

## MEMORANDUM

To: Robert Kosin, VBH Director of Administration  
Brian Cecola, VBH Chairman Roads & Bridges

From: Dan Strahan, P.E., CFM  
Gewalt Hamilton Associates (GHA)

Date: August 21, 2015

Re: Road Program Planning

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Over the next few months the Village Board will review and consider a proposed budget for 2016. In anticipation of the budget process it would be appropriate to resume discussions that had begun last spring regarding the Village's approach to adopting a multi-year road program.

### Background

The Village of Barrington Hills maintains approximately 39 miles of roads (attached for informational purposes is a list of roads in the Village by jurisdiction). GHA prepared an initial pavement inventory and ten-year road program for the Village in November of 1994, spanning the years 1995-2004. A second Village-wide pavement inventory was performed in 2005 and a ten-year program prepared for the years 2006-2015. Each document was used as a planning tool by the Village Board, but on an annual basis the Board determined which roads would be resurfaced based on available budget. Often roads were deferred based on budget limitations or other budget priorities within a given year.

In 2014 GHA was directed to complete a new pavement condition survey. In August of 2014 we presented the pavement condition survey to the Board along with a recommended five year road program covering the years 2015-2019. The rationale for adopting a shorter planning window for road resurfacing was discussed within the report:

*Two observations have led us to recommend that the Village develop a 5-year road program. First, there is a tremendous range of traffic loadings, drainage conditions, and subsurface strengths represented on Village roadways. While it is essential that some roads be resurfaced every ten years, other roadways have maintained a satisfactory condition for 15 years or more. As a result, over the past several years the road program has been based on an assumed surface life of 10 years for high-volume (>2000 ADT) thru roads, 12 years for lower volume thru roads, and 15 years for cul-de-sac roads. Based on the various lengths of each type of road in the Village, the average surface life for roads in the Village is roughly 12 years, which indicates approximately 3.2 miles of resurfacing is needed annually to maintain current pavement conditions. [Note: High-volume thru roads make up approximately 21% of the Village's roadway inventory, lower-volume thru roads 50%, and cul-de-sac roads 29%]*

*Secondly, it has also been noted that in the final years of each of the last two 10-year road programs roads were shuffled and reanalyzