

# CMAP FY 2016-2020 CMAQ PROJECT APPLICATION

## TRAFFIC FLOW IMPROVEMENTS

I. PROJECT IDENTIFICATION					
Project Sponsor Algonquin Township Road District			Contact Information – Name, Title, Agency, Address, Phone, e-mail (e-mail required) Robert J. Miller Highway Commissioner Algonquin Township Highway Department 3702 U.S. Highway 14 Crystal Lake, Illinois 60014-8204 (847) 639-2700 Fax: (847) 639-4529 bobmiller@mc.net (add email below if sending attachments) commissionerbob@hotmail.com		
Other Agencies Participating In Project McHenry County					
<input checked="" type="checkbox"/> New Project	TIP ID if project already has one				
<input type="checkbox"/> Existing CMAQ Project					
<input type="checkbox"/> Add CMAQ to Existing Project					
II. PROJECT LOCATION					
<ul style="list-style-type: none"> <li>• Projects not readily identified by location must provide a title on the last line of this section</li> <li>• Attach a map sufficient to accurately locate this project in a GIS system</li> </ul>					
Name Of Street Or Facility To Be Improved Crystal Lake Road				Marked Route #	
Project Limits: North/West Reference Point/Cross St/Intersection Silver Lake Trail				Marked Route # N/A	Municipality & County Algonquin Township, McHenry
Project Limits: South/East Reference Point/Cross St/Intersection Silver Lake Road				Marked Route # N/A	Municipality & County Algonquin Township, McHenry
Other Project Location Information Or Project Title					
III. PROJECT FINANCING & CMAQ FUNDING REQUEST					
Please review the <a href="#">instructions</a> .					
	Starting Federal Fiscal Year*	Total Phase Costs	(New) CMAQ Funds Requested	Other Federal Funds Including prior CMAQ awards	
				Fund Type	Amount
Engineering Phase 1	2013	\$ 100,000	\$		\$
Engineering Phase 2	2016	\$ 212,000	\$ 169,600		\$
Right-Of-Way Acquisition	2016	\$ 218,000	\$ 174,400		\$
Construction (Including Construction Engineering)	2018	\$ 2,070,000	\$ 1,656,000		\$
Engineering (For Implementation Projects)		\$	\$		\$
Implementation		\$	\$		\$
Alternatives Analysis		\$	\$		\$
*Phase must be accomplished within 3 years					
Total Project Costs		\$ 2,600,000	\$ 2,000,000		
Source Of Local Matching Funds		Township has budgeted Phase II and ROW acquisition. Township and County are committed to Phase III local match funding for FFY 2018; an IGA with cost shares is being prepared and will be approved shortly.			
If Soft Matching Funds Are Intended To Be Used, Please Contact CMAP Staff.					
Have the Matching Funds Been Secured? (Provide Details):		Township has secured funds for Phase II, ROW acquisition, and construction. McHenry County has secured funds (\$250,000) for construction.			

# CMAP FY 2016-2020 CMAQ PROJECT APPLICATION

## TRAFFIC FLOW IMPROVEMENTS – PAGE 2

### IV. PROJECT EMISSIONS BENEFIT DATA

Type of Project (Check All that Apply):

Intersection Type: <input checked="" type="checkbox"/> Roundabout <input type="checkbox"/> Restricted Crossing U-Turn (J-Turn) <input type="checkbox"/> Median U-Turn <input type="checkbox"/> Diverging Diamond Interchange <input type="checkbox"/> Conventional	Bottleneck Eliminations: <input type="checkbox"/> Highway-Rail Grade Separation <input type="checkbox"/> Two-Way Left Turn Lane <input type="checkbox"/> Realignment	<input type="checkbox"/> Remove Obstruction <input type="checkbox"/> Vertical Clearance <input type="checkbox"/> Truck Route Improvement
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Turn Lanes: <input type="checkbox"/> Add Dual Left Turn Lanes <input type="checkbox"/> Add Single Left Turn Lanes <input type="checkbox"/> Add Right Turn Lanes <input type="checkbox"/> Multiple Turn Lane Types	Reconstruction: <input type="checkbox"/> Full Intersection Reconstruction (existing signal) <input type="checkbox"/> Traditional Interchange Reconstruction	Signals: <input type="checkbox"/> Signal Modernization <input type="checkbox"/> New Signalization
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Project Length (Miles – Bottleneck Elimination And Multiple Intersections Only): \_\_\_\_\_

Posted Speeds (Miles Per Hour For Each Street): 30 mph for all streets

Bi-Directional AADTs by Approach: North Leg (North Approach): 1,700; South Leg: 9,800;  
 West Leg: 8,100 ; East Leg: 7,900;  
 Year: 2013

Do queues currently clear on the major street at signalized intersections in the pm peak period?  Yes  No

Are the subject roadways included as part of the Congestion Management Process Highway System?  Yes  No

Is the project location identified in IDOT's 5% Safety Location report?  Yes  No  
 If "Yes" is checked, indicate in the project description how the project will address the safety issues.

Will bicycle facilities be added as part of this project?  Yes  No  
 If "Yes" is checked, describe the bicycle facility in the project description providing details asked for on the bicycle facility application form.

### V. PROGRAM MANAGEMENT INFORMATION

Is right-of-way acquisition required for this project?  Yes  No  
 If so, has right-of-way been acquired?  Yes  No

Preliminary Design Status:  N.A.  Not Begun  Agreement executed by Central Office  Engineering Underway  
 Submitted for review  Responding to review comments  
 Agreement sent to District 1 for signatures  Design approval granted  
 Date approval is anticipated or was granted: 9/30/2014 Signed PDR cover page attached

Estimated Completion Year: **2018**

### VI. PROJECT DESCRIPTION

Please describe project, including any qualitative travel time reliability improvements listed on pages 8-9 of application booklet.

This project is also strongly supported by McHenry County and the Village of Cary.

This project will significantly improve traffic flow at an existing all way stop-controlled intersection by installing a less expensive, safer and greener single lane free-flowing modern roundabout over traffic signals where Crystal Lake Road (Minor Arterial to the west, Major Collector to the east) and Silver Lake Road (Minor Arterial) intersect. The Algonquin Township Road District (Road District) studied the intersection in 2004 and determined traffic signals were warranted. The significant cost to install signals prevented the Road District from moving forward with a 100% local funded project. Road District explored all funding options and intersection improvement alternatives and ultimately decided to apply for CMAQ funding in 2011 for a free-flowing modern roundabout. The CMAQ Application was ranked favorably, but not high enough to secure CMAQ funding. Road District did not apply for CMAQ funding in 2013 as there was inadequate time to complete Phase I Engineering. To improve the project's viability, Road District began a 100% locally funded Phase I Study in August 2013 and received Design Approval on September 30, 2014. The Phase I Study confirmed the need for intersection improvements and Road District ultimately selected the free-flowing modern roundabout.

The goal of this project is to reduce congestion by significantly altering the operational characteristics of this key south-eastern McHenry County intersection. The existing stop-controlled intersection will be replaced with a free-flowing modern roundabout. Since the early-1990's when area residential development expanded, traffic flow through the Crystal Lake Road and Silver Lake Road intersection has been a concern. This intersection is located immediately west of two schools, Cary Junior High School and Deer Path

Elementary, a fire station, golf course in a golf course community setting, commercial development and Oak Hill Daycare are located at or near the intersection. The intersection is also east of the new Pingree Road Metra Station which provides service to Chicago.

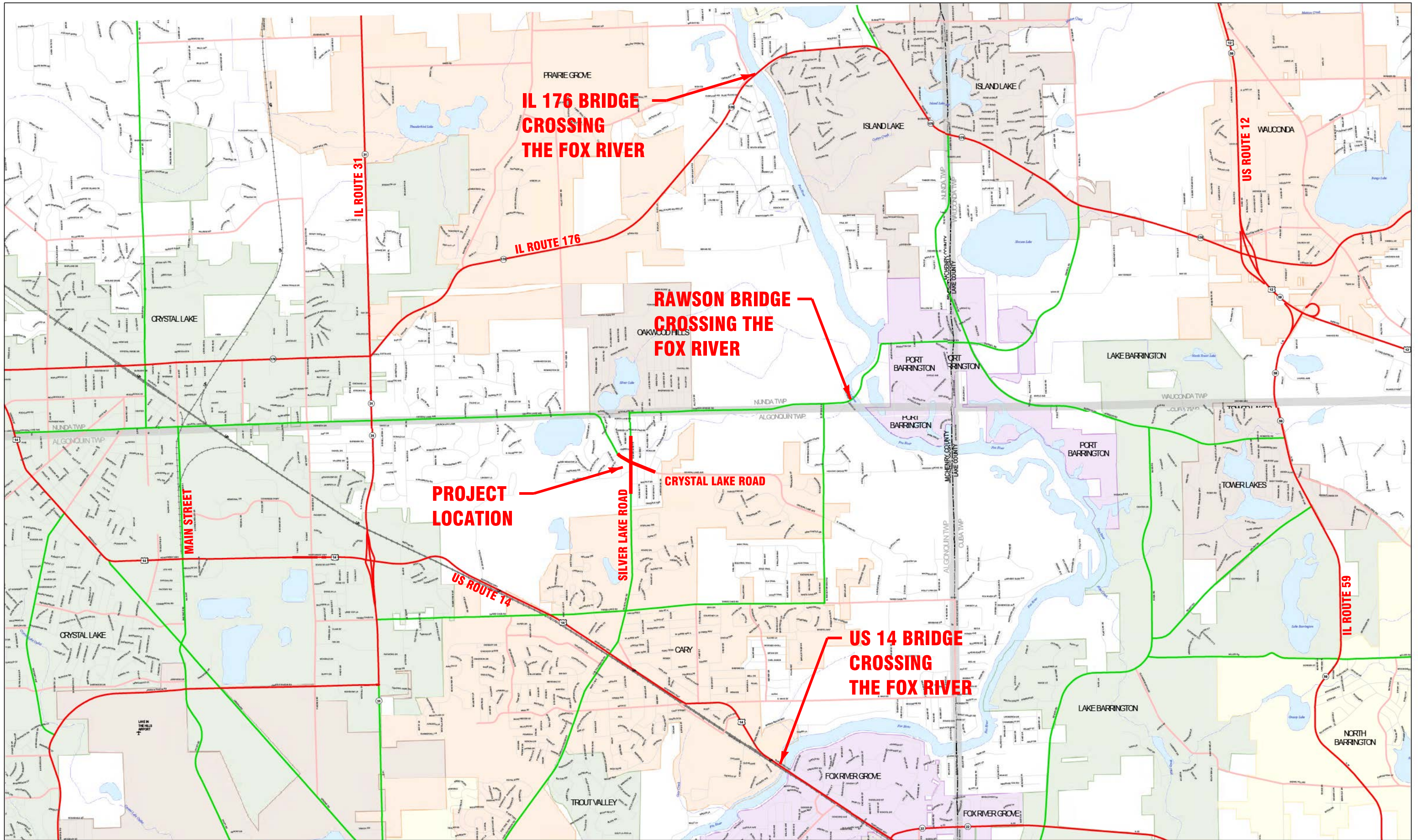
This intersection has regional importance for southeast McHenry County and southwest Lake County residents. The intersection is located in the most densely populated portion of McHenry County with Crystal Lake to the west and Cary to the south and east and the Village of Oakwood Hills to the north. Densely populated areas are located to the east of the intersection in south west Lake County, including Island Lake and Port Barrington. This intersection funnels east-west and north-bound traffic to the only crossing of the Fox River for approximately 10-miles. The Rawson Bridge Road bridge is approximately 2-miles to the east. The crossing on Illinois Route 176 to the north is approximately 3-miles away and the crossing on U.S. Route 14 (SRA) is approximately 7-miles to the south.

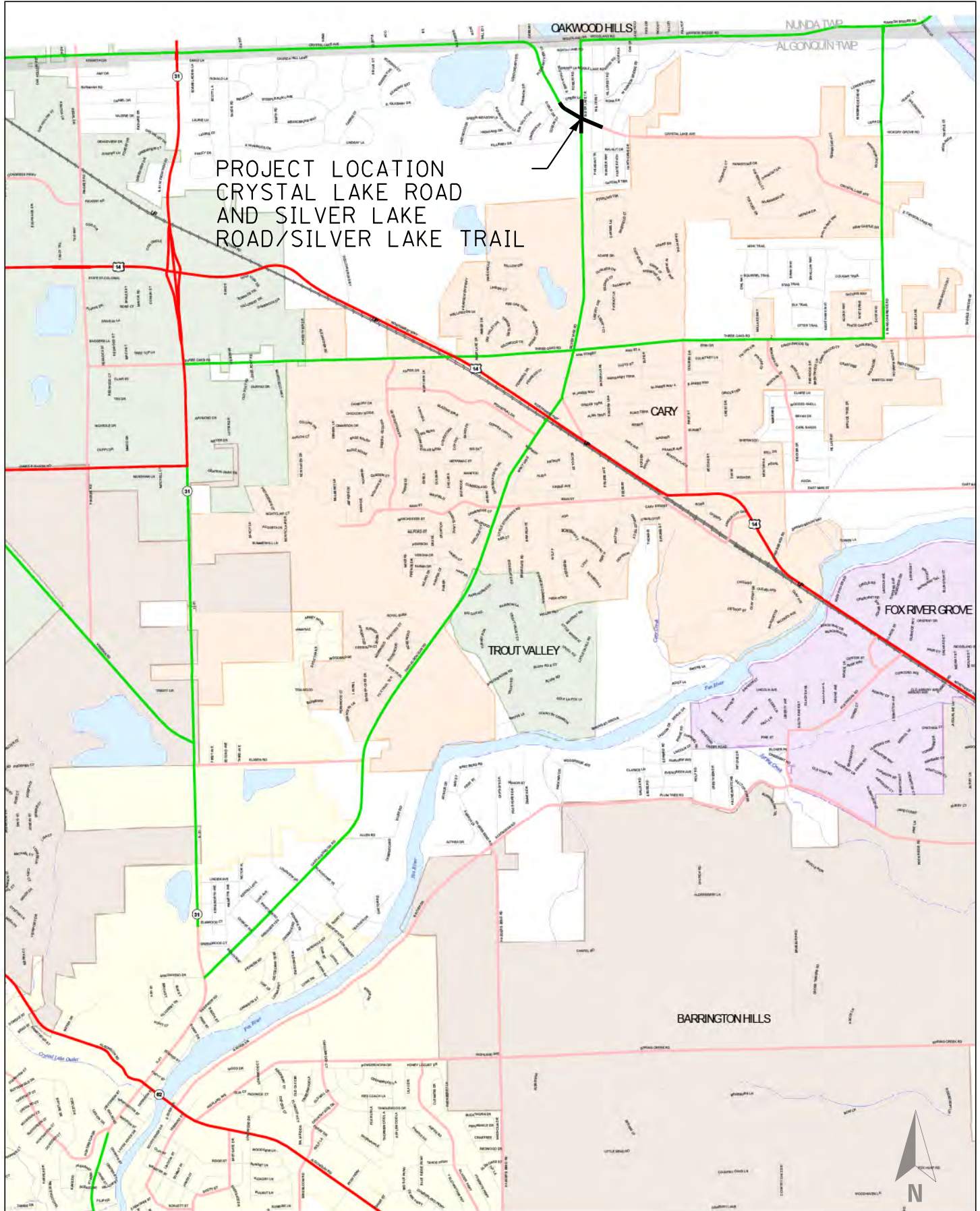
Crystal Lake Road pavement is 22-feet wide, consisting of 2 – 11-foot travel lanes and 4-foot asphalt shoulders. Silver Lake Trail north-bound pavement is 33-feet wide (3 – 11-foot lanes consisting of left-turn, combination through-right and departure lane) and 4-foot asphalt shoulders. Silver Lake Road south-bound pavement is 22-feet wide, consisting of 2 – 11-foot travel lanes and 4-foot asphalt shoulders.

This project will provide a free-flowing modern roundabout, eliminating the need for the short three lane cross-section on north-bound Silver Lake Road. This three lane cross-section causes significant confusion for traffic during the PM peak travel period. With the majority of north-bound vehicles turning left, the through and right-turn vehicles are forced to queue with the left turn vehicles until they reach the designated through-right lane.

With the current lane configuration of the all-way stop control, the existing intersection operates at a **LOS C** in the **PM**, with queues observed in the field to extend over 300 feet on the east and south legs. The low **LOS** is attributed to the east leg which operates at **LOS C** in the **PM**. The provision of a free-flowing modern roundabout can improve **LOS** to **A** in the **PM**, with queues of the west and south legs reduced to less than 70 feet. The existing intersection operates at a lower LOS in the AM condition.

I:\CrystalLake\ALONT\0929-Roundabout\CADD\Drawings\Exhibits\0929-RegionalLocation\_McHenry\_County\_Meeting.dgn  
2/26/2015





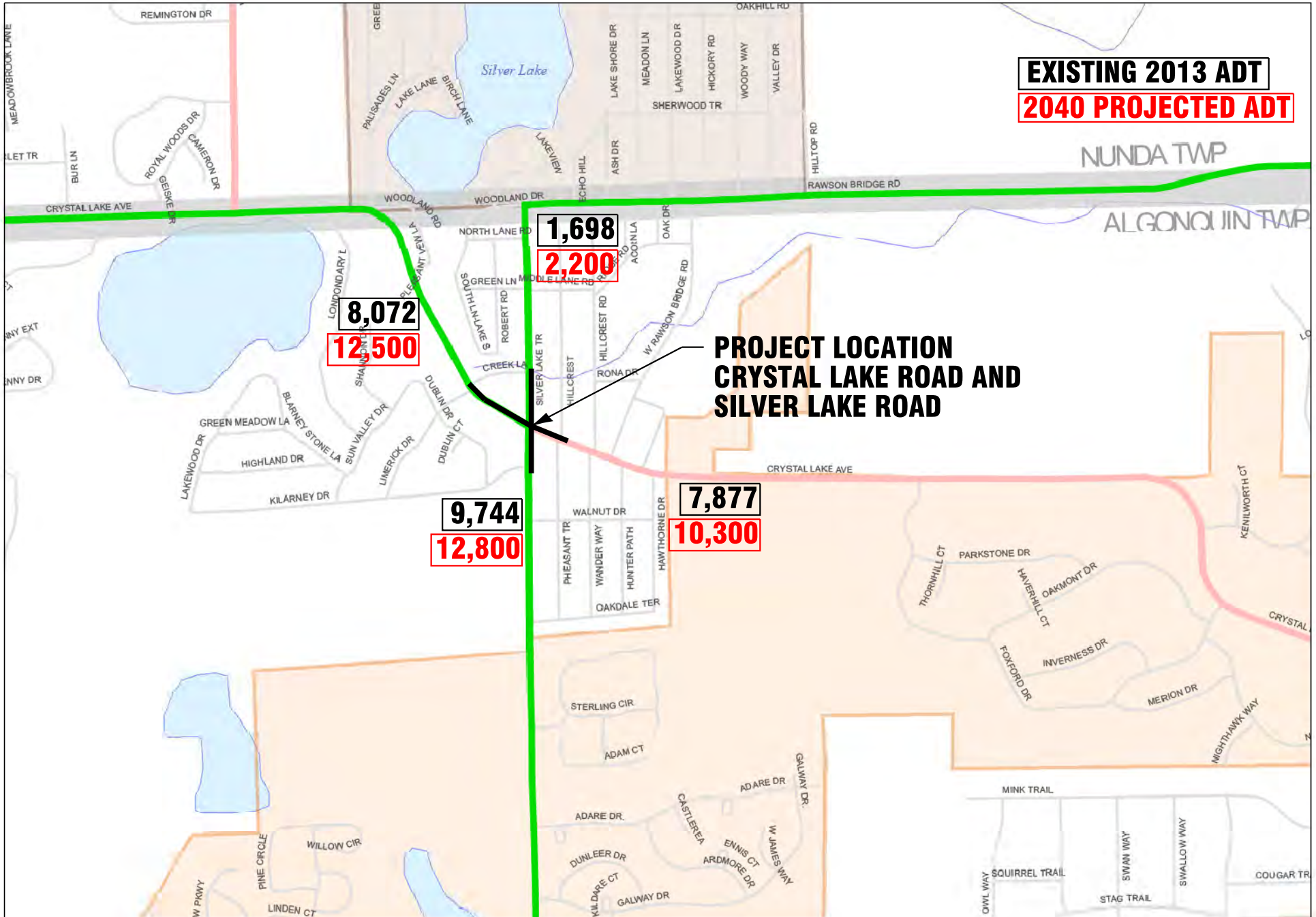
PROJECT LOCATION  
 CRYSTAL LAKE ROAD  
 AND SILVER LAKE  
 ROAD/SILVER LAKE TRAIL



