



## CITY of NOVI CITY COUNCIL

Agenda Item L  
July 12, 2010

**SUBJECT:** Approval to award an amendment to the engineering services contract for construction engineering services related to the Beck Road at Cider Mill Road Traffic Signal Installation project, to URS Corporation (URS), for a not-to-exceed fee of \$11,907.

**SUBMITTING DEPARTMENT:** Department of Public Services, Engineering Division *BIC*

**CITY MANAGER APPROVAL:** 

EXPENDITURE REQUIRED	\$11,907
AMOUNT BUDGETED	\$211,710 (Engineering & Construction)
LINE ITEM NUMBER	204-204.00-863.092

### BACKGROUND INFORMATION:

As part of the Beck Road Scoping Study and Beck Road Paving Project in 2007, a traffic signal warrant study (attached) was completed by our traffic consultant at the time, Orchard Hiltz & McCliment. The study determined that a new traffic signal is warranted at Beck Road and Cider Mill Road. The intersection was widened as part of the Beck Road repaving project in 2007 in anticipation of the future signal. URS was awarded the design engineering component of this project on September 28, 2009.

The signal construction will also include upgrades to the sidewalk ramps within the intersection to comply with Americans with Disabilities Act standards. The signal design and construction will be coordinated with Road Commission for Oakland County staff who operate and maintain Novi's traffic signals. A location map has been enclosed for reference.

The construction phase engineering fees are determined using two components: 1) the contract administration fee, which is determined using the fee percentage in Exhibit B of the Agreement For Professional Engineering Services for Public Projects, and 2) the construction inspection fee determined using a cost per inspection (crew) day from Exhibit B of the consultant's agreement that is then multiplied by the number of days of inspection specified by the contractor. The construction phase fees for this project include a contract administration fee of \$7,602 (5.3% of \$143,432 construction bid) and an inspection fee of \$4,305 (\$615 per crew day, multiplied by the 7 days provided in the contractor's bid) for a total not-to-exceed fee of \$11,907.

The construction contract award is also being considered elsewhere on this agenda. Construction is scheduled to begin in July/August 2010 and completion is anticipated in September 2010.

**RECOMMENDED ACTION:** Approval to award an amendment to the engineering services contract for construction engineering services related to the Beck Road at Cider Mill Road Traffic Signal Installation project, to URS Corporation (URS), for a not-to-exceed fee of \$11,907.

	1	2	Y	N
Mayor Landry				
Mayor Pro Tem Gatt				
Council Member Crawford				
Council Member Fischer				

	1	2	Y	N
Council Member Margolis				
Council Member Mutch				
Council Member Staudt				



**MAP INTERPRETATION NOTICE**

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximations and should not be construed as survey measurements performed by a Licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

# City Of Novi



0 87.5 175 250 525 700  
Feet

## Beck Road and Cider Mill Signal





**FIRST AMENDMENT TO THE  
SUPPLEMENTAL PROFESSIONAL ENGINEERING SERVICES AGREEMENT**

**BECK ROAD AT CIDER MILL SIGNAL**

First Amended Agreement between the City of Novi, 45175 W. Ten Mile Road, Novi, MI 48375-3024, hereafter, "City," and URS Corporation – Great Lakes., whose address is 27777 Franklin Road, Suite 2000, Southfield, MI 48034, hereafter, "Consultant," relating to modifications of the fee basis for engineering services. The following sections of the Supplemental Professional Engineering Services Agreement, as made and entered into on November 9, 2010 shall be amended as follows:

**Section 2. Payment for Professional Engineering Services.** The following Paragraphs shall be amended as follows:

1. Basic Fee.

a. *Unchanged*

b. Delete 1.b. in its entirety and replace with the following language:  
Construction Phase Services: The Consultant shall complete the construction phase services as described herein according to the fee schedule as described below:

i. Contract Administration: The Consultant shall complete Contract Administration services for a lump sum fee of \$7,602, which is 5.3% of the awarded construction cost (\$143,432) as indicated on the Design and Construction Engineering Fee Curve , attached. Construction Inspection: The Consultant shall complete Construction Inspection services for \$615 per crew day as described in the request for proposals. "Crew days" shall be defined by the construction contract documents as an 8 hour day. Crew days shall be billed in 4 hour increments rounded to the next half day, therefore a 10 hour day shall be 1.5 crew days, a 3 hour day is 0.5 crew days, a 6 hour day shall be 1.0 crew days. The minimum crew day charged for a no-show by the contractor shall be 2 hours (0.25 crew days) which is reflective of the actual cost to the Consultant for traveling to the site and traveling back to the office. There will be no payment to the consultant for extra crew days that were not charged to the contractor. The Consultant acknowledges that intent of using crew days for inspection services is to provide a method for the consultant to recoup costs associated with slow progress by the contractor.

