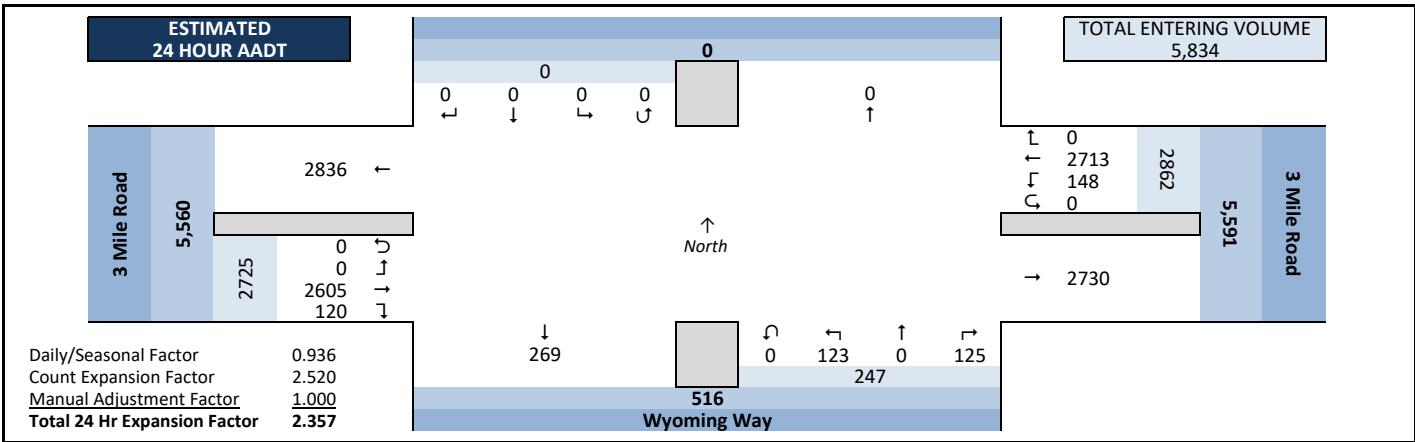
### Count Information

Hrs Counted:	6:00 AM-9:00 AM and 3:00 PM-6:00 PM		
1st Day of Count	Thursday, March 31, 2022	Weather	
AM Peak Period	Friday, April 1, 2022	Clear & Dry	
Midday Peak Period	Thursday, March 31, 2022	Clear & Dry	
PM Peak Period	Thursday, March 31, 2022	Clear & Dry	
Calculated Peak Hours			
AM	8:00-9:00am	MD	
PM	4:15-5:15pm		
Peak Hours Selected for Analysis			
AM	8:00-9:00am	MD	
PM	4:00-5:00pm		
Daily/Seasonal Adjustment Group		(2) Urban Arterials & Collectors	
Count Expansion Group		(2) Urban Arterials & Collectors	
Daily/Seasonal Adjustment Factor	0.936	Count Expansion Factor	2.520
Company Name	TADI, Inc	Manual Adj.	1.000
Observers	AM Peak Period Midday Peak Period PM Peak Period	Jane Fait None Jane Fait	
Comments	2019 DOT Seasonal Factors		

### Observed 6 Hour Volume Summary



### Estimated 24 Hour AADT



# Intersection Traffic Volume Report

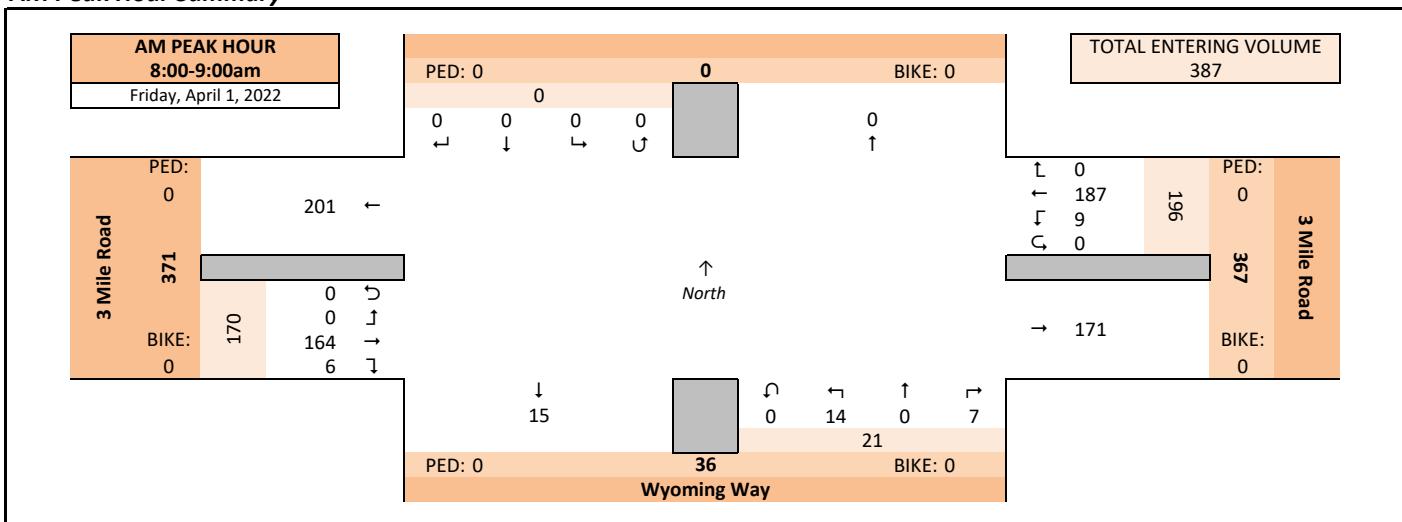
Page 2 of 13

## Peak Hour Volume Graphical Summary

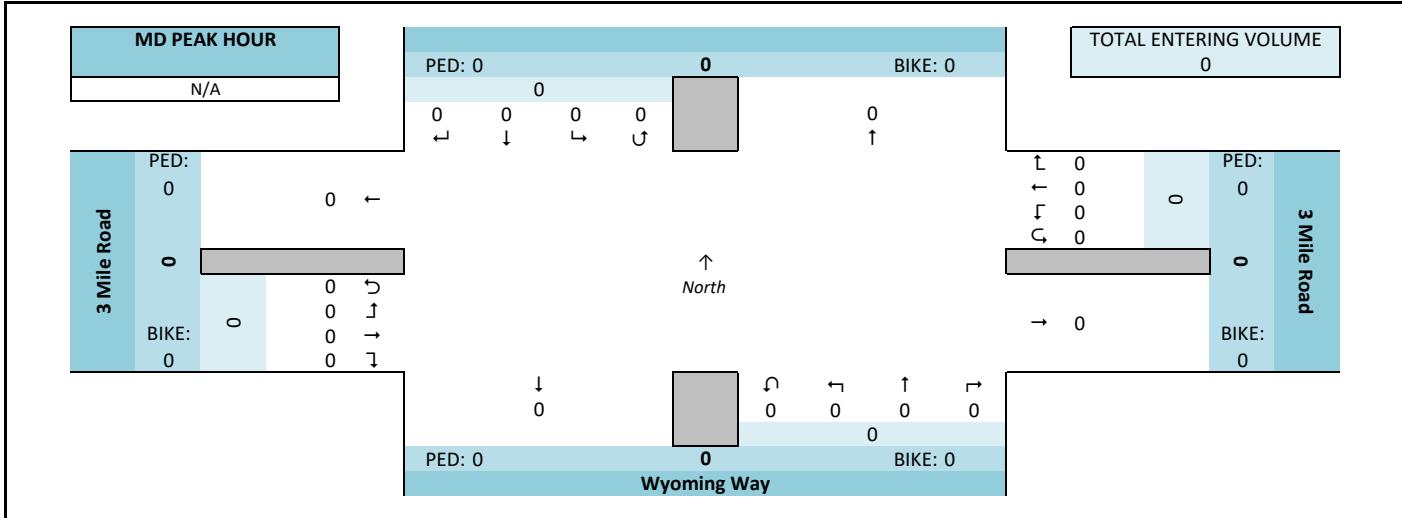
Wyoming Way and 3 Mile Road

Count Basics			
Start Date:	Thursday, March 31, 2022	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