**ALGONQUIN TOWNSHIP ROAD DISTRICT**  
**CRYSTAL LAKE ROAD AND SILVER LAKE ROAD /SILVER LAKE TRAIL**  
**INTERSECTION IMPROVEMENTS**  
**REGIONAL PROJECT LOCATION MAP**

**EXHIBIT**  
**1A**





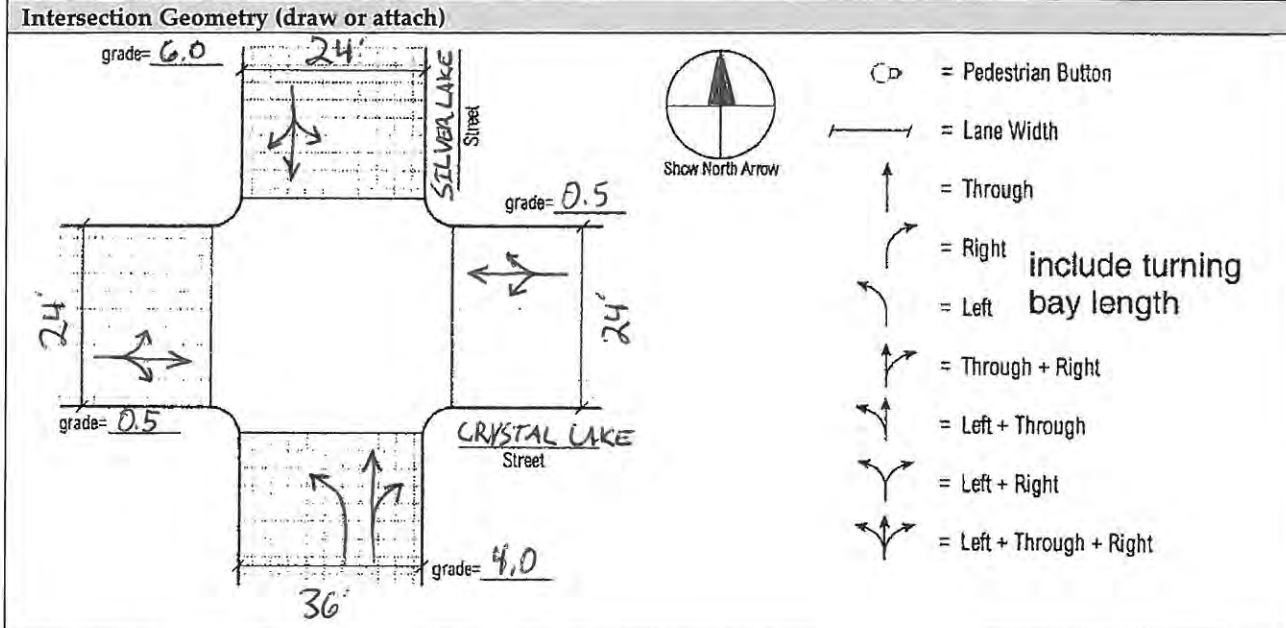
**CMAQ FY 2016-2020 INPUT MODULE WORKSHEET**

Before Improvement

(Complete one worksheet for before conditions and one worksheet for after conditions)