2. *Unchanged*

Except as specifically set forth in this First Amendment, the Supplemental Professional Engineering Services Agreement remains in full force and effect.

WITNESSES

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
By:  
Its:

The foregoing \_\_\_\_\_ was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_, by \_\_\_\_\_ on behalf  
\_\_\_\_\_.

\_\_\_\_\_  
Notary Public  
\_\_\_\_\_ County, Michigan  
My Commission Expires: \_\_\_\_\_

WITNESSES

CITY OF NOVI

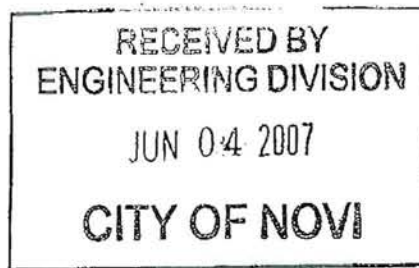
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
By:  
Its:

The foregoing \_\_\_\_\_ was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_, by \_\_\_\_\_ on behalf of the City of Novi.

\_\_\_\_\_  
Notary Public  
Oakland County, Michigan  
My Commission Expires: \_\_\_\_\_



May 30, 2007

Mr. Rob Hayes, P.E.  
Novi City Engineer  
45175 W. Ten Mile Road  
Novi, MI 48375

Re: Traffic Signal Warrant Study – Beck Road at Cider Mill Boulevard

Dear Mr. Hayes:

Orchard, Hiltz & McCliment, Inc. (OHM) is pleased to submit this traffic signal warrant analysis for the Beck Road at Cider Mill Boulevard intersection between 10 and 11 Mile Roads. Based on our analysis, this location meets one warrant for the installation of a traffic signal. The following represents a summary of the data collected, the procedures used for our analysis and the results compared to the warrants contained in the 2005 edition of Michigan Manual of Uniform Traffic Control Devices (MMUTCD).

### **Roadway Description**

The major road, Beck Road, is a 40 mph, two lane road with one lane for each direction of travel. At the intersection of Cider Mill Boulevard with Beck Road, there is not a dedicated left-turn lane on Beck Road, but there are deceleration and acceleration tapers. The intersection is located approximately 2,330 feet north of 10 Mile Road (a signalized intersection). In addition, the intersection of Beck Road and 11 Mile Road, located approximately 2,925 feet north of the intersection, is also signalized. Beck Road is a relatively flat and straight road between 10 and 11 Mile Roads.

Cider Mill Boulevard at the intersection is a two-lane road with shared through-left and shared through-right lanes on each approach. Thus, we used the warrants associated with two-lane approaches to the major road.

### **Traffic and Crash Data Collection**

24-hour traffic counts were collected for both Cider Mill Boulevard approaches and two-way along Beck Road from Monday, May 21, to Thursday, May 24, 2007. A summary of this data is attached for your information. We noted that the peak period for traffic exiting the site was generally from 7:00 to 8:00 a.m., during which traffic ranged from 99 to 112 for westbound and from 80 to 93 for eastbound Cider Mill Boulevard. During the same period, traffic on Beck Road averaged 1,566 vehicles per hour, total for both directions.

In addition to volume data, a delay study was conducted for both eastbound and westbound Cider Mill Boulevard approaches on Wednesday, May 30, 2007. Data was collected from 7:00 to 8:00 a.m. A summary of this information is also included, and is discussed below in the section on peak hour delay.

Finally, recent crash data for the intersection was obtained from Traffic Improvement Association for the year 2004, 2005 and 2006. Based on the provided crash data, only 9 crashes were reported within the vicinity of the intersection. The crashes consisted of four rear ends, two side-swipes, two single vehicles

and an angle crash. The crashes were dispersed about the intersection. The crash data and collision diagram has been attached.

### Traffic Signal Warrants

Having completed the data collection process, we next evaluated the information against the various warrants, or criteria, for the installation of a traffic signal. Traffic signals should not be considered for installation unless one or more of the signal warrants defined in the MMUTCD are met. The warrants and how this location compared are as follows:

#### Warrant 1 – Eight Hour Vehicular Volume (70% Factor)

**Note: If the posted or statutory speed limit or the 85<sup>th</sup>-percentile speed on the major street exceeds 40 mph the 70 percent columns from the MMUTCD may be used in place of the 100 percent columns. Due to the 85<sup>th</sup>-percentile speeds on Beck Road of approximately 45 mph (from previous Beck Road Speed Study by OHM), we are using the 70 percent numbers for Warrants 1, 2 and 3. The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exists for each of any 8 hours of an average day:**

- A. The vehicles per hour given in both of the columns of Condition A exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or
- B. The vehicles per hour given in both of the columns of Condition B exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these hours.

Condition A – Minimum Vehicular Volume			
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)	Vehicles per hour on higher-volume minor-street approach (one direction only)
<u>Major Street</u> 1	<u>Minor Street</u> 2 or more	350	140

From the data available, we note that at no point does the westbound driveway (higher-volume minor-street approach) exceed the minor thresholds for Condition A.

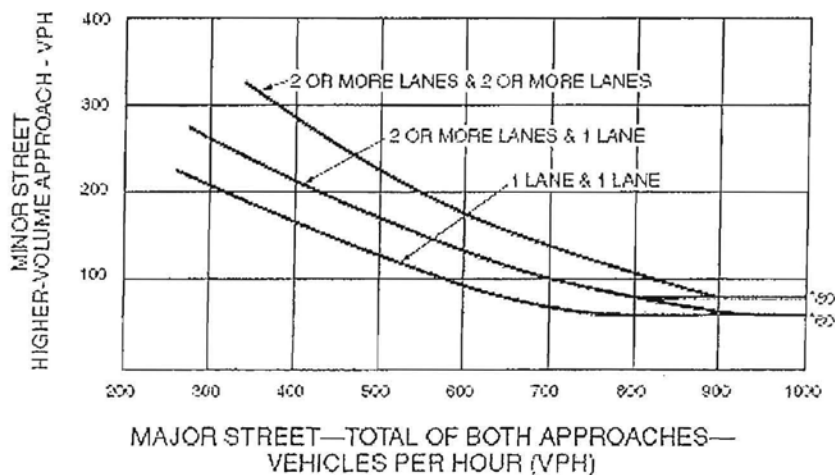
Condition B – Interruption of Continuous Traffic			
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)	Vehicles per hour on higher-volume minor-street approach (one direction only)
<u>Major Street</u> 1	<u>Minor Street</u> 2 or more	525	70



From the data available, we note that for only 3 hours does the westbound driveway (higher-volume minor-street approach) exceed the minor thresholds for Condition B. Therefore, Warrant 1 is not met for signalization.

### Warrant 2 – Four-Hour Vehicular Volume (70% Factor)

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in the figure below for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.



\*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

From the data available, we note that for only 2 hours does the minor-street approach exceed 80 vehicles per hour. Therefore, Warrant 2 is not met for signalization.

### Warrant 3 – Peak Hour (70% Factor)

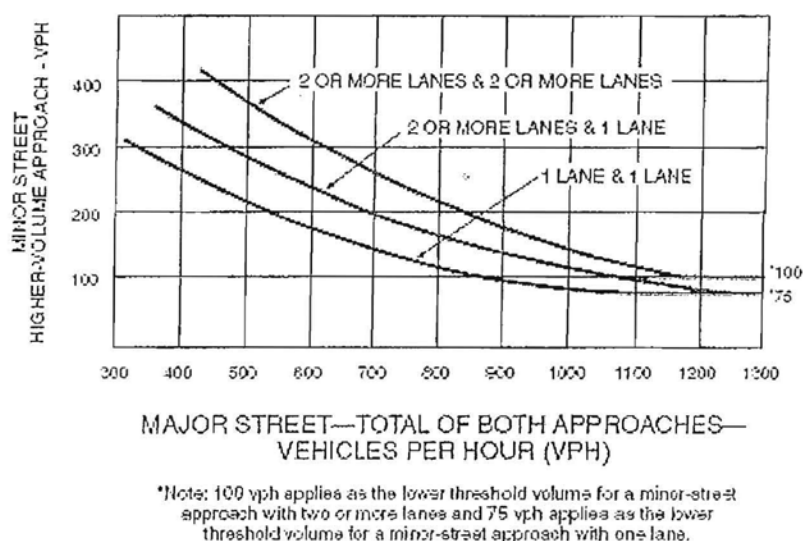
The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