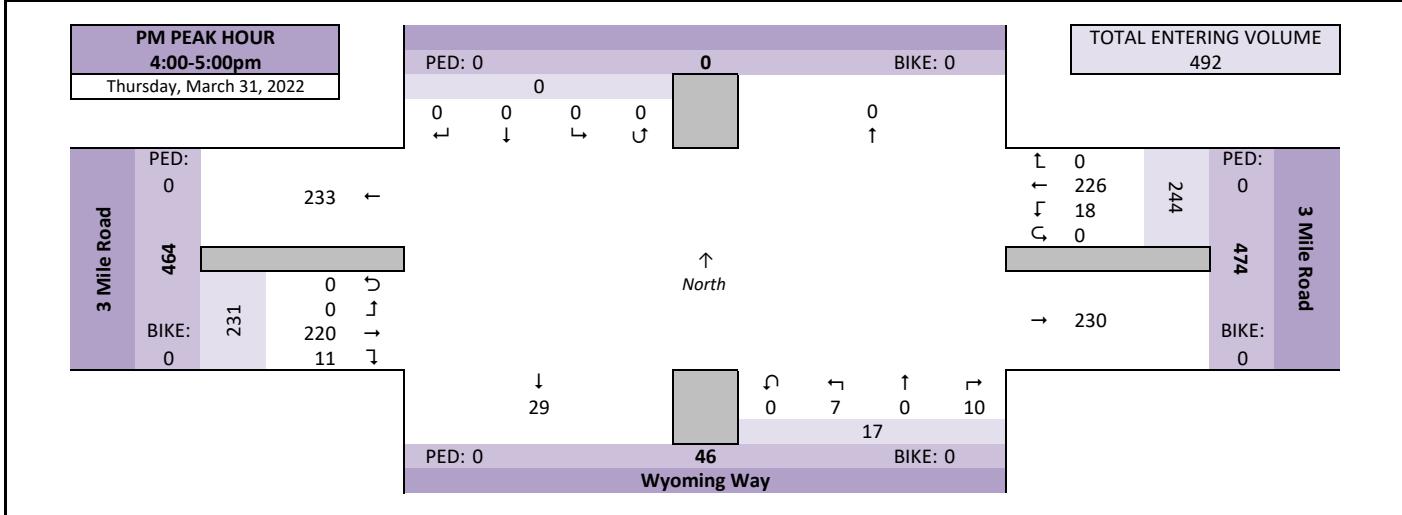
### AM Peak Hour Summary



### Midday (MD) Peak Hour Summary



### PM Peak Hour Summary



# Intersection Traffic Volume Report

## **Count Basics**

*Page 3 of 13*

**Start Date:** Thursday, March 31, 2022

Weekday

Schools in Session

Total Number of Hours Counted: 6 Non-Holiday

No Special Events

## ***Peak Hour Volume Summary***

## ***Wyoming Way and 3 Mile Road***



## Peak Hour Volumes, Truck Percentages, and PHFs

Friday, April 1, 2022		From North					From East					From South					From West					
AM Peak Hour	AM Peak Hour	3 Mile Road					Wyoming Way					3 Mile Road					Totals					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	8:00 AM	0	0	0	0	0	0	53	2	0	55	1	0	4	0	5	0	43	0	0	43	103
	8:15 AM	0	0	0	0	0	0	36	2	0	38	2	0	2	0	4	2	36	0	0	38	80
	8:30 AM	0	0	0	0	0	0	48	2	0	50	2	0	4	0	6	4	43	0	0	47	103
	8:45 AM	0	0	0	0	0	0	50	3	0	53	2	0	4	0	6	0	42	0	0	42	101
	Peak Hour Volume	0	0	0	0	0	0	187	9	0	196	7	0	14	0	21	6	164	0	0	170	387
	Rounded Hourly Volume	0	0	0	0	0	0	185	10	0	195	5	0	15	0	20	5	165	0	0	170	385
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.6	0.0	0.0	7.1	0.0	4.8	0.0	4.3	0.0	0.0	4.1	4.4
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.6	0.0	0.0	7.1	0.0	4.8	0.0	4.3	0.0	0.0	4.1	4.4
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.75	0.00	0.89	0.87	0.00	0.87	0.00	0.87	0.37	0.95	0.00	0.00	0.90	0.94

N/A		↓ From North					← From East					↑ From South					→ From West					Midday (MD) Peak Hour Totals
Midday (MD) Peak Hour	MD Peak Hour						3 Mile Road					Wyoming Way					3 Mile Road					Midday (MD) Peak Hour Totals
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Peak Hour Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Rounded Hourly Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Thursday, March 31, 2022		↓ From North					← From East					↑ From South					→ From West					Totals
PM Peak Hour	PM Peak Hour						3 Mile Road					Wyoming Way					3 Mile Road					Totals
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	4:00 PM	0	0	0	0	0	0	57	1	0	58	2	0	4	0	6	2	55	0	0	57	121
	4:15 PM	0	0	0	0	0	0	51	7	0	58	2	0	1	0	3	3	62	0	0	65	126
	4:30 PM	0	0	0	0	0	0	59	4	0	63	4	0	1	0	5	2	47	0	0	49	117
	4:45 PM	0	0	0	0	0	0	59	6	0	65	2	0	1	0	3	4	56	0	0	60	128
	Peak Hour Volume	0	0	0	0	0	0	226	18	0	244	10	0	7	0	17	11	220	0	0	231	492
	Rounded Hourly Volume	0	0	0	0	0	0	225	20	0	245	10	0	5	0	15	10	220	0	0	230	490
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Peak Hour Factor (PHF)	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.64	0.00	0.94	0.62	0.00	0.44	0.00	0.71	0.69	0.89	0.00	0.00	0.89	0.96

## **Peak Hour Pedestrian and Bicyclist Volumes**

# Intersection Traffic Volume Report

Count Basics										Page 5 of 13			
Start Date: Thursday, March 31, 2022					Weekday			Schools in Session					
Total Number of Hours Counted: 6										Non-Holiday			

## 15-Minute Motor Vehicle Data

### Wyoming Way and 3 Mile Road

#### 15-Minute Motor Vehicle Data

15-Minute Time Period	↓ From North										← From East										↑ From South										15-Min Totals	Hourly Sum	PHF			
	3 Mile Road					Wyoming Way					3 Mile Road																									
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total						
AM Peak Period	6:00 AM	0	0	0	0	0	0	30	1	0	31	0	0	4	0	4	0	13	0	0	13	0	0	0	0	0	0	0	0	0	48	260	0.86			
AM Peak Period	6:15 AM	0	0	0	0	0	0	36	1	0	37	0	0	3	0	3	1	22	0	0	23	0	0	0	0	0	0	0	0	0	63	287	0.94			
AM Peak Period	6:30 AM	0	0	0	0	0	0	48	0	0	48	3	0	1	0	4	0	21	0	0	21	0	0	0	0	0	0	0	0	0	73	297	0.98			
AM Peak Period	6:45 AM	0	0	0	0	0	0	48	0	0	48	3	0	1	0	4	3	21	0	0	24	0	0	0	0	0	0	0	0	0	76	318	0.85			
AM Peak Period	7:00 AM	0	0	0	0	0	0	43	0	0	43	4	0	1	0	5	2	25	0	0	27	0	0	0	0	0	0	0	0	0	75	336	0.89			
AM Peak Period	7:15 AM	0	0	0	0	0	0	33	3	0	36	0	0	2	0	2	1	34	0	0	35	0	0	0	0	0	0	0	0	0	73	364	0.88			
AM Peak Period	7:30 AM	0	0	0	0	0	0	52	5	0	57	4	0	1	0	5	3	29	0	0	32	0	0	0	0	0	0	0	0	0	94	371	0.90			
AM Peak Period	7:45 AM	0	0	0	0	0	0	40	4	0	44	4	0	2	0	6	1	43	0	0	44	0	0	0	0	0	0	0	0	0	94	380	0.92			
AM Peak Period	8:00 AM	0	0	0	0	0	0	53	2	0	55	1	0	4	0	5	0	43	0	0	43	0	0	0	0	0	0	0	0	0	103	387	0.94			
Midday Peak Period	8:15 AM	0	0	0	0	0	0	36	2	0	38	2	0	2	0	4	2	36	0	0	38	0	0	0	0	0	0	0	0	0	80					
Midday Peak Period	8:30 AM	0	0	0	0	0	0	48	2	0	50	2	0	4	0	6	4	43	0	0	47	0	0	0	0	0	0	0	0	0	103					
Midday Peak Period	8:45 AM	0	0	0	0	0	0	50	3	0	53	2	0	4	0	6	0	42	0	0	42	0	0	0	0	0	0	0	0	0	101					
Midday Peak Period	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Midday Peak Period	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Midday Peak Period	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Midday Peak Period	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM Peak Period	3:00 PM	0	0	0	0	0	0	44	2	0	46	4	0	6	0	10	5	70	0	0	75	131	489	0.93												
PM Peak Period	3:15 PM	0	0	0	0	0	0	51	1	0	52	1	0	1	0	2	1	73	0	0	74	128	479	0.94												
PM Peak Period	3:30 PM	0	0	0	0	0	0	53	3	0	56	2	0	3	0	5	5	57	0	0	62	123	477	0.95												
PM Peak Period	3:45 PM	0	0	0	0	0	0	52	1	0	53	2	0	0	0	2	5	47	0	0	52	107	471	0.93												
PM Peak Period	4:00 PM	0	0	0	0	0	0	57	1	0	58	2	0	4	0	6	2	55	0	0	57	121	492	0.96												
PM Peak Period	4:15 PM	0	0	0	0	0	0	51	7	0	58	2	0	1	0	3	3	62	0	0	65</td															

# Intersection Traffic Volume Report

<b>Count Basics</b>	<b>Page 9 of 13</b>	
Start Date:	Thursday, March 31, 2022	Weekday Schools in Session
Total Number of Hours Counted:	6	Non-Holiday No Special Events

**15-Minute Heavy Vehicle Data**

## ***Wyoming Way and 3 Mile Road***



15-Minute Heavy Vehicle Data

## **Peak Hour Heavy Vehicle Volume Summary**

# Intersection Traffic Volume Report

Count Basics		Version 2013.J4.1		Page 1 of 13	
Start Date:	Thursday, March 31, 2022	Weekday	Schools in Session		
Total Number of Hours Counted:	6	Total Holiday	Non-Holiday	No Special Events	