After Improvement

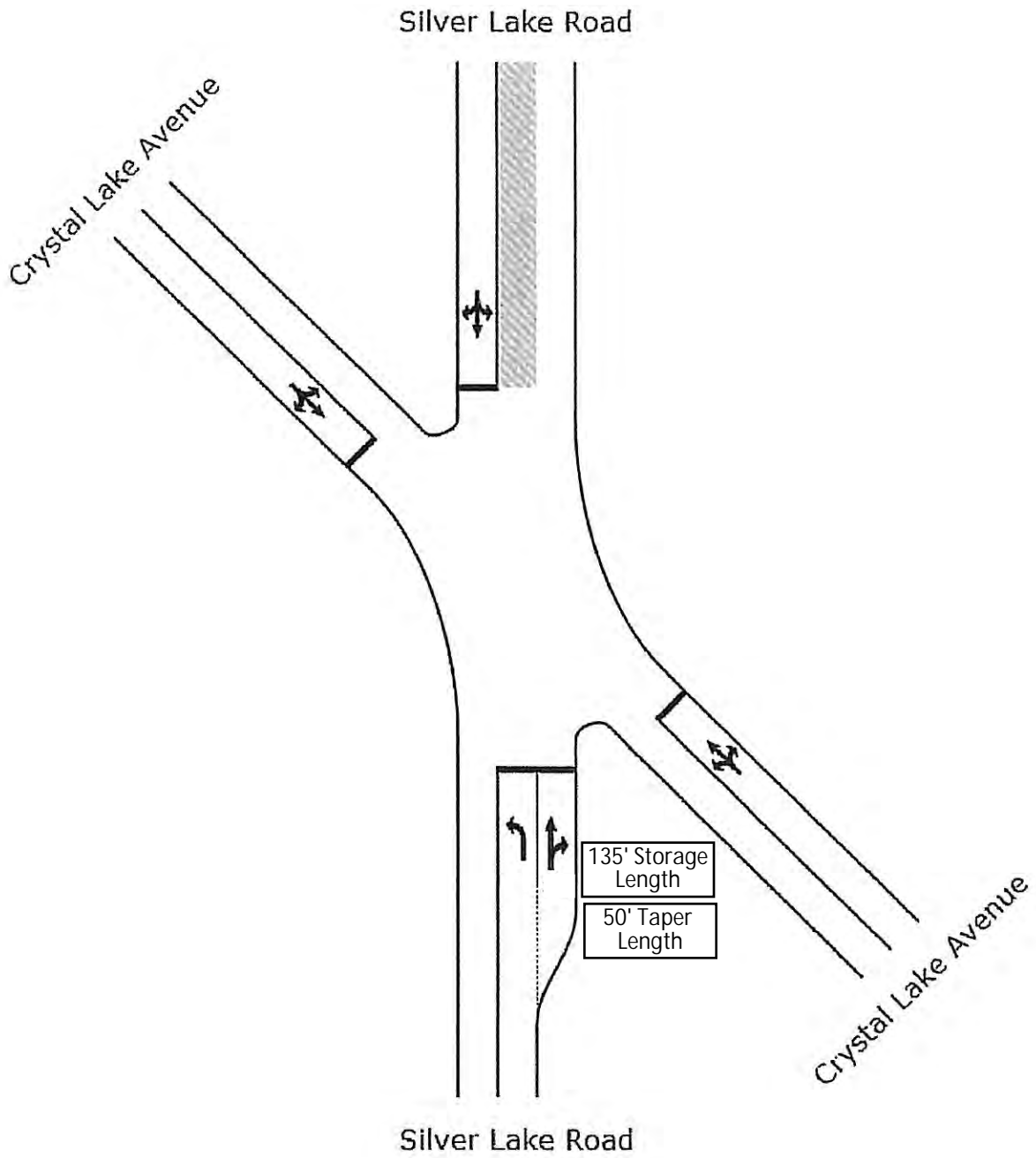
General Information	Site Information
Analysis Time Period: <u>PM Peak</u>	Intersection <u>Crystal Lake Road at Silver Lake Road/Silver Lake Trail</u>
Analysis Year <u>2013</u>	Area Type <input type="checkbox"/> CBD <input checked="" type="checkbox"/> Other      Jurisdiction <u>Algonquin Township</u>



Volume and Timing Input	EB			WB			NB			SB		
	LT	TH	RT <sup>1</sup>	LT	TH	RT <sup>1</sup>	LT	TH	RT <sup>1</sup>	LT	TH	RT <sup>1</sup>
Volume, V (veh/h)	6	128	162	190	158	1	241	57	133	2	57	14
% heavy vehicles, % HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF												
Pretimed (P) or actuated (A)												
Start-up lost time, I <sub>l</sub> (s)												
Extension of effective green time, e (s)												
Arrival type, AT				ALL WAY STOP CONTROL								
Approach pedestrian volume, <sup>2</sup> v <sub>ped</sub> (p/h)												
Approach bicycle volume, <sup>2</sup> v <sub>bic</sub> (bicycles/h)				SEE ATTACHED ANALYSIS								
Parking (Y or N)												
Parking maneuvers, N <sub>m</sub> , (maneuvers/h)												
Bus Stopping, N <sub>s</sub> (buses/h)												
Min. timing for pedestrians, <sup>3</sup> G <sub>p</sub> (s)												

Signal Phasing Plan								
Diagram	01	02	03	04	05	06	07	08
Timing	G= Y=	G= Y=	G= Y=	G= Y=	G= Y=	G= Y=	G= Y=	G= Y=
	Protected turns			Permitted turns Pedestrian			Cycle length, C = _____ s	

- Notes**
1. RT volumes, as shown, exclude ROR
  2. Approach pedestrian and bicycle volumes are those that conflict with right turns from the subject approach.
  3. Refer to Equation 16-2





## ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	JDM	Intersection	Crystal Lake st Silver Lake
Agency/Co.	Baxter & Woodman, Inc.	Jurisdiction	Algonquin Township Rd Dist.
Date Performed	2/9/2015	Analysis Year	2013
Analysis Time Period	PM Peak		

Project ID ALGNT 110929.33

East/West Street: Crystal Lake Road

North/South Street: Silver Lake Road/Trail

### Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	6	128	162	190	158	1
%Thrus Left Lane						

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	241	57	133	2	57	14
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		L	TR	LTR	
PHF	0.95		0.95		0.95	0.95	0.95	
Flow Rate (veh/h)	310		367		253	200	76	
% Heavy Vehicles	0		0		0	0	0	
No. Lanes	1		1		2		1	
Geometry Group	2		2		5		4a	
Duration, T	0.25							

### Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.5		1.0	0.0	0.0	
Prop. Right-Turns	0.5		0.0		0.0	0.7	0.2	
Prop. Heavy Vehicle	0.0		0.0		0.0	0.0	0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.5	0.5	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	-0.3		0.1		0.5	-0.5	-0.1	

### Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20	3.20	3.20	
x, initial	0.28		0.33		0.22	0.18	0.07	
hd, final value (s)	5.88		6.16		7.22	6.21	7.01	
x, final value	0.51		0.63		0.51	0.35	0.15	
Move-up time, m (s)	2.0		2.0		2.3		2.0	
Service Time, t <sub>s</sub> (s)	3.9		4.2		4.9	3.9	5.0	

### Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	560		563		479	450	326	
Delay (s/veh)	14.77		19.01		17.13	12.15	11.22	
LOS	B		C		C	B	B	
Approach: Delay (s/veh)	14.77		19.01		14.93		11.22	
LOS	B		C		B		B	
Intersection Delay (s/veh)	15.90							
Intersection LOS	C							