- A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:
  1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle hours for a two-lane approach, and
  2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and
  3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersection with four or more approaches.



From the delay study data, the total vehicles hours of delay during the a.m. peak period is only 0.66 vehicles hours, which is well below the 5 vehicle hours required for a two-lane approach to meet Category A. Therefore, the criteria for Category A are not met.

- B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in the figure below for the existing combination of approach lanes.



From the data available, we note that for 1 hour (7 a.m., WB Cider Mill Boulevard 112, Beck Road 1551) the traffic volumes are above the curve in the figure above. Therefore, the criterion for Category B is met.

Due to the need to only satisfy either Category A or B, Warrant 3 is met for signalization.

#### Warrant 4 – Pedestrian Volumes

The need for a traffic control signal at an intersection crossing shall be considered if an engineering study finds that both of the following criteria are met:

- The pedestrian volume crossing the major street at an intersection during an average day is 100 or more for each of any 4 hours or 190 or more during any 1 hour; and
- There are fewer than 60 gaps per hour in the traffic stream of adequate length to allow pedestrians to cross during the same period when the pedestrian volume criterion is satisfied. Where there is a divided street having a median of sufficient width for pedestrians to wait, the requirement applies separately to each direction of vehicular traffic.

This intersection is not a high pedestrian location. The number of pedestrians crossing the major street is less than 100 total per day. Therefore, Warrant 4 is not met for signalization.

### **Warrant 5 – School Crossing**

The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the children are using the crossing is less than the number of minutes in the same period and there are a minimum of 20 students during the highest crossing hour.

This intersection is not a school crossing location. Therefore, Warrant 5 is not met for signalization.

### **Warrant 6 – Coordinated Signal System**

The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:

- A. On a one-way street or a street that has traffic predominantly in one direction; the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.
- B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

A signal is not required in this location to improve platooning of vehicles for adjacent signals. Therefore Warrant 6 is not met for signalization.

### **Warrant 7 – Crash Experience**

The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

- A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency.
- B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and
- C. There has to exist a volume of vehicular and pedestrian traffic no less than 80% of the requirements specified in either Minimum Vehicular Volume, Interruption of Continuous Traffic (Warrant 1) or Pedestrian Volumes (Warrant 3).

The crash frequency at this intersection is three per year with only two personal injury crashes over the 3 year period from 2004 through 2006. Therefore, Warrant 7 is not met for signalization.

### **Warrant 8 – Roadway Network**

The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:

- A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or

- B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).

A major route as used in this signal warrant shall have one or more of the following characteristics:

- A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or
- B. It includes rural or suburban highways outside, entering, or traversing a City; or
- C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

As described above there is only one major route at this intersection (Beck Road). Therefore, Warrant 8 does not apply for this intersection and is not met for signalization.

### **Analysis**

Based on the evaluation of the signal warrants this location meets Warrant 3 – Peak Hour. This makes it eligible for **consideration** of a signal installation.

Although the Peak Hour Warrant is met, it should be noted that this warrant is intended for use at locations where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. From the delay study, it is apparent that the delay to Cider Mill Boulevard is minimal at this time. For the eastbound Cider Mill Boulevard approach, the approach experiencing the most delay during the peak period, the average stopped time per vehicle is 27 seconds, with the longest single vehicle stopped time of 103 seconds. The average queue was less than 1 vehicle and the maximum queue was only 7 vehicles.

With the installation of a traffic signal, vehicles on eastbound Cider Mill Boulevard would expect to continue experiencing over 20 seconds of delay. Although minimal, the signal would also introduce delay to Beck Road that is not there today.