## Base Information, Observed (6) Hour and Estimated (24) Hour Volume Summaries

Intersection of: Douglas Avenue and 3 Mile Road

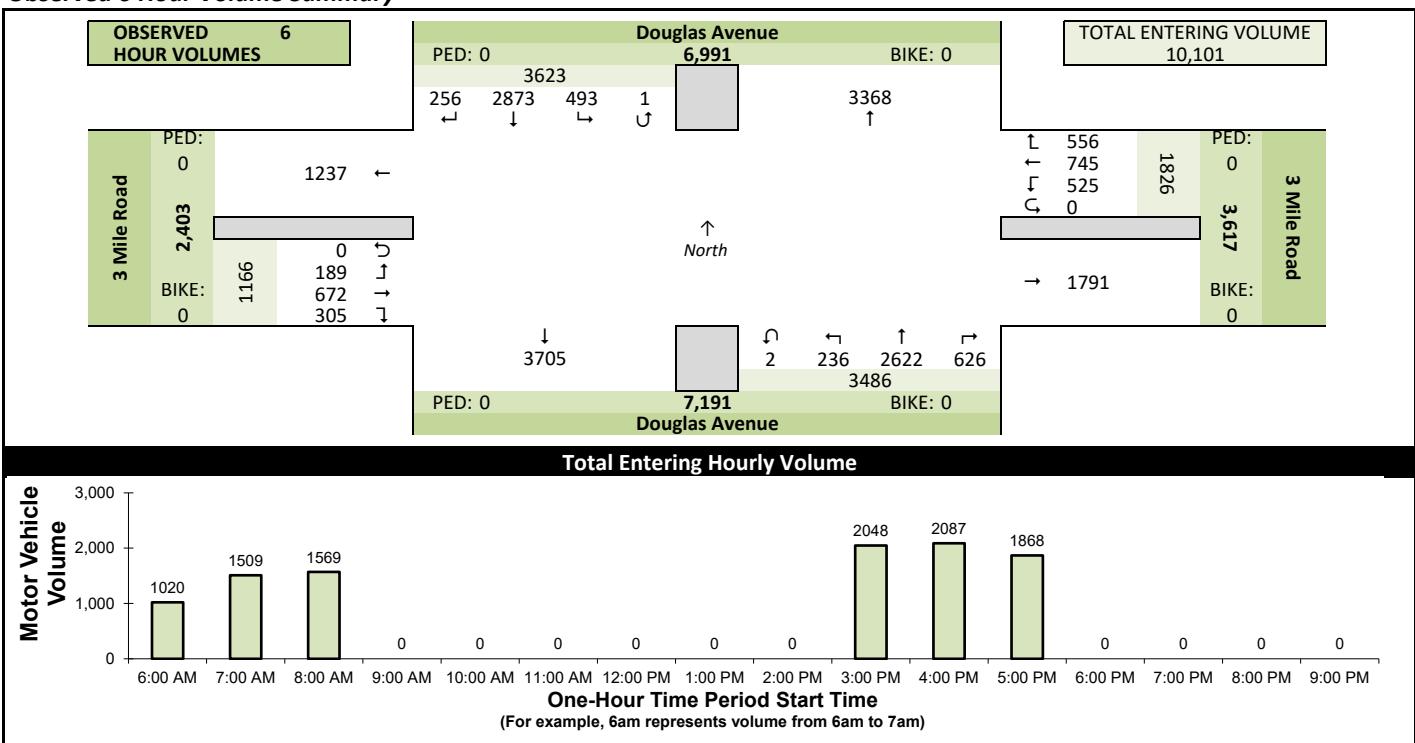
### Site Information

Municipality	Village of Caledonia
County	Racine
Traffic Control	Traffic Signal
Roadway Names	North Direction ↑
North Leg	Douglas Avenue
East Leg	3 Mile Road
South Leg	Douglas Avenue
West Leg	3 Mile Road
Special Considerations	
Schools	In Session
Holidays	None
Special Events	None
Special Pedestrians Observed	
Pre-school children	None
Elementary school age children	None
Visually impaired (white cane/helper dog)	None
Elderly/disabled (except wheelchairs)	None
Wheelchairs/electric scooters	None
Other (describe)	None

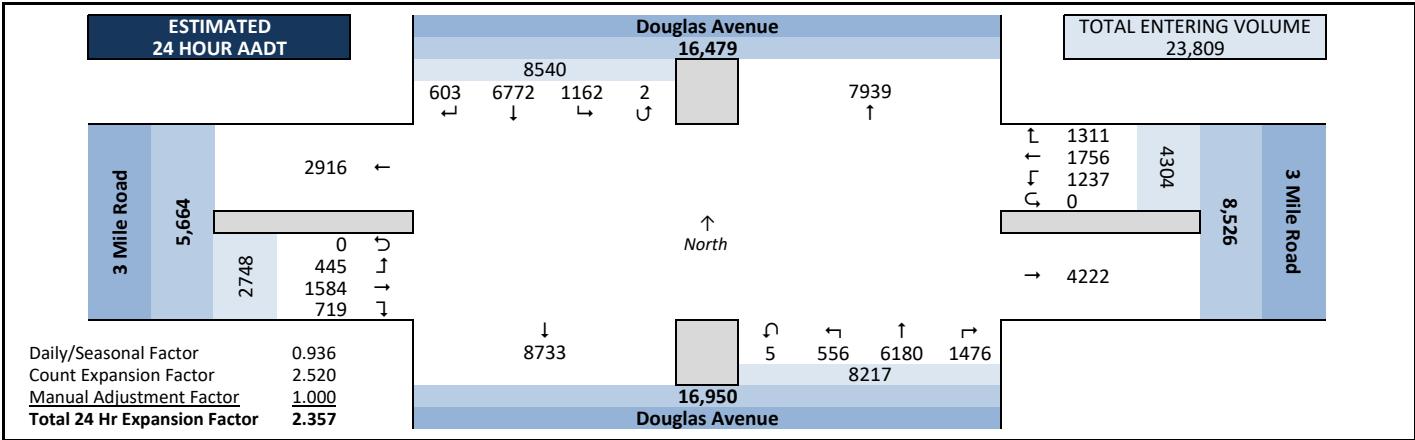
### Count Information

Hrs Counted:	6:00 AM-9:00 AM and 3:00 PM-6:00 PM		
1st Day of Count	Thursday, March 31, 2022		Weather
AM Peak Period	Friday, April 1, 2022		Clear & Dry
Midday Peak Period	Thursday, March 31, 2022		Clear & Dry
PM Peak Period	Thursday, March 31, 2022		Clear & Dry
Calculated Peak Hours			
AM	8:00-9:00am	MD	PM 3:45-4:45pm
Peak Hours Selected for Analysis			
AM	8:00-9:00am	MD	PM 4:00-5:00pm
Daily/Seasonal Adjustment Group	(2) Urban Arterials & Collectors		
Count Expansion Group	(2) Urban Arterials & Collectors		
Daily/Seasonal Adjustment Factor	0.936	Count Expansion Factor	2.520
Company Name	TADI, Inc		
Observers			
AM Peak Period	Amy Scheuerlein		
Midday Peak Period	None		
PM Peak Period	Amy Scheuerlein		
Comments	2019 DOT Seasonal Factors		

### Observed 6 Hour Volume Summary



### Estimated 24 Hour AADT



## Intersection Traffic Volume Report

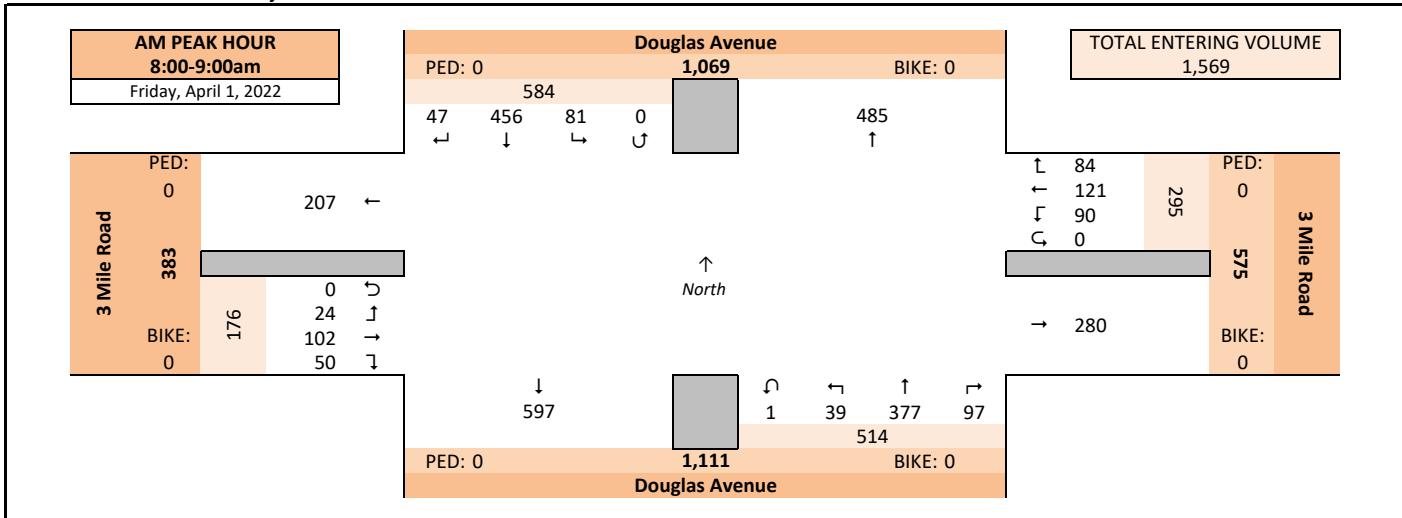
Count Basics			Page 2 of 13
Start Date:	Thursday, March 31, 2022	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