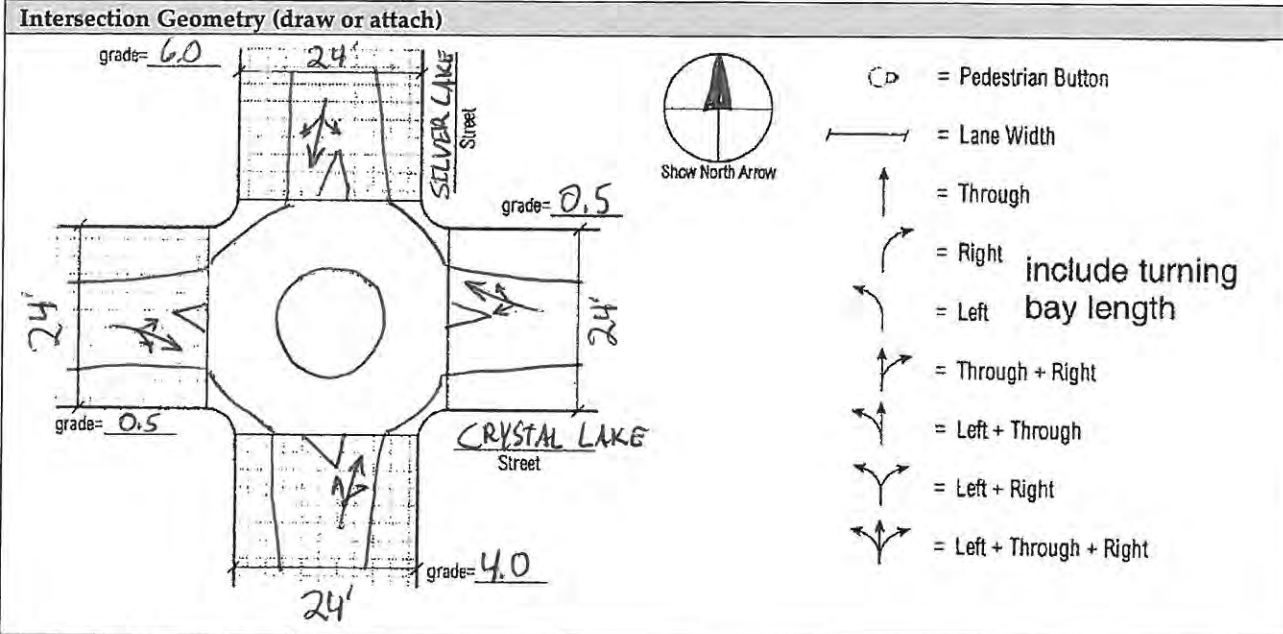
# CMAQ FY 2016-2020 INPUT MODULE WORKSHEET

Before Improvement

(Complete one worksheet for before conditions and one worksheet for after conditions)

After Improvement

General Information	Site Information
Analysis Time Period: <u>PM Peak</u>	Intersection <u>Crystal Lake Road at Silver Lake Road/Silver Lake Trail</u>
Analysis Year <u>2013</u>	Area Type <input type="checkbox"/> CBD <input checked="" type="checkbox"/> Other      Jurisdiction <u>Algonquin Township</u>



**Volume and Timing Input**

	EB			WB			NB			SB		
	LT	TH	RT <sup>1</sup>	LT	TH	RT <sup>1</sup>	LT	TH	RT <sup>1</sup>	LT	TH	RT <sup>1</sup>
Volume, V (veh/h)	6	128	162	190	158	1	241	57	133	2	57	14
% heavy vehicles, % HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF												
Pretimed (P) or actuated (A)												
Start-up lost time, I <sub>l</sub> (s)												
Extension of effective green time, e (s)												
Arrival type, AT				<b>ROUNDABOUT</b>								
Approach pedestrian volume, <sup>2</sup> v <sub>ped</sub> (p/h)				<b>SEE ATTACHED ANALYSES</b>								
Approach bicycle volume, <sup>2</sup> v <sub>bic</sub> (bicycles/h)				<b>SEE ATTACHED ANALYSES</b>								
Parking (Y or N)												
Parking maneuvers, N <sub>m</sub> , (maneuvers/h)												
Bus Stopping, N <sub>b</sub> (buses/h)												
Min. timing for pedestrians, <sup>3</sup> G <sub>p</sub> (s)												

**Signal Phasing Plan**

Diagram	01	02	03	04	05	06	07	08
Timing	G= Y=	G= Y=	G= Y=	G= Y=	G= Y=	G= Y=	G= Y=	G= Y=
Protected turns			Permitted turns Pedestrian			Cycle length, C = _____ s		

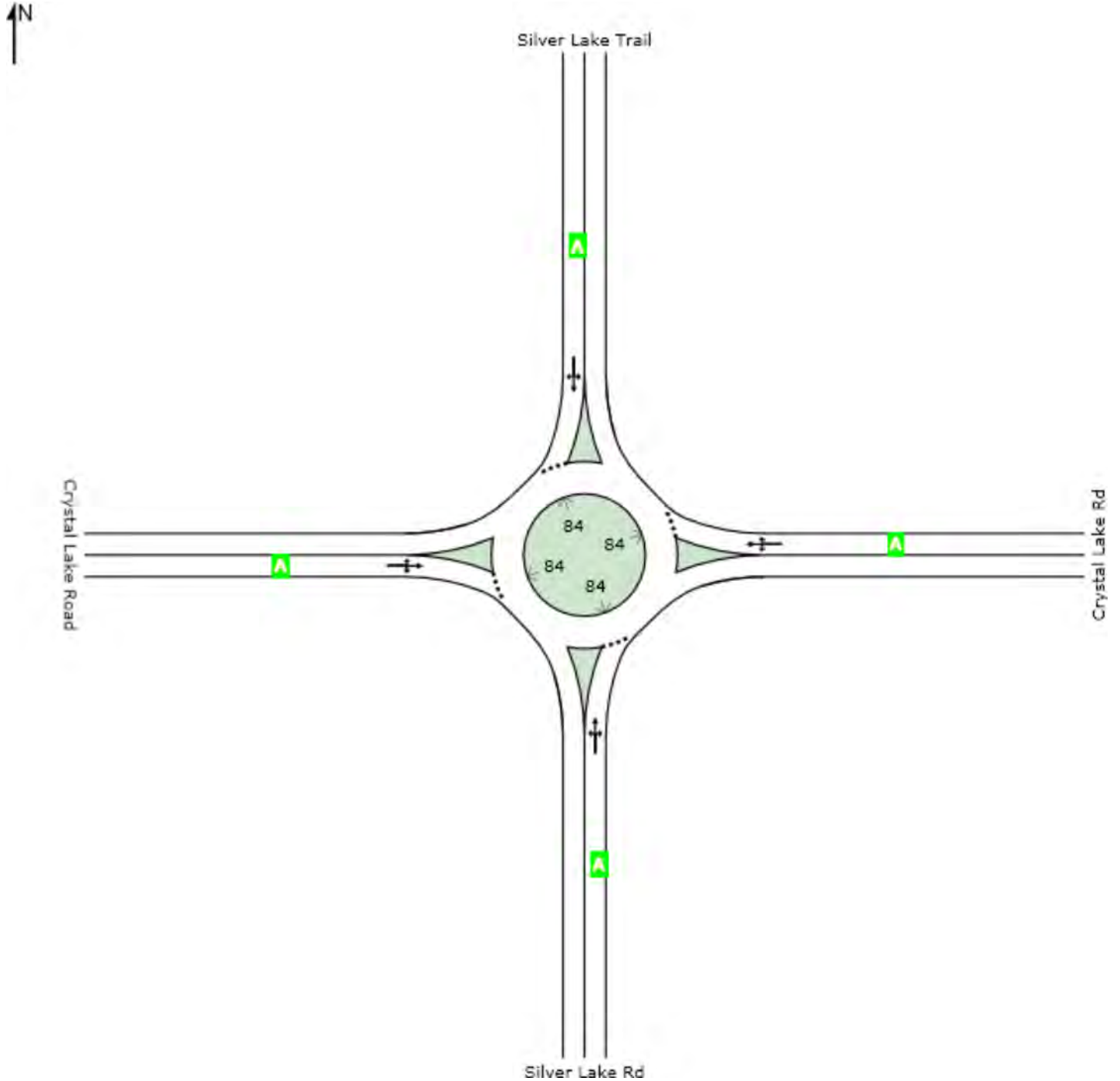
- Notes**
1. RT volumes, as shown, exclude ROR
  2. Approach pedestrian and bicycle volumes are those that conflict with right turns from the subject approach.
  3. Refer to Equation 16-2