Also, if a signal were to be installed, the boulevard section along Cider Mill Boulevard may pose a problem for the left turning vehicles. The boulevard section does not allow for the left turn lanes to properly line up across the intersection. When Cider Mill Boulevard receives the green indication, there is a potential for left turn overlap, possibly leading to collisions.

### **Recommendations**

At this time we are recommending against traffic signal installation. We find the delay experienced on Cider Mill Boulevard to be minimal. However, the intersection should continue to be monitored for a possible future signal installation.

If the City determines to proceed with a traffic signal installation at this location, we recommend:

1. The installation to be installed as semi-actuated. Due to this location only needing a signal in the peak hour, the signal should dwell green for Beck Road throughout the day with detection on Cider Mill Boulevard.



May 30, 2007  
Mr. Rob Hayes  
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2. Left turn lanes should be added along Beck Road at the intersection with Cider Mill Boulevard.
3. The Cider Mill Boulevard medians should be modified to better align the left-turn lanes.

We hope you find this information useful. Please advise if you have any questions.

Sincerely,  
**ORCHARD, HILTZ & MCCLIMENT, INC.**

A handwritten signature in black ink, appearing to read "S. Loveland". The signature is fluid and cursive, with a large initial "S" and a long, sweeping underline.

**Steven M. Loveland, P.E.**  
**Traffic Project Engineer**

# **APPENDIX A**

## **TRAFFIC VOLUME DATA**





Latitude: 0.000

Start Time	Mon 21-May-07	Tue 22-May-07	Wed 23-May-07	Thu 24-May-07	Fri 25-May-07	Average Day	Sat 26-May-07	Sun 27-May-07	Week Average
12:00 AM	*	6	1	2	*	3	*	*	3
01:00	*	2	3	1	*	2	*	*	2
02:00	*	0	0	0	*	0	*	*	0
03:00	*	2	1	1	*	1	*	*	1
04:00	*	1	0	1	*	1	*	*	1
05:00	*	21	19	20	*	20	*	*	20
06:00	*	69	79	*	*	74	*	*	74
07:00	*	93	80	*	*	86	*	*	86
08:00	*	78	54	*	*	66	*	*	66
09:00	*	24	24	*	*	24	*	*	24
10:00	*	28	20	*	*	24	*	*	24
11:00	*	29	28	*	*	28	*	*	28
12:00 PM	18	28	35	*	*	27	*	*	27
01:00	29	35	38	*	*	34	*	*	34
02:00	33	35	34	*	*	34	*	*	34
03:00	43	39	46	*	*	43	*	*	43
04:00	42	51	51	*	*	48	*	*	48
05:00	46	48	41	*	*	45	*	*	45
06:00	35	65	42	*	*	47	*	*	47
07:00	36	37	23	*	*	32	*	*	32
08:00	25	22	26	*	*	24	*	*	24
09:00	12	13	17	*	*	14	*	*	14
10:00	12	13	17	*	*	14	*	*	14
11:00	11	4	6	*	*	7	*	*	7
Day Total	342	743	685	25	0	698	0	0	698
% Avg. WkDay	49.0%	106.4%	98.1%	3.6%	0.0%				
% Avg. Week	49.0%	106.4%	98.1%	3.6%	0.0%	100.0%	0.0%	0.0%	
AM Peak Volume		07:00 93	07:00 80	05:00 20		07:00 86			07:00 86
PM Peak Volume	17:00 46	18:00 65	16:00 51			16:00 48			16:00 48
Grand Total	342	743	685	25	0	698	0	0	698
ADT	Not Calculated								