## ***Peak Hour Volume Graphical Summary***

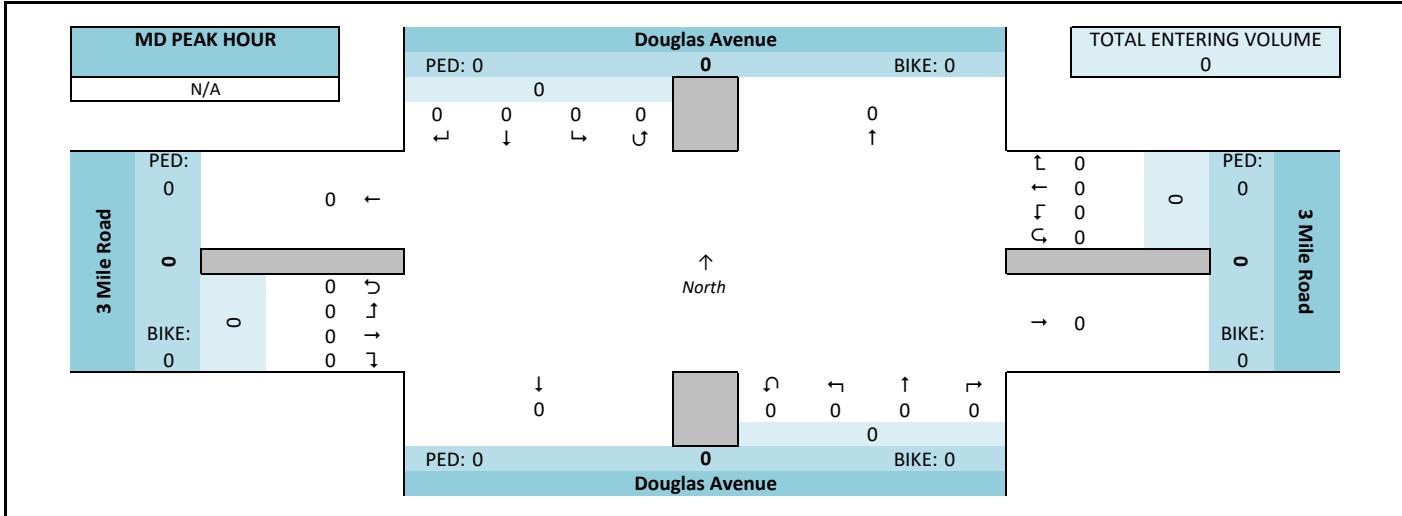
### **Douglas Avenue and 3 Mile Road**



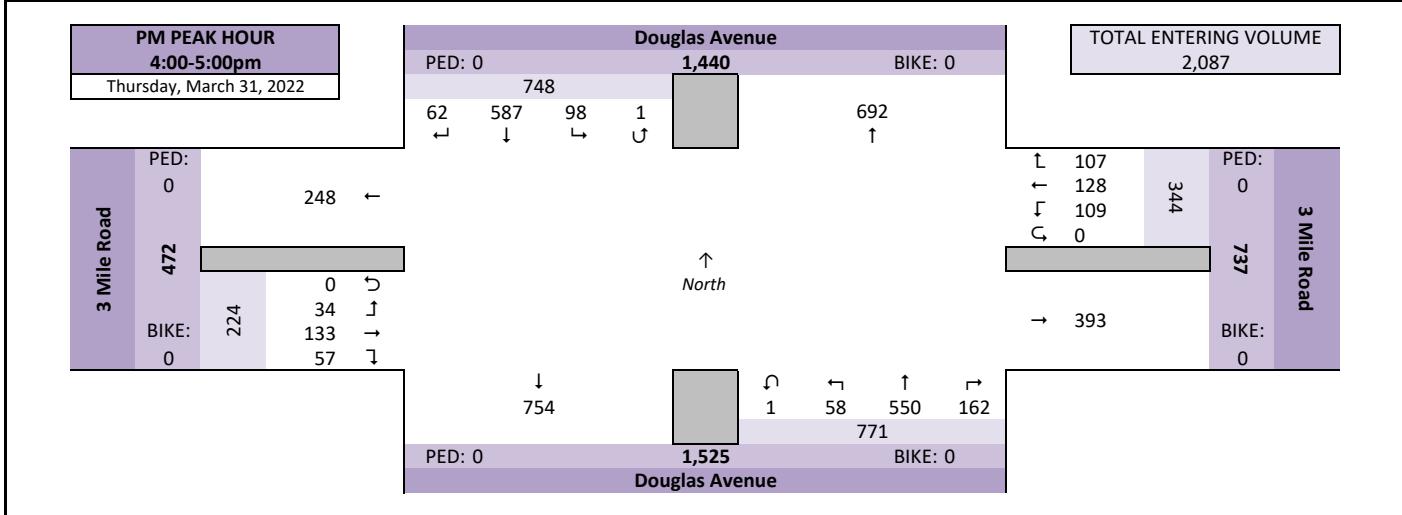
## ***AM Peak Hour Summary***



## ***Midday (MD) Peak Hour Summary***



## PM Peak Hour Summary



## Intersection Traffic Volume Report

Count Basics	Page 3 of 13	
Start Date:	Thursday, March 31, 2022	Weekday
Total Number of Hours Counted:	6	Non-Holiday

## ***Peak Hour Volume Summary***

## *Douglas Avenue and 3 Mile Road*



## Peak Hour Volumes, Truck Percentages, and PHFs

Friday, April 1, 2022		↓ From North					← From East					↑ From South					→ From West					Totals
AM Peak Hour	AM Peak Hour	Douglas Avenue					3 Mile Road					Douglas Avenue					3 Mile Road					Totals
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	8:00 AM	25	124	20	0	169	22	28	23	0	73	23	73	6	0	102	15	22	6	0	43	387
	8:15 AM	5	94	27	0	126	23	25	21	0	69	26	84	8	0	118	14	19	5	0	38	351
	8:30 AM	8	117	15	0	140	23	32	24	0	79	24	107	15	0	146	16	27	6	0	49	414
	8:45 AM	9	121	19	0	149	16	36	22	0	74	24	113	10	1	148	5	34	7	0	46	417
	Peak Hour Volume	47	456	81	0	584	84	121	90	0	295	97	377	39	1	514	50	102	24	0	176	1569
	Rounded Hourly Volume	45	455	80	0	580	85	120	90	0	295	95	375	40	0	510	50	100	25	0	175	1560
	% Single Unit Trucks	2.1	4.6	11.1	0.0	5.3	8.3	7.4	16.7	0.0	10.5	5.2	3.7	5.1	0.0	4.1	6.0	7.8	8.3	0.0	7.4	6.1
	% Heavy Trucks	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1
	% Trucks (Total)	2.1	4.8	11.1	0.0	5.5	8.3	7.4	16.7	0.0	10.5	5.2	4.0	5.1	0.0	4.3	6.0	7.8	8.3	0.0	7.4	6.2
Peak Hour Factor (PHF)	0.47	0.92	0.75	0.00	0.86	0.91	0.84	0.94	0.00	0.93	0.93	0.83	0.65	0.25	0.87	0.78	0.75	0.86	0.00	0.90	0.94	

Thursday, March 31, 2022		↓ From North					← From East					↑ From South					→ From West					Totals
PM Peak Hour	PM Peak Hour	Douglas Avenue					3 Mile Road					Douglas Avenue					3 Mile Road					Totals
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	4:00 PM	14	146	26	1	187	30	34	29	0	93	47	138	12	0	197	13	23	10	0	46	523
	4:15 PM	18	137	29	0	184	24	31	31	0	86	38	128	17	0	183	20	39	9	0	68	521
	4:30 PM	15	132	23	0	170	24	29	28	0	81	41	140	14	0	195	13	35	6	0	54	500
	4:45 PM	15	172	20	0	207	29	34	21	0	84	36	144	15	1	196	11	36	9	0	56	543
	Peak Hour Volume	62	587	98	1	748	107	128	109	0	344	162	550	58	1	771	57	133	34	0	224	2087
	Rounded Hourly Volume	60	585	100	0	745	105	130	110	0	345	160	550	60	0	770	55	135	35	0	225	2085
	% Single Unit Trucks	3.2	2.6	1.0	0.0	2.4	0.0	6.2	0.9	0.0	2.6	1.2	2.4	0.0	0.0	1.9	3.5	0.0	0.0	0.0	0.9	2.1
	% Heavy Trucks	0.0	0.5	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.3
	% Trucks (Total)	3.2	3.1	1.0	0.0	2.8	0.0	6.2	0.9	0.0	2.6	1.2	2.9	0.0	0.0	2.3	3.5	0.0	0.0	0.0	0.9	2.4
Peak Hour Factor (PHF)	0.86	0.85	0.84	0.25	0.90	0.89	0.94	0.88	0.00	0.92	0.86	0.95	0.85	0.25	0.98	0.71	0.85	0.85	0.00	0.82	0.96	

## Peak Hour Pedestrian and Bicyclist Volumes

# Intersection Traffic Volume Report

Count Basics			Page 5 of 13
Start Date:	Thursday, March 31, 2022	Weekday	Schools in Session
Total Number of Hours Counted:	6	Non-Holiday	No Special Events

## **15-Minute Motor Vehicle Data**

## **Douglas Avenue and 3 Mile Road**



## **15-Minute Motor Vehicle Data**

15-Minute Time Period	From North					From East					From South					From West					15-Min Totals	Hourly Sum	PHF			
	Douglas Avenue					3 Mile Road					Douglas Avenue					3 Mile Road										
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total						
Start Time																										
6:00 AM	4	30	8	0	42	12	20	5	0	37	2	62	8	0	72	4	9	0	0	13	164	1020	0.78			
6:15 AM	6	51	17	0	74	14	29	11	0	54	7	65	5	0	77	6	9	6	0	21	226	1229	0.82			
6:30 AM	4	80	9	0	93	24	41	23	0	88	13	88	2	0	103	6	11	3	0	20	304	1374	0.92			
6:45 AM	9	107	13	0	129	19	32	20	0	71	4	92	4	0	100	9	9	8	0	26	326	1454	0.95			
7:00 AM	2	117	14	0	133	23	39	22	0	84	19	105	1	0	125	13	16	2	0	31	373	1509	0.98			
7:15 AM	3	100	17	0	120	39	27	20	0	86	14	114	8	0	136	6	16	7	0	29	371	1523	0.98			
7:30 AM	10	114	10	0	134	24	42	28	0	94	12	102	5	0	119	11	20	6	0	37	384	1503	0.97			
7:45 AM	9	115	21	0	145	23	30	22	0	75	17	91	5	0	113	11	21	16	0	48	381	1533	0.93			
8:00 AM	25	124	20	0	169	22	28	23	0	73	23	73	6	0	102	15	22	6	0	43	387	1569	0.94			
8:15 AM	5	94	27	0	126	23	25	21	0	69	26	84	8	0	118	14	19	5	0	38	351					
8:30 AM	8	117	15	0	140	23	32	24	0	79	24	107	15	0	146	16	27	6	0	49	414					
8:45 AM	9	121	19	0	149	16	36	22	0	74	24	113	10	1	148	5	34	7	0	46	417					
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
3:00 PM	10	155	20	0	185	24	21	35	0	80	26	142	11	0	179	13	46	14	0	73	517	2048	0.92			
3:15 PM	14	149	26	0	189	24	31	19	0	74	34	116	14	0	164	21	45	16	0	82	509	2054	0.93			
3:30 PM	11	142	21	0	174	22	27	27	0	76	36	114	16	0	166	11	36	4	0	51	467	2066	0.93			
3:45 PM	13	163	28	0	204	41	29	18	0	88	44	145	13	0	202	20	36	5	0	61	555	2099	0.95			
4:00 PM	14	146	26	1	187	30	34	29	0	93	47	138	12	0	197	13	23	10	0	46	523	2087	0.96			
4:15 PM	18	137	29	0	184	24	31	31	0	86	38	128	17	0	183	20	39	9	0	68	521	2043	0.94			
4:30 PM	15	132	23	0	170	24	29	28	0	81	41	140	14	0	195	13	35	6	0	54	500	1990	0.92			
4:45 PM	15	172	20	0	207	29	34	21	0	84	36	144	15	1	196	11	36	9	0	56	543	1940	0.89			
5:00 PM	10	119	28	0	157	19	35	26	0	80	28	120	14	0	162	20	44	16	0	80	479	1868	0.97			
5:15 PM	10	124	25	0	159	26	29	21	0	76	33	122	6	0	161	15	46	11	0	72	468					
5:30 PM	19	138	33	0	190	18	25	13	0	56	33	99	11	0	143	17	36	8	0	61	450					
5:45 PM	13	126	24	0	163	13	39	16	0	68	45	118	16	0	179	15	37	9	0	61	471					
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Totals	256	2873	493	1	3623	556	745	525	0	1826	626	2622	236	2	3486	305	672	189	0	1166	10101					

## **Peak Hour All Vehicle Volume Summary**

Hourly Time Period	From North					From East					From South					From West					Total Hourly Volume
	Douglas Avenue					3 Mile Road					Douglas Avenue					3 Mile Road					
Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
AM 8:00 AM	47	456	81	0	584	84	121	90	0	295	97	377	39	1	514	50	102	24	0	176	1569
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.94
PM 4:00 PM	62	587	98	1	748	107	128	109	0	344	162	550	58	1	771	57	133	34	0	224	2087