# LEVEL OF SERVICE

 **Site: PM 2013**

Roundabout with 1-lane approaches and circulating road  
 MUTCD (FHWA 2009) example number: 2B-22  
 Roundabout Guide (TRB 2010) example number: A-1

Roundabout



	South	East	North	West	Intersection
LOS	A	A	A	A	A

Level of Service (LOS) Method: Degree of Saturation (SIDRA METHOD).  
 Roundabout LOS Method: SIDRA Roundabout LOS.

# MOVEMENT SUMMARY

 Site: PM 2013

Roundabout with 1-lane approaches and circulating road  
 MUTCD (FHWA 2009) example number: 2B-22  
 Roundabout Guide (TRB 2010) example number: A-1

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Silver Lake Rd											
3	L2	254	0.0	0.464	9.1	LOS A	2.6	64.6	0.41	0.55	12.4
8	T1	60	0.0	0.464	9.1	LOS A	2.6	64.6	0.41	0.55	12.4
18	R2	140	0.0	0.464	9.1	LOS A	2.6	64.6	0.41	0.55	12.4
Approach		454	0.0	0.464	9.1	LOS A	2.6	64.6	0.41	0.28	12.4
East: Crystal Lake Rd											
1	L2	200	0.0	0.448	10.2	LOS A	2.3	56.5	0.55	1.03	11.2
6	T1	166	0.0	0.448	10.2	LOS A	2.3	56.5	0.55	1.03	11.2
16	R2	1	0.0	0.448	10.2	LOS A	2.3	56.5	0.55	1.03	11.2
Approach		367	0.0	0.448	10.2	LOS A	2.3	56.5	0.55	0.52	11.2
North: Silver Lake Trail											
7	L2	2	0.0	0.127	7.4	LOS A	0.4	10.9	0.54	1.08	14.5
4	T1	60	0.0	0.127	7.4	LOS A	0.4	10.9	0.54	1.08	14.5
14	R2	15	0.0	0.127	7.4	LOS A	0.4	10.9	0.54	1.08	14.5
Approach		77	0.0	0.127	7.4	LOS A	0.4	10.9	0.54	0.54	14.5
West: Crystal Lake Road											
5	L2	6	0.0	0.359	8.2	LOS A	1.6	40.9	0.47	0.77	14.8
2	T1	135	0.0	0.359	8.2	LOS A	1.6	40.9	0.47	0.77	14.8
12	R2	171	0.0	0.359	8.2	LOS A	1.6	40.9	0.47	0.77	14.8
Approach		312	0.0	0.359	8.2	LOS A	1.6	40.9	0.47	0.39	14.8
All Vehicles		1209	0.0	0.464	9.1	LOS A	2.6	64.6	0.47	0.39	12.9

Level of Service (LOS) Method: Degree of Saturation (SIDRA METHOD).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on degree of saturation per movement

Intersection and Approach LOS values are based on worst degree of saturation for any vehicle movement.

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

## PROJECT MILESTONE SCHEDULE

Municipality: Algonquin Township Road District  
 Project: Crystal Lake Road and Silver Lake Road/Silver Lake Trail  
 Scope of Work: Replace Stop-Control Int. with a Modern Free Flowing Roundabout  
 TIP #: \_\_\_\_\_  
 TIP Years (Ph II / Const): \_\_\_\_\_  
 Section #: \_\_\_\_\_  
 Last Constr & E3 Cost (date: 2/9/2015): Const: \$1,860,000, E3: \$210,000  
 Current Constr & E3 Cost (date: 2/9/2015): Const: \$1,860,000, E3: \$210,000

### Contact Information

Municipality	<u>Algonquin Township Road District</u>
Council/Liaison	<u>McHenry/Janell Jensen (815-334-4642)</u>
Consultant	<u>Michael Plant (815-459-1260)</u>
IDOT	<u>Alex Househ (847-705-4410)/ Charles Riddle (847-705-4406)</u>

Date Prepared: 2/9/2015

Date Revised: \_\_\_\_\_

### Projected Dates

	Initial Est.	Kick-Off	Revised/Actual	Notes
1. Project Scoping			2008	
2. IDOT Phase I Kick-off Meeting			11/14/2013	
3. 1st State/Federal Coordination Meeting			7/15/2014	
4. Categorical Exclusion Concurrence			9/8/2014	
5. Design Variance Concurrence			9/30/2014	
6. Submit Draft Phase I Report (PDR) to IDOT (a)			7/25/2014	
7. Public Hearing/Meeting (or N/A)			4/29/2014	
8. Right-of-Way Kick-off Meeting (or N/A)	Apr-2016			
9. Submit Final Phase I Report (PDR) to IDOT (b)			9/5/2014	
10. Submit Phase II Engr. Agreem't to IDOT (or N/A)	Nov-2015			CMAQ funds are requested and the Phase II Agreements will be submitted to the PL/IDOT for processing as early as possible
<b>11. Phase I Design Approval</b>			9/30/2014	PDR signed cover attached
12. ROW Acquisition Initiation (or N/A) ( c )	Aug-2016			Meeting with Bureau of Land Acquisition
13. Phase II Engr. Agreement Approval (or N/A)	Apr-2016			
14. Submit Pre-Final Plans and Estimates (d)	Aug-2017			
15. Submit Phase III Engr. Agreement to IDOT	Oct-2017			
16. Submit Final Plans, Specs & Estimates (PS&E) (e)	Dec-2016			
17. ROW Acquisition Complete	Jul-2017			
<b>18. Construction Letting</b>	Jan-2018			

**Notes:**

- (a) 3 to 6 month review required per complexity and submittal quality
- (b) 1 to 3 month review
- (c ) Minimum 9 to 18 months required from plats to acquisition
- (d) 1 to 4 month review
- (e) 7 to 10 days before Springfield BLR due date

See IDOT Local Roads' **Mechanics of Project Management** "Federal Aid Project Initiation to Completion" Flow Chart for sequence of events and estimated review times.