Latitude: 0.000

Start Time	Mon 21-May-07	Tue 22-May-07	Wed 23-May-07	Thu 24-May-07	Fri 25-May-07	Average Day	Sat 26-May-07	Sun 27-May-07	Week Average
12:00 AM	*	2	7	1	*	3	*	*	3
01:00	*	4	5	3	*	4	*	*	4
02:00	*	1	6	4	*	4	*	*	4
03:00	*	3	1	1	*	2	*	*	2
04:00	*	2	5	2	*	3	*	*	3
05:00	*	22	18	18	*	19	*	*	19
06:00	*	48	50	*	*	49	*	*	49
07:00	*	112	99	*	*	106	*	*	106
08:00	*	95	86	*	*	90	*	*	90
09:00	*	56	59	*	*	58	*	*	58
10:00	*	49	37	*	*	43	*	*	43
11:00	*	45	44	*	*	44	*	*	44
12:00 PM	46	60	63	*	*	56	*	*	56
01:00	55	40	41	*	*	45	*	*	45
02:00	39	53	52	*	*	48	*	*	48
03:00	36	54	63	*	*	51	*	*	51
04:00	58	50	54	*	*	54	*	*	54
05:00	93	74	74	*	*	80	*	*	80
06:00	58	60	67	*	*	62	*	*	62
07:00	53	50	53	*	*	52	*	*	52
08:00	33	36	38	*	*	36	*	*	36
09:00	23	22	27	*	*	24	*	*	24
10:00	6	11	17	*	*	11	*	*	11
11:00	8	10	6	*	*	8	*	*	8
Day Total	508	959	972	29	0	952	0	0	952
% Avg. WkDay	53.4%	100.7%	102.1%	3.0%	0.0%				
% Avg. Week	53.4%	100.7%	102.1%	3.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak Volume		07:00 112	07:00 99	05:00 18		07:00 106			07:00 106
PM Peak Volume	17:00 93	17:00 74	17:00 74			17:00 80			17:00 80
Grand Total	508	959	972	29	0	952	0	0	952

ADT Not Calculated

# **APPENDIX B**

## **DELAY STUDY**



OHM, Inc.  
 34000 Plymouth Road  
 Livonia, MI 48150  
 Engineering Advisors

File Name : stop delay 700-800  
 Site Code : 00000001  
 Start Date : 5/30/2007  
 Page No : 1

Summary Information:	WB CIDER MILL	EB CIDER MILL
7:00:00 AM - 8:00:00 AM	Lane 1	Lane 2
Total Vehicle Count:	123	87
Delayed Vehicle Count:	123	87
Through Vehicle Count:	0	0
Average Stopped Time:	14.41	26.954
Maximum Stopped Time:	65	103
Min. Secs. for Delay:	0	0
Average Queue:	0.50	0.657
Queue Density:	1.56	1.524
Maximum Queue:	4	7
Delay in Vehicle Hour:	0.51	0.6570468
Total Delay:	1773	2345

# **APPENDIX C**

## **CRASH DATA**

### Intersection Crash Report

Dates: 01/01/2004 - 12/31/2006  
 Roads: Beck Rd / N (2.40 - 2.48)  
 Cider Mill Dr / E (0 - 0.04)

Criteria:

### TIA Traffic Crash Analysis Tool

Report Printed On 5/15/2007

#1

**Location:** BECK RD (2.45) 0 feet X of CIDER MILL DR **Serial #:** 8942981  
**Veh Dir Action Prior 1st Event 2nd Event 3rd Event 4th Event Hazard Action Veh Type Damage**  
 N go straight veh in transpt none none none unable to stop car ctrfrnt  
 N slow/stop on rd veh in transpt veh in transpt none none none car ctrfrnt  
 N left turn veh in transpt none none none none pickup ctrrear  
**CVT: 62 Date/Hr/Day:** 11/24/2006 / 4pm / Fri **#k/pi:** 0/0 **Wthr:** clear **Rd:** dry **Lt:** day **Area:** strght.unrel **How:** rr-end **HBD:** 0

#2

**Location:** BECK RD (2.41) 200 feet S of CIDER MILL RD **Serial #:** 8943327  
**Veh Dir Action Prior 1st Event 2nd Event 3rd Event 4th Event Hazard Action Veh Type Damage**  
 S go straight veh in transpt none none none unable to stop car ctrfrnt  
 S stop on road veh in transpt none none none none car ctrrear  
**CVT: 62 Date/Hr/Day:** 12/01/2006 / 5pm / Fri **#k/pi:** 0/0 **Wthr:** snow **Rd:** wet **Lt:** dark/unltd **Area:** strght.unrel **How:** rr-end **HBD:** 0

#3

**Location:** BECK RD (2.45) 0 feet X of CIDERMILL RD **Serial #:** 7567940  
**Veh Dir Action Prior 1st Event 2nd Event 3rd Event 4th Event Hazard Action Veh Type Damage**  
 N go straight veh in transpt none none none unable to stop car ctrfrnt  
 N stop on road veh in transpt none none none none car ctrrear  
**CVT: 62 Date/Hr/Day:** 07/05/2006 / 4pm / Wed **#k/pi:** 0/2 **Wthr:** clear **Rd:** dry **Lt:** unkn **Area:** unkn **How:** rr-lt **HBD:** 0