# Intersection Traffic Volume Report

<b>Count Basics</b>	<b>Page 9 of 13</b>	
Start Date:	Thursday, March 31, 2022	Weekday Schools in Session
Total Number of Hours Counted:	6	Non-Holiday No Special Events

## **15-Minute Heavy Vehicle Data**

### **Douglas Avenue and 3 Mile Road**



15-Minute Heavy Vehicle Data

## **Peak Hour Heavy Vehicle Volume Summary**

Hourly Time Period	From North					From East					From South					From West					Total Hourly Volume	
	Douglas Avenue					3 Mile Road					Douglas Avenue					3 Mile Road						
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		
AM 8:00 AM	1	22	9	0	32	7	9	15	0	31	5	15	2	0	22	3	8	2	0	13	98	
MD 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM 4:00 PM	2	18	1	0	21	0	8	1	0	9	2	16	0	0	18	2	0	0	0	2	50	

Urbanized Area/Cluster Population	
133,700	
#200: STH 32 & 3 Mile Road	
Existing Transportation System	

Speed Limit: 35

Sat. Flow Rate (pc/h/ln)

1750	1829	1750
------	------	------

N



Speed Limit:	35
Sat. Flow (pc/h/ln)	1750

1750
1809

Number of Lanes
1
2
1

Number of Lanes
1
2
1

Number of Lanes

1	2	1
---	---	---

↑	↓	↖
---	---	---

Traffic Signal

↑	1
---	---

←	2
---	---

↓	1
---	---

Number of Lanes
1
2
1

1750
1829
1750

Speed Limit:
35



Bureau of Traffic Operations

11/14/2019

1750 1829 1750

Sat. Flow Rate (pc/h/ln)

Speed Limit: 35

## **APPENDIX B**

# **SYNCHRO INTERSECTION CAPACITY ANALYSIS**

## **Existing Traffic Volumes**

---

Lanes, Volumes, Timings  
100: Wyoming Way & 3 Mile Road

Existing Traffic  
AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	2	3	4	5	6
Traffic Volume (vph)	170	5	10	190	15	5
Future Volume (vph)	170	5	10	190	15	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)		35		35	25	
Link Distance (ft)	389			1085	441	
Travel Time (s)	7.6			21.1	12.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	186	0	0	213	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC  
100: Wyoming Way & 3 Mile Road

Existing Traffic  
AM Peak Hour

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔	↔		
Traffic Vol, veh/h	170	5	10	190	15	5
Future Vol, veh/h	170	5	10	190	15	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	4	4	5	5	5	5
Mvmt Flow	181	5	11	202	16	5

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	186	0	408	184
Stage 1	-	-	-	-	184	-
Stage 2	-	-	-	-	224	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1371	-	594	851
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	806	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1371	-	589	851
Mov Cap-2 Maneuver	-	-	-	-	589	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	799	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.8
HCM LOS		B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	638	-	-	1371	-
HCM Lane V/C Ratio	0.033	-	-	0.008	-
HCM Control Delay (s)	10.8	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lanes, Volumes, Timings  
200: Douglas Avenue & 3 Mile Road

Existing Traffic  
AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑↓		↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (vph)	25	100	50	90	115	85	40	375	95	80	455	45
Future Volume (vph)	25	100	50	90	115	85	40	375	95	80	455	45
Ideal Flow (vphpl)	1750	1809	1750	1750	1829	1750	1750	1829	1750	1750	1829	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	85		0	115		85	100		30	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		350			644			491			584	
Travel Time (s)		6.8			12.5			9.6			11.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	7%	7%	7%	11%	11%	11%	4%	4%	4%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	159	0	96	122	56	43	399	63	85	484	30
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		18			18			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.07	1.11	1.11	1.05	1.11	1.11	1.05	1.11	1.11	1.05	1.11
Turning Speed (mph)		15		9	15		9	15		9	15	9
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	20.0	20.0	6.0	20.0	20.0
Minimum Split (s)	21.0	21.0		21.0	21.0	21.0	10.0	26.0	26.0	10.0	26.0	26.0
Total Split (s)	46.0	46.0		46.0	46.0	46.0	29.0	96.0	96.0	29.0	96.0	96.0
Total Split (%)	26.9%	26.9%		26.9%	26.9%	26.9%	17.0%	56.1%	56.1%	17.0%	56.1%	56.1%
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	25.0	90.0	90.0	25.0	90.0	90.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	4.0	4.0	2.0	4.0	4.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Lanes, Volumes, Timings  
200: Douglas Avenue & 3 Mile Road

Existing Traffic  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.09	0.19		0.35	0.14	0.15	0.09	0.33	0.12	0.17	0.34	0.05
Control Delay	17.6	17.6		22.1	17.3	18.2	6.2	14.7	14.1	6.7	12.1	11.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	17.6		22.1	17.3	18.2	6.2	14.7	14.1	6.7	12.1	11.5
Queue Length 50th (ft)	7	22		27	16	15	6	51	14	12	43	4
Queue Length 95th (ft)	25	44		66	36	41	16	87	38	27	101	21
Internal Link Dist (ft)		270			564			411			504	
Turn Bay Length (ft)	85			115		85	100		30	100		50
Base Capacity (vph)	798	2208		742	2266	969	809	3341	1430	791	3278	1403
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	0.03	0.07		0.13	0.05	0.06	0.05	0.12	0.04	0.11	0.15	0.02

Intersection Summary

Area Type: Other

Cycle Length: 171

Actuated Cycle Length: 55.7

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Description: Runs Free

Splits and Phases: 200: Douglas Avenue & 3 Mile Road



HCM 6th Signalized Intersection Summary  
200: Douglas Avenue & 3 Mile Road

Existing Traffic  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑↓		↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	25	100	50	90	115	85	40	375	95	80	455	45
Future Volume (veh/h)	25	100	50	90	115	85	40	375	95	80	455	45
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1654	1710	1654	1600	1672	1600	1695	1772	1695	1668	1743	1668
Adj Flow Rate, veh/h	27	106	53	96	122	56	43	399	63	85	484	30
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	7	7	11	11	11	4	4	4	6	6	6
Cap, veh/h	401	580	274	372	860	367	449	1216	519	498	1285	548
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.05	0.36	0.36	0.08	0.39	0.39
Sat Flow, veh/h	1123	2142	1011	1050	3177	1356	1615	3367	1437	1589	3312	1414
Grp Volume(v), veh/h	27	79	80	96	122	56	43	399	63	85	484	30
Grp Sat Flow(s), veh/h/ln	1123	1625	1528	1050	1588	1356	1615	1683	1437	1589	1656	1414
Q Serve(g_s), s	1.0	2.1	2.2	4.3	1.6	1.7	0.9	4.8	1.6	1.8	5.8	0.7
Cycle Q Clear(g_c), s	2.6	2.1	2.2	6.5	1.6	1.7	0.9	4.8	1.6	1.8	5.8	0.7
Prop In Lane	1.00		0.66	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	401	440	414	372	860	367	449	1216	519	498	1285	548
V/C Ratio(X)	0.07	0.18	0.19	0.26	0.14	0.15	0.10	0.33	0.12	0.17	0.38	0.05
Avail Cap(c_a), veh/h	909	1174	1104	846	2295	980	1093	5473	2336	1089	5385	2298
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.3	15.5	15.5	18.0	15.3	15.4	10.0	12.8	11.8	9.4	12.1	10.6
Incr Delay (d2), s/veh	0.1	0.2	0.2	0.4	0.1	0.2	0.0	0.2	0.1	0.1	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.2	0.7	0.7	1.0	0.5	0.5	0.3	1.6	0.5	0.5	1.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.4	15.7	15.8	18.4	15.4	15.5	10.0	13.0	12.0	9.4	12.4	10.7
LnGrp LOS	B	B	B	B	B	B	A	B	B	A	B	B
Approach Vol, veh/h						274			505			599
Approach Delay, s/veh						16.5			12.6			11.9
Approach LOS						B			B			B
Timer - Assigned Phs	1	2		4	5	6			8			
Phs Duration (G+Y+R <sub>c</sub> ), s	8.4	26.0		21.0	6.9	27.5			21.0			
Change Period (Y+R <sub>c</sub> ), s	4.0	6.0		6.0	4.0	6.0			6.0			
Max Green Setting (Gmax), s	25.0	90.0		40.0	25.0	90.0			40.0			
Max Q Clear Time (g_c+l1), s	3.8	6.8		4.6	2.9	7.8			8.5			
Green Ext Time (p_c), s	0.1	4.6		1.0	0.0	5.4			1.4			
Intersection Summary												
HCM 6th Ctrl Delay				13.4								
HCM 6th LOS				B								

Lanes, Volumes, Timings  
100: Wyoming Way & 3 Mile Road

Existing Traffic  
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	1	1	1	1	1
Traffic Volume (vph)	215	10	20	230	5	10
Future Volume (vph)	215	10	20	230	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)		35		35	25	
Link Distance (ft)		389		1085	441	
Travel Time (s)		7.6		21.1	12.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	3%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	234	0	0	261	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

HCM 6th TWSC  
100: Wyoming Way & 3 Mile Road

Existing Traffic  
PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔	↔		
Traffic Vol, veh/h	215	10	20	230	5	10
Future Vol, veh/h	215	10	20	230	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	3	3	1	1
Mvmt Flow	224	10	21	240	5	10
Major/Minor						
Conflicting Flow All	Major1	Major2		Minor1		
	0	0	234	0	511	229
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	282	-
Critical Hdwy	-	-	4.13	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.227	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1328	-	524	813
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	768	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1328	-	515	813
Mov Cap-2 Maneuver	-	-	-	-	515	-
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	754	-
Approach						
HCM Control Delay, s	EB	WB		NB		
	0	0.6		10.4		
HCM LOS				B		
Minor Lane/Major Mvmt						
Capacity (veh/h)	NBLn1	EBT	EBR	WBL	WBT	
	682	-	-	1328	-	
HCM Lane V/C Ratio	0.023	-	-	0.016	-	
HCM Control Delay (s)	10.4	-	-	7.8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Lanes, Volumes, Timings  
200: Douglas Avenue & 3 Mile Road