## DETAILED ESTIMATE OF COSTS

Item	Description	Unit	Quantity	Unit Price	Total
1	Tree Removal	EACH	6	\$ 1,500.00	\$ 9,000.00
2	Erosion Control	SQ YD	3900	\$ 13.00	\$ 50,700.00
3	Parkway Restoration	SQ YD	3900	\$ 25.00	\$ 97,500.00
4	Landscaping	SQ YD	225	\$ 400.00	\$ 90,000.00
5	Tree Planting	EACH	15	\$ 1,000.00	\$ 15,000.00
6	Earth Excavation	CU YD	1900	\$ 45.00	\$ 85,500.00
7	Removal and Disposal of Unsuitable Material	CU YD	650	\$ 60.00	\$ 39,000.00
8	Aggregate Base Course	SQ YD	4200	\$ 35.00	\$ 147,000.00
9	Hot-Mix Asphalt Base Course	SQ YD	3600	\$ 45.00	\$ 162,000.00
10	Hot-Mix Asphalt Surface Course	TON	480	\$ 115.00	\$ 55,200.00
11	Pavement Removal	SQ YD	4750	\$ 19.00	\$ 90,250.00
12	Temporary Pavement	SQ YD	1800	\$ 30.00	\$ 54,000.00
13	Driveway Remove and Replace	SQ YD	850	\$ 45.00	\$ 38,250.00
14	Sidewalk	SQ FT	3300	\$ 25.00	\$ 82,500.00
15	Curb and Gutter	FOOT	2500	\$ 25.00	\$ 62,500.00
16	Medians	SQ FT	1800	\$ 21.00	\$ 37,800.00
17	Stamped Brick Truck Apron	SQ FT	3300	\$ 31.00	\$ 102,300.00
18	Storm Sewer	FOOT	1200	\$ 110.00	\$ 132,000.00
19	Drainage structures	EACH	25	\$ 2,000.00	\$ 50,000.00
20	Utility Adjustments	EACH	20	\$ 1,000.00	\$ 20,000.00
21	Pavement Marking	FOOT	4500	\$ 5.00	\$ 22,500.00
22	Sign Panels	EACH	30	\$ 100.00	\$ 3,000.00
23	Lights and Poles	EACH	10	\$ 25,000.00	\$ 250,000.00
24	Traffic Control and Protection	EACH	1	\$ 60,000.00	\$ 60,000.00
25	Maintenance of Traffic/Staging	EACH	1	\$ 44,000.00	\$ 44,000.00
26	Mobilization	EACH	1	\$ 60,000.00	\$ 60,000.00
<b>TOTAL COST OF ITEMS:</b>					<b>\$1,860,000.00</b>

ESTIMATES MUST BE BASED UPON QUANTITIES AND UNIT COSTS WHENEVER POSSIBLE.  
LUMP SUM AMOUNTS ARE NOT ACCEPTABLE



# Illinois Department of Transportation

Division of Highways / Region 1 / District 1  
201 West Center Court / Schaumburg, Illinois 60196-1096

## LOCAL ROADS AND STREETS

Design Approval Notification

Road District of Algonquin Township

Location: Crystal Lake Road at Silver Lake Road/Silver Lake Trail

Section No.: 14-02288-01-CH

McHenry County

October 14, 2014

Mr. Robert J. Miller  
Highway Commissioner  
Algonquin Township  
3702 U.S. Highway 14  
Crystal Lake, IL 60014

Dear Mr. Miller:

On September 30, 2014, we concurred that the Crystal Lake Road and Silver Lake Road Intersection Project was categorically excluded from further National Environmental Policy Act (NEPA) Processing. On the same date, we approved the design as presented in the Project Development Report (PDR). A copy of the Approved Report's signed signature sheet is attached for your records.

The Contract Plans should conform to the approved design as presented in the PDR. We request that the Road District provide us with a schedule for the Phase II Work along with the Certificate of Publication – Legal Notice for projects requiring a Public Hearing.

Additionally, right-of-way and temporary easement(s) acquisition(s) are required for the construction of this project. A meeting should be scheduled with the Bureau of Land Acquisition to initiate these actions.

The construction plus construction engineering cost of the improvement is \$1,700,000.00. Any change to this amount should be brought to our attention and to the attention of the Council of Mayors.

**RECEIVED**

OCT 22 2014

**BAXTER & WOODMAN, INC.  
CRYSTAL LAKE**

Mr. Robert J. Miller  
October 14, 2014  
Page 2

If you have any questions or need additional information, please contact Alex Househ, Field Engineer, at (847) 705-4410 or via email at Alex.Househ@illinois.gov.

Very truly yours,

John Fortmann, P.E.  
Deputy Director of Highways,  
Region One Engineer



By:  
Christopher J. Holt, P.E.  
Bureau Chief of Local Roads and Streets

Attachment

cc: Michael Plant, P.E., Baxter & Woodman, Inc. w/att.





County: McHenry
Local Public Agency: Algonquin Township Road District
Section Number: 14-02288-01-CH
Route: FAU 0116, TR 0201 & FAU 4052

Project Number: Project Length: 1,226 feet (0.232-miles)

Street/Road Name: Crystal Lake Road at Silver Lake Road/Silver Lake Trail

Termini: FAU 0116: 284 feet west of FAU 4052, TR 0201: 298 feet east of FAU 4052, FAU 4052: 406 feet south of FAU 0116, 238 feet north of FAU 0116

For Township or Road District bridge projects: The County Engineer certifies that the project design speed exceeds the minimum design speed recommended for this classification of roadway as provided in the BLRS Manual in order to prevent a deficient NBIS rating for approach roadway alignment appraisal. All elements have been designed to the chosen design speed unless noted otherwise in Section 2(e) and/or the attached BLR 22120.

County Engineer Date

Categorical Exclusion and Design Approval Recommended

Local Agency signature and date 9/28/14

Regional Engineer signature and date 9-8-14

This project will not have any significant impacts on the human environment; therefore, the FHWA approves the project as a Categorical Exclusion on 9/30/14 Date

Design Approval

James K. Klein signature, Bureau of Local Roads & Streets, date 9/30/14