#4

**Location:** CIDER MILL DR (0.00) 3 feet E of BECK RD **Serial #:** 8942988  
**Veh Dir Action Prior 1st Event 2nd Event 3rd Event 4th Event Hazard Action Veh Type Damage**  
 E right turn loss of control veh in transpt none none left of center pickup ctrfrnt  
 W slow/stop on rd veh in transpt none none none none car lftfrnt  
**CVT: 62 Date/Hr/Day:** 12/04/2006 / 5pm / Mon **#k/pi:** 0/0 **Wthr:** snow **Rd:** snowy **Lt:** dark/unltd **Area:** w/i intersection **How:** ss-opp **HBD:** 0

#5

**Location:** N BECK RD (2.48) 200 feet N of CIDER MILL DR **Serial #:** 6743811  
**Veh Dir Action Prior 1st Event 2nd Event 3rd Event 4th Event Hazard Action Veh Type Damage**  
 N go straight animal none none none none none car rtrfrnt  
**CVT: 62 Date/Hr/Day:** 12/20/2004 / 5pm / Mon **#k/pi:** 0/0 **Wthr:** clear **Rd:** slushy **Lt:** dark/unltd **Area:** strght.unrel **How:** single **HBD:** 0

#6

**Location:** N BECK RD (2.43) 100 feet S of CIDER MILL RD **Serial #:** 8191843  
**Veh Dir Action Prior 1st Event 2nd Event 3rd Event 4th Event Hazard Action Veh Type Damage**  
 N change lanes veh in transpt none none none none none car lftside  
 S go straight veh in transpt none none none none none van lftside  
**CVT: 62 Date/Hr/Day:** 11/07/2005 / 12am / Mon **#k/pi:** 0/0 **Wthr:** clear **Rd:** unkn **Lt:** day **Area:** strght.unrel **How:** ss-opp **HBD:** 0

#7

**Location:** N BECK RD (2.45) 0 feet X of CIDERMILL **Serial #:** 8192063  
**Veh Dir Action Prior 1st Event 2nd Event 3rd Event 4th Event Hazard Action Veh Type Damage**  
 N go straight animal none none none none none none car lftside  
**CVT: 62 Date/Hr/Day:** 11/20/2005 / 5pm / Sun **#k/pi:** 0/0 **Wthr:** cloudy **Rd:** dry **Lt:** dusk **Area:** w/i intersection **How:** single **HBD:** 0

#8

**Location:** S BECK (2.45) 20 feet W of CIDERMILL **Serial #:** 8943104  
**Veh Dir Action Prior 1st Event 2nd Event 3rd Event 4th Event Hazard Action Veh Type Damage**  
 E unknown none none none none none none car ctrfrnt  
 S left turn veh in transpt none none none none none none van rtrear  
**CVT: 62 Date/Hr/Day:** 10/28/2006 / 3pm / Sat **#k/pi:** 0/1 **Wthr:** cloudy **Rd:** wet **Lt:** day **Area:** w/i intersection **How:** angle **HBD:** 0

#9

**Location:** S BECK RD (2.45) 0 feet X of CIDERMILL ST **Serial #:** 8679765  
**Veh Dir Action Prior 1st Event 2nd Event 3rd Event 4th Event Hazard Action Veh Type Damage**  
 S go straight veh in transpt none none none none none unable to stop van ctrfrnt  
 S stop on road veh in transpt none none none none none none smltruck ctrrear  
**CVT: 62 Date/Hr/Day:** 10/30/2006 / 3pm / Mon **#k/pi:** 0/0 **Wthr:** clear **Rd:** dry **Lt:** day **Area:** strght.unrel **How:** rr-end **HBD:** 0

**Crash Type**

Count	Type
2	single
1	angle
3	rr-end
1	rr-lt
2	ss-opp
<b>Totals: 9</b>	

**Light Condition**

Count	Type
1	unkn
4	day
1	dusk
3	dark/unltd
<b>Totals: 9</b>	

**Weather**

Count	Type
5	clear
2	cloudy
2	snow
<b>Totals: 9</b>	

**Road Condition**

Count	Type
1	unkn
4	dry
2	wet
1	snowy
1	slushy
<b>Totals: 9</b>	

**Vehicle Type**

Count	Type
0	unkn
11	car
2	pickup
0	mcycle
0	go-cart
0	orv/atv
0	truck/bus
3	van
1	smltruck
0	moped
0	snowmobile
0	other
<b>Totals: 17</b>	

**Crashes By Month**

Count	Type
1	July
2	October
3	November
3	December
<b>Totals: 9</b>	

**Hazardous Action**

Count	Type
11	none
0	too fast
0	too slow
0	fail to yield
0	disrgd traf ctl
0	wrong way
1	left-of center
0	improp passing
1	improp lane use
0	improp turn
0	improp/no signl
0	improp backing
4	unable to stop
0	other
0	unknown
0	reck driving
0	negl driving
<b>Totals: 17</b>	

**Crash Severity**

	FATAL	A	B	C	No Inj	Total
Persons	0	0	0	3	25	28
Crashes	0	0	0	2	7	9

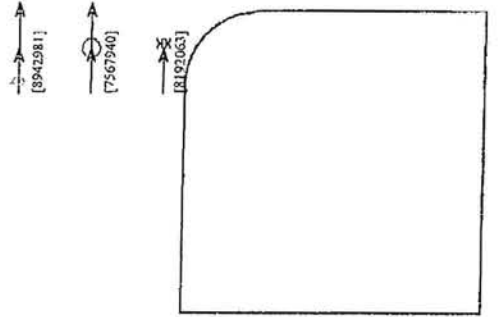
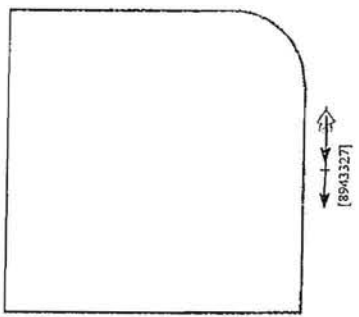
**Alcohol in Crashes**

	FATAL	PI	PD	Total
Drinking	0	0	0	0
Not Drinking	0	2	7	9
<b>Total</b>	<b>0</b>	<b>2</b>	<b>7</b>	<b>9</b>



Time Period	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Unknown	Totals
12a - 1a	0	0	0	0	0	0	0	0	0
1a - 2a	0	0	0	0	0	0	0	0	0
2a - 3a	0	0	0	0	0	0	0	0	0
3a - 4a	0	0	0	0	0	0	0	0	0
4a - 5a	0	0	0	0	0	0	0	0	0
5a - 6a	0	0	0	0	0	0	0	0	0
6a - 7a	0	0	0	0	0	0	0	0	0
7a - 8a	0	0	0	0	0	0	0	0	0
8a - 9a	0	0	0	0	0	0	0	0	0
9a - 10a	0	0	0	0	0	0	0	0	0
10a - 11a	0	0	0	0	0	0	0	0	0
11a - 12p	0	0	0	0	0	0	0	0	0
12p - 1p	0	1	0	0	0	0	0	0	1
1p - 2p	0	0	0	0	0	0	0	0	0
2p - 3p	0	0	0	0	0	0	0	0	0
3p - 4p	0	1	0	0	0	0	1	0	2
4p - 5p	0	0	0	1	0	1	0	0	2
5p - 6p	1	2	0	0	0	1	0	0	4
6p - 7p	0	0	0	0	0	0	0	0	0
7p - 8p	0	0	0	0	0	0	0	0	0
8p - 9p	0	0	0	0	0	0	0	0	0
9p - 10p	0	0	0	0	0	0	0	0	0
10p - 11p	0	0	0	0	0	0	0	0	0
11p - 12a	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>9</b>

9 Crashes



(0) crashes could not be placed in this schematic

- ← Straight
- ←| Stopped
- ← Unknown
- ↔ Backing
- ↔ Overtaking
- ↔ Sideswipe

- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn

- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

- Fixed objects:
- General
  - Signal
  - Tree
  - Pole
  - Curb
  - Animal
  - 3rd vehicle
  - Extra data