Existing Traffic  
PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑↓		↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (vph)	35	135	55	110	130	105	60	550	160	100	585	60
Future Volume (vph)	35	135	55	110	130	105	60	550	160	100	585	60
Ideal Flow (vphpl)	1750	1809	1750	1750	1829	1750	1750	1829	1750	1750	1829	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	85		0	115		85	100		30	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		350			644			491			584	
Travel Time (s)		6.8			12.5			9.6			11.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	198	0	115	135	68	63	573	103	104	609	39
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		18			18			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.07	1.11	1.11	1.05	1.11	1.11	1.05	1.11	1.11	1.05	1.11
Turning Speed (mph)		15		9	15		9	15		9	15	9
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	20.0	20.0	6.0	20.0	20.0
Minimum Split (s)	21.0	21.0		21.0	21.0	21.0	10.0	26.0	26.0	10.0	26.0	26.0
Total Split (s)	46.0	46.0		46.0	46.0	46.0	29.0	96.0	96.0	29.0	96.0	96.0
Total Split (%)	26.9%	26.9%		26.9%	26.9%	26.9%	17.0%	56.1%	56.1%	17.0%	56.1%	56.1%
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	25.0	90.0	90.0	25.0	90.0	90.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	4.0	4.0	2.0	4.0	4.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Lanes, Volumes, Timings  
200: Douglas Avenue & 3 Mile Road

Existing Traffic  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.12	0.23		0.40	0.15	0.17	0.14	0.45	0.19	0.23	0.47	0.07
Control Delay	19.7	19.1		24.8	18.7	20.0	6.7	16.1	15.0	7.3	15.8	13.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	19.1		24.8	18.7	20.0	6.7	16.1	15.0	7.3	15.8	13.2
Queue Length 50th (ft)	9	28		33	18	18	9	80	24	15	84	9
Queue Length 95th (ft)	33	61		88	44	54	24	137	61	36	142	28
Internal Link Dist (ft)		270			564			411			504	
Turn Bay Length (ft)	85			115		85	100		30	100		50
Base Capacity (vph)	801	2261		739	2342	1002	798	3407	1458	791	3374	1444
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	0.04	0.09		0.16	0.06	0.07	0.08	0.17	0.07	0.13	0.18	0.03

Intersection Summary

Area Type: Other

Cycle Length: 171

Actuated Cycle Length: 58.6

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Description: Runs Free

Splits and Phases: 200: Douglas Avenue & 3 Mile Road



HCM 6th Signalized Intersection Summary  
200: Douglas Avenue & 3 Mile Road

Existing Traffic  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑↓		↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	35	135	55	110	130	105	60	550	160	100	585	60
Future Volume (veh/h)	35	135	55	110	130	105	60	550	160	100	585	60
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1795	1736	1709	1786	1709	1723	1800	1723	1709	1786	1709
Adj Flow Rate, veh/h	36	141	57	115	135	68	62	573	103	104	609	39
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	3	3	3	2	2	2	3	3	3
Cap, veh/h	407	646	250	368	912	389	419	1226	523	445	1283	548
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.07	0.36	0.36	0.09	0.38	0.38
Sat Flow, veh/h	1165	2402	930	1082	3394	1448	1641	3421	1460	1628	3394	1448
Grp Volume(v), veh/h	36	98	100	115	135	68	62	573	103	104	609	39
Grp Sat Flow(s), veh/h/ln	1165	1705	1627	1082	1697	1448	1641	1710	1460	1628	1697	1448
Q Serve(g_s), s	1.4	2.5	2.7	5.2	1.7	2.0	1.3	7.2	2.7	2.1	7.6	1.0
Cycle Q Clear(g_c), s	3.0	2.5	2.7	7.8	1.7	2.0	1.3	7.2	2.7	2.1	7.6	1.0
Prop In Lane	1.00		0.57	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	407	458	437	368	912	389	419	1226	523	445	1283	548
V/C Ratio(X)	0.09	0.21	0.23	0.31	0.15	0.17	0.15	0.47	0.20	0.23	0.47	0.07
Avail Cap(c_a), veh/h	929	1222	1167	853	2433	1038	1045	5518	2355	1034	5474	2336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	15.8	15.9	18.9	15.5	15.7	10.0	13.8	12.4	9.7	13.2	11.1
Incr Delay (d2), s/veh	0.1	0.2	0.3	0.5	0.1	0.2	0.1	0.4	0.3	0.1	0.4	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.3	0.9	0.9	1.2	0.6	0.6	0.4	2.4	0.8	0.6	2.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.8	16.1	16.2	19.4	15.6	15.9	10.1	14.2	12.6	9.8	13.5	11.2
LnGrp LOS	B	B	B	B	B	B	B	B	B	A	B	B
Approach Vol, veh/h						318			738			752
Approach Delay, s/veh						17.0			13.6			12.9
Approach LOS					B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	8.8	26.0		21.0	7.7	27.1		21.0				
Change Period (Y+R <sub>c</sub> ), s	4.0	6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s	25.0	90.0		40.0	25.0	90.0		40.0				
Max Q Clear Time (g_c+l1), s	4.1	9.2		5.0	3.3	9.6		9.8				
Green Ext Time (p_c), s	0.1	7.1		1.3	0.1	7.2		1.5				
Intersection Summary												
HCM 6th Ctrl Delay				14.2								
HCM 6th LOS				B								

## **APPENDIX C**

# **SYNCHRO INTERSECTION CAPACITY ANALYSIS**

## **Build Traffic Volumes**

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Lanes, Volumes, Timings  
100: Wyoming Way & 3 Mile Road

Build Traffic  
AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Volume (vph)	170	5	10	190	15	5
Future Volume (vph)	170	5	10	190	15	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)		35		35	25	
Link Distance (ft)		389		1085	441	
Travel Time (s)		7.6		21.1	12.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	186	0	0	213	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔	↔		
Traffic Vol, veh/h	170	5	10	190	15	5
Future Vol, veh/h	170	5	10	190	15	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	4	4	5	5	5	5
Mvmt Flow	181	5	11	202	16	5

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	186	0	408	184
Stage 1	-	-	-	-	184	-
Stage 2	-	-	-	-	224	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1371	-	594	851
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	806	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1371	-	589	851
Mov Cap-2 Maneuver	-	-	-	-	589	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	799	-

Approach	EB	WB	NB			
HCM Control Delay, s	0	0.4	10.8			
HCM LOS			B			

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT		
Capacity (veh/h)	638	-	-	1371	-		
HCM Lane V/C Ratio	0.033	-	-	0.008	-		
HCM Control Delay (s)	10.8	-	-	7.6	0		
HCM Lane LOS	B	-	-	A	A		
HCM 95th %tile Q(veh)	0.1	-	-	0	-		

Lanes, Volumes, Timings  
200: Douglas Avenue & 3 Mile Road

Build Traffic  
AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR									
Lane Configurations	↑	↑↑↓		↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	↑									
Traffic Volume (vph)	30	100	55	90	115	85	45	375	95	80	455	50									
Future Volume (vph)	30	100	55	90	115	85	45	375	95	80	455	50									
Ideal Flow (vphpl)	1750	1809	1750	1750	1829	1750	1750	1829	1750	1750	1829	1750									
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12									
Grade (%)	0%			0%			0%			0%											
Storage Length (ft)	85			0			85			30											
Storage Lanes	1			0			1			1											
Taper Length (ft)	100			100			100			100											
Right Turn on Red	No			No			No			No											
Link Speed (mph)	35			35			35			35											
Link Distance (ft)	350			644			491			584											
Travel Time (s)	6.8			12.5			9.6			11.4											
Confl. Peds. (#/hr)																					
Confl. Bikes (#/hr)																					
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94									
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	62%	100%	100%	62%									
Heavy Vehicles (%)	7%	7%	7%	11%	11%	11%	4%	4%	4%	6%	6%	6%									
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0									
Parking (#/hr)																					
Mid-Block Traffic (%)	0%			0%			0%			0%											
Shared Lane Traffic (%)																					
Lane Group Flow (vph)	32	165	0	96	122	56	48	399	63	85	484	33									
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No									
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right									
Median Width(ft)	18			18			24			24											
Link Offset(ft)	0			0			0			0											
Crosswalk Width(ft)	16			16			16			16											
Two way Left Turn Lane																					
Headway Factor	1.11	1.07	1.11	1.11	1.05	1.11	1.11	1.05	1.11	1.11	1.05	1.11									
Turning Speed (mph)	15	9			15			9			15										
Turn Type	Perm	NA	Perm		NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm									
Protected Phases	4			8			5			2											
Permitted Phases	4			8			2			2											
Detector Phase	4			8			5			2											
Switch Phase																					
Minimum Initial (s)	15.0	15.0	15.0		15.0	15.0	6.0	20.0	20.0	6.0	20.0	20.0									
Minimum Split (s)	21.0	21.0	21.0		21.0	21.0	10.0	26.0	26.0	10.0	26.0	26.0									
Total Split (s)	46.0	46.0	46.0		46.0	46.0	29.0	96.0	96.0	29.0	96.0	96.0									
Total Split (%)	26.9%	26.9%	26.9%		26.9%	26.9%	26.9%	17.0%	56.1%	56.1%	17.0%	56.1%									
Maximum Green (s)	40.0	40.0	40.0		40.0	40.0	25.0	90.0	90.0	25.0	90.0	90.0									
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0									
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0									
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									
Total Lost Time (s)	6.0	6.0	6.0		6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0									
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag									
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes									
Vehicle Extension (s)	3.0	3.0	3.0		3.0	2.0	4.0	4.0	2.0	4.0	4.0	4.0									
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0									

Lanes, Volumes, Timings  
200: Douglas Avenue & 3 Mile Road

Build Traffic  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.11	0.20		0.35	0.14	0.15	0.10	0.33	0.12	0.17	0.37	0.06
Control Delay	17.8	17.6		22.1	17.3	18.2	6.3	14.7	14.1	6.7	13.7	12.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	17.6		22.1	17.3	18.2	6.3	14.7	14.1	6.7	13.7	12.7
Queue Length 50th (ft)	8	23		27	16	15	7	51	14	12	64	7
Queue Length 95th (ft)	27	46		66	35	41	18	87	38	28	103	23
Internal Link Dist (ft)		270			564			411			504	
Turn Bay Length (ft)	85			115		85	100		30	100		50
Base Capacity (vph)	798	2197		738	2264	968	809	3341	1430	794	3278	1403
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	0.04	0.08		0.13	0.05	0.06	0.06	0.12	0.04	0.11	0.15	0.02

Intersection Summary

Area Type: Other

Cycle Length: 171

Actuated Cycle Length: 55.7

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Description: Runs Free

Splits and Phases: 200: Douglas Avenue & 3 Mile Road



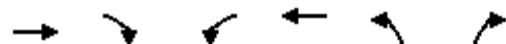
HCM 6th Signalized Intersection Summary  
200: Douglas Avenue & 3 Mile Road

Build Traffic  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑↓		↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	30	100	55	90	115	85	45	375	95	80	455	50
Future Volume (veh/h)	30	100	55	90	115	85	45	375	95	80	455	50
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1654	1710	1654	1600	1672	1600	1695	1772	1695	1668	1743	1668
Adj Flow Rate, veh/h	32	106	59	96	122	56	48	399	63	85	484	33
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	7	7	11	11	11	4	4	4	6	6	6
Cap, veh/h	401	559	292	369	860	367	451	1216	519	498	1271	542
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.06	0.36	0.36	0.08	0.38	0.38
Sat Flow, veh/h	1123	2063	1078	1044	3177	1356	1615	3367	1437	1589	3312	1414
Grp Volume(v), veh/h	32	82	83	96	122	56	48	399	63	85	484	33
Grp Sat Flow(s), veh/h/ln	1123	1625	1516	1044	1588	1356	1615	1683	1437	1589	1656	1414
Q Serve(g_s), s	1.2	2.1	2.3	4.3	1.6	1.7	1.0	4.8	1.6	1.8	5.8	0.8
Cycle Q Clear(g_c), s	2.8	2.1	2.3	6.7	1.6	1.7	1.0	4.8	1.6	1.8	5.8	0.8
Prop In Lane	1.00		0.71	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	401	440	410	369	860	367	451	1216	519	498	1271	542
V/C Ratio(X)	0.08	0.19	0.20	0.26	0.14	0.15	0.11	0.33	0.12	0.17	0.38	0.06
Avail Cap(c_a), veh/h	909	1174	1095	840	2295	980	1089	5473	2336	1089	5385	2298
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	15.5	15.6	18.1	15.3	15.4	9.9	12.8	11.8	9.4	12.3	10.8
Incr Delay (d2), s/veh	0.1	0.2	0.2	0.4	0.1	0.2	0.0	0.2	0.1	0.1	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.3	0.7	0.7	1.0	0.5	0.5	0.3	1.6	0.5	0.5	1.9	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.5	15.7	15.8	18.5	15.4	15.5	9.9	13.0	12.0	9.4	12.6	10.8
LnGrp LOS	B	B	B	B	B	B	A	B	B	A	B	B
Approach Vol, veh/h		197			274			510			602	
Approach Delay, s/veh		15.9			16.5			12.6			12.0	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	8.4	26.0		21.0	7.1	27.2		21.0				
Change Period (Y+R <sub>c</sub> ), s	4.0	6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s	25.0	90.0		40.0	25.0	90.0		40.0				
Max Q Clear Time (g_c+l1), s	3.8	6.8		4.8	3.0	7.8		8.7				
Green Ext Time (p_c), s	0.1	4.6		1.1	0.0	5.5		1.4				
Intersection Summary												
HCM 6th Ctrl Delay			13.5									
HCM 6th LOS			B									

Lanes, Volumes, Timings  
300: Site Driveway & 3 Mile Road

Build Traffic  
AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Volume (vph)	175	1	10	200	1	10
Future Volume (vph)	175	1	10	200	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)		35		35	25	
Link Distance (ft)	1085			1335	456	
Travel Time (s)	21.1			26.0	12.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	5%	5%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	187	0	0	224	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	175	1	10	200	1	10
Future Vol, veh/h	175	1	10	200	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	4	4	5	5	2	2
Mvmt Flow	186	1	11	213	1	11
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	187	0	422	187
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	235	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1369	-	588	855
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	804	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1369	-	583	855
Mov Cap-2 Maneuver	-	-	-	-	583	-
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	797	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.4	9.5			
HCM LOS			A			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	820	-	-	1369	-	
HCM Lane V/C Ratio	0.014	-	-	0.008	-	
HCM Control Delay (s)	9.5	-	-	7.7	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

Lanes, Volumes, Timings  
100: Wyoming Way & 3 Mile Road

Build Traffic  
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Volume (vph)	215	10	20	230	5	10
Future Volume (vph)	215	10	20	230	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)		35		35	25	
Link Distance (ft)		389		1085	441	
Travel Time (s)		7.6		21.1	12.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	3%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	234	0	0	261	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	215	10	20	230	5	10
Future Vol, veh/h	215	10	20	230	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	3	3	1	1
Mvmt Flow	224	10	21	240	5	10
Major/Minor						
Major1	Major2		Minor1			
	0	0	234	0	511	229
Conflicting Flow All	-	-	-	-	229	-
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	5.41	6.21
Critical Hdwy	-	-	4.13	-	5.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.227	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1328	-	524	813
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	768	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1328	-	515	813
Mov Cap-2 Maneuver	-	-	-	-	515	-
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	754	-
Approach						
EB	WB		NB			
	0	0.6	10.4			
HCM LOS			B			
Minor Lane/Major Mvmt						
NBLn1	EBT	EBR	WBL	WBT		
	682	-	-	1328		
Capacity (veh/h)	0.023	-	-	0.016		
HCM Lane V/C Ratio	10.4	-	-	7.8	0	
HCM Control Delay (s)	B	-	-	A	A	
HCM Lane LOS	0.1	-	-	0	-	
HCM 95th %tile Q(veh)						

Lanes, Volumes, Timings  
200: Douglas Avenue & 3 Mile Road

Build Traffic  
PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑↓		↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (vph)	40	135	60	110	130	105	65	550	160	100	585	60
Future Volume (vph)	40	135	60	110	130	105	65	550	160	100	585	60
Ideal Flow (vphpl)	1750	1809	1750	1750	1829	1750	1750	1829	1750	1750	1829	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	85		0	115		85	100		30	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		350			644			491			584	
Travel Time (s)		6.8			12.5			9.6			11.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	204	0	115	135	68	68	573	103	104	609	39
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		18			18			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.07	1.11	1.11	1.05	1.11	1.11	1.05	1.11	1.11	1.05	1.11
Turning Speed (mph)		15		9	15		9	15		9	15	9
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	6.0	20.0	20.0	6.0	20.0	20.0
Minimum Split (s)	21.0	21.0		21.0	21.0	21.0	10.0	26.0	26.0	10.0	26.0	26.0
Total Split (s)	46.0	46.0		46.0	46.0	46.0	29.0	96.0	96.0	29.0	96.0	96.0
Total Split (%)	26.9%	26.9%		26.9%	26.9%	26.9%	17.0%	56.1%	56.1%	17.0%	56.1%	56.1%
Maximum Green (s)	40.0	40.0		40.0	40.0	40.0	25.0	90.0	90.0	25.0	90.0	90.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	2.0	4.0	4.0	2.0	4.0	4.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

Lanes, Volumes, Timings  
200: Douglas Avenue & 3 Mile Road

Build Traffic  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.13	0.23		0.40	0.15	0.17	0.15	0.45	0.19	0.23	0.48	0.07
Control Delay	20.0	19.2		24.9	18.8	20.1	6.8	16.1	15.0	7.3	16.0	13.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	19.2		24.9	18.8	20.1	6.8	16.1	15.0	7.3	16.0	13.3
Queue Length 50th (ft)	11	28		33	18	18	9	80	24	15	84	9
Queue Length 95th (ft)	38	63		88	44	54	26	138	62	36	143	28
Internal Link Dist (ft)		270			564			411			504	
Turn Bay Length (ft)	85			115		85	100		30	100		50
Base Capacity (vph)	800	2251		734	2339	1001	797	3407	1458	790	3374	1444
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	0.05	0.09		0.16	0.06	0.07	0.09	0.17	0.07	0.13	0.18	0.03

Intersection Summary

Area Type: Other

Cycle Length: 171

Actuated Cycle Length: 58.7

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Description: Runs Free

Splits and Phases: 200: Douglas Avenue & 3 Mile Road



HCM 6th Signalized Intersection Summary  
200: Douglas Avenue & 3 Mile Road

Build Traffic  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↑		↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	40	135	60	110	130	105	65	550	160	100	585	60
Future Volume (veh/h)	40	135	60	110	130	105	65	550	160	100	585	60
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1736	1795	1736	1709	1786	1709	1723	1800	1723	1709	1786	1709
Adj Flow Rate, veh/h	42	141	62	115	135	68	68	573	103	104	609	39
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	3	3	3	2	2	2	3	3	3
Cap, veh/h	407	629	264	366	912	389	422	1226	523	445	1271	542
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.07	0.36	0.36	0.09	0.37	0.37
Sat Flow, veh/h	1165	2340	983	1077	3394	1448	1641	3421	1460	1628	3394	1448
Grp Volume(v), veh/h	42	101	102	115	135	68	68	573	103	104	609	39
Grp Sat Flow(s), veh/h/ln	1165	1705	1618	1077	1697	1448	1641	1710	1460	1628	1697	1448
Q Serve(g_s), s	1.6	2.6	2.7	5.2	1.7	2.0	1.4	7.2	2.7	2.1	7.6	1.0
Cycle Q Clear(g_c), s	3.3	2.6	2.7	8.0	1.7	2.0	1.4	7.2	2.7	2.1	7.6	1.0
Prop In Lane	1.00			1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	407	458	435	366	912	389	422	1226	523	445	1271	542
V/C Ratio(X)	0.10	0.22	0.23	0.31	0.15	0.17	0.16	0.47	0.20	0.23	0.48	0.07
Avail Cap(c_a), veh/h	929	1222	1160	848	2433	1038	1042	5518	2355	1034	5474	2336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	15.9	15.9	19.0	15.5	15.7	10.0	13.8	12.4	9.7	13.3	11.2
Incr Delay (d2), s/veh	0.1	0.2	0.3	0.5	0.1	0.2	0.1	0.4	0.3	0.1	0.4	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.4	0.9	0.9	1.2	0.6	0.6	0.4	2.4	0.8	0.6	2.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.9	16.1	16.2	19.5	15.6	15.9	10.0	14.2	12.6	9.8	13.7	11.3
LnGrp LOS	B	B	B	B	B	B	B	B	B	A	B	B
Approach Vol, veh/h						318			744			752
Approach Delay, s/veh						17.1			13.6			13.0
Approach LOS					B			B			B	
Timer - Assigned Phs	1	2		4	5	6			8			
Phs Duration (G+Y+R <sub>c</sub> ), s	8.8	26.0		21.0	7.9	26.9			21.0			
Change Period (Y+R <sub>c</sub> ), s	4.0	6.0		6.0	4.0	6.0			6.0			
Max Green Setting (Gmax), s	25.0	90.0		40.0	25.0	90.0			40.0			
Max Q Clear Time (g_c+l1), s	4.1	9.2		5.3	3.4	9.6			10.0			
Green Ext Time (p_c), s	0.1	7.1		1.3	0.1	7.2			1.5			
Intersection Summary												
HCM 6th Ctrl Delay				14.2								
HCM 6th LOS				B								

Lanes, Volumes, Timings  
300: Site Driveway & 3 Mile Road

Build Traffic  
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Volume (vph)	225	1	5	250	1	10
Future Volume (vph)	225	1	5	250	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			100		100	
Link Speed (mph)		35		35	25	
Link Distance (ft)		1085		1335	456	
Travel Time (s)		21.1		26.0	12.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	235	0	0	265	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔	↔		
Traffic Vol, veh/h	225	1	5	250	1	10
Future Vol, veh/h	225	1	5	250	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	1	1	3	3	2	2
Mvmt Flow	234	1	5	260	1	10
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	235	0	505	235
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	270	-
Critical Hdwy	-	-	4.13	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1326	-	527	804
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	775	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1326	-	525	804
Mov Cap-2 Maneuver	-	-	-	-	525	-
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	772	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.2	9.8			
HCM LOS			A			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	767	-	-	1326	-	
HCM Lane V/C Ratio	0.015	-	-	0.004	-	
HCM Control Delay (s)	9.8	-	-	7.7	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

## **APPENDIX D**

### **INTERSECTION AND STOPPING SIGHT DISTANCE TABLES/WORKSHEETS**

**3 Mile Road & Site Driveway**

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# ISD CALCULATIONS (TWSC)

Performed by: TADI - TSC Date: 4/7/2022  
Intersection: 3 Mile Road & Youth Center Driveway  
Community: Caledonia, Racine County, WI

Mainline Name: 3 Mile Road  
Sidestreet Name: Youth Center Driveway

Left-In Allowed?	<input checked="" type="checkbox"/>	Yes	P-vehicle Design Length:	<input type="text" value="19.0"/>	feet (P = 19.0. Overwrite if other design veh)
Left-Out Allowed?	<input checked="" type="checkbox"/>	Yes	SU-vehicle Design Length:	<input type="text" value="39.5"/>	feet (SU-40 = 39.5. Overwrite if other design veh)
Right-In Allowed?	<input checked="" type="checkbox"/>	Yes	WB-vehicle Design Length:	<input type="text" value="73.5"/>	feet (WB-67 = 73.5. Overwrite if other design veh)
Right-Out Allowed?	<input checked="" type="checkbox"/>	Yes			
Through-Out Allowed?	<input type="checkbox"/>	No			
Design Speed from Left:	40	mph	P	<input checked="" type="checkbox"/>	SU
Design Speed from Right:	40	mph	WB	<input type="checkbox"/>	<input type="checkbox"/>
Median Width:	0	feet			(place an "X")
Minor Street Approach Grade:	0.0%				
Number of Near Side Right & Bike:	0.00				
Number of Near Side Thru:	1.00				
Number of Far Side Thru:	1.00				
Number of Far Side Right & Bike:	0.00				
AASHTO or WisDOT:	AASHTO				

## ISD CASE B1: Left Turn from Minor Street or Median (driver looking right)

AASHTO MINIMUM ISD			WISDOT UPPER MINIMUM ISD		
P	SU	WB	P	SU	WB
Base Time Gap, sec:	7.50	9.50	11.50	10.00	12.00
Additional Time Gap 1, sec:	0.00	0.00	0.00	0.00	0.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	7.50	9.50	11.50	10.00	12.00
Case B1 ISD, feet:	440.0	557.3	674.7	586.7	704.0
Rounded Case B1 ISD, feet:	445	560	675	590	705

## ISD CASE B2: Right Turn from Minor Street (driver looking left)

AASHTO MINIMUM ISD			WISDOT UPPER MINIMUM ISD		
P	SU	WB	P	SU	WB
Base Time Gap, sec:	6.50	8.50	10.50	8.00	10.00
Additional Time Gap 1, sec:	0.00	0.00	0.00	0.00	0.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	6.50	8.50	10.50	8.00	10.00
Case B2 ISD, feet:	381.3	498.7	616.0	469.3	586.7
Rounded Case B2 ISD, feet:	385	500	620	470	590

## ISD CASE B3a: Crossing from Minor Street Traffic from Left (driver looking left)

AASHTO MINIMUM ISD			WISDOT UPPER MINIMUM ISD		
P	SU	WB	P	SU	WB
Base Time Gap, sec:	6.50	8.50	10.50	7.00	10.00
Additional Time Gap 1, sec:	0.00	0.00	0.00	0.00	0.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	6.50	8.50	10.50	7.00	10.00
Case B3a ISD, feet:	381.3	498.7	616.0	410.7	586.7
Rounded Case B3a ISD, feet:	385	500	620	415	590

## ISD CASE B3b: Crossing from Minor Street or Median (driver looking right)

AASHTO MINIMUM ISD			WISDOT UPPER MINIMUM ISD		
P	SU	WB	P	SU	WB
Base Time Gap, sec:	6.50	8.50	10.50	7.00	10.00
Additional Time Gap 1, sec:	-6.50	-8.50	-10.50	-7.00	-10.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	0.00	0.00	0.00	0.00	0.00
Case B3b ISD, feet:	0.0	0.0	0.0	0.0	0.0
Rounded Case B3b ISD, feet:	0	0	0	0	0

## ISD CASE F: Left from Major to Minor (driver looking to left of access towards oncoming traffic)

AASHTO MINIMUM ISD			WISDOT UPPER MINIMUM ISD		
P	SU	WB	P	SU	WB
Base Time Gap, sec:	5.50	6.50	7.50	8.00	8.00
Additional Time Gap 1, sec:	0.00	0.00	0.00	0.00	0.00
Additional Time Gap 2, sec:	N/A	N/A	N/A	N/A	N/A
Total Time Gap, sec:	5.50	6.50	7.50	8.00	8.00
Case F ISD, feet:	322.7	381.3	440.0	469.3	469.3
Rounded Case F ISD, feet:	325	385	445	470	470

## ISD CONTROLLING DISTANCES:

AASHTO MINIMUM ISD			WISDOT UPPER MINIMUM ISD		
P	SU	WB	P	SU	WB
To Left of Access:	385'	500'	620'	470'	590'
To Right of Access:	445'	560'	675'	590'	705'
Left-Turn from Mainline:	325'	385'	445'	470'	470'

# ISD CALCULATIONS (TWSC)

Performed by: TADI - TSC      Date: 4/7/2022  
 Intersection: 3 Mile Road & Youth Center Driveway  
 Community: Caledonia, Racine County, WI

Eye Height (start of Arrows): 3.5-ft for P, 7.6-ft for SU & WB  
 Object Height (head of Arrows): 3.5-ft  
 Eye Location: 14.5-ft from edge of traveled way

**North**

## Special Instructions

### 3 Mile Road

	AASHTO	
P	385'	470'
SU	500'	590'
WB	620'	765'

	AASHTO	GDHS
P	445'	590'
SU	560'	705'
WB	675'	765'

From Sidestreet  
From Sidestreet  
From Sidestreet

### 3 Mile Road

DRIVER Youth Center Driveway

### 3 Mile Road

	AASHTO	
P	325'	470'
SU	385'	470'
WB	445'	470'

DRIVER

### 3 Mile Road

Youth Center Driveway

# SSD CALCULATIONS

EB    WB    NB    SB

Design Speed:				
Deceleration (ft/s <sup>2</sup> ):	11.2	11.2	11.2	11.2
Estimated Grade (%):	0.0%	0.0%	0.0%	0.0%
Brake Reaction Time (s):	2.5	2.5	2.5	2.5
Brake Reaction (ft):	0.0	0.0	0.0	0.0
Braking Distance (ft):	0.0	0.0	0.0	0.0
Calculated SSD (ft):	0.0	0.0	0.0	0.0
Rounded SSD (ft):	0	0	0	0

Default rate is 11.2 ft/s<sup>2</sup> per AASHTO GDHS

Positive is uphill, negative is downhill

Default rate is 2.5s per AASHTO GDHS

Eye Height (upstream of object to be seen): 3.5-ft

Object Height (downstream of motorist): 2.0-ft

## Special Instructions

**Sight Distance Values<sup>5</sup>**

DESIGN SPEED MPH	STOPPING SIGHT DISTANCE <sup>1</sup>	SIGHT DISTANCE - FEET					PASSING SIGHT DISTANCE <sup>1, 3, 4</sup>	
		DECISION SIGHT DISTANCE <sup>1</sup>						
		AVOIDANCE MANEUVER <sup>2</sup>						
		A	B	C	D	E		
25	155	---	---	---	---	---	900	
30	200	220	490	450	535	620	1090	
35	250	275	590	525	625	720	1280	
40	305	330	690	600	715	825	1470	
45	360	395	800	675	800	930	1625	
50	425	465	910	750	890	1030	1835	
55	495	535	1030	865	980	1135	1985	
60	570	610	1150	990	1125	1280	2135	
65	645	695	1275	1050	1220	1365	2285	
70	730	780	1410	1105	1275	1445	2480	

**Notes**

- 1 From Chapter 3, GDHS 2001 and GDHS 2004 (values are identical in both editions).
- 2 Avoidance maneuver A: Stop on rural road - t = 3.0 s  
 Avoidance maneuver B: Stop on urban road - t = 9.1s  
 Avoidance maneuver C: Speed/path/direction change on rural road - t varies between 10.2 and 11.2 s  
 Avoidance maneuver D: Speed/path/direction change on suburban road - t varies between 12.1 and 12.9 s  
 Avoidance maneuver E: Speed/path/direction change on urban road - t varies between 14.0 and 14.5 s
- 3 See Chapter 3 of the Wisconsin Traffic Engineering, Operations and Safety Manual (TEOpS) for No passing zone standards.
- 4 See [Attachment 5.8](#) for vertical curve design for Passing Sight Distance.
- 5 See [Attachment 5.2](#) for Sight Distance Categories and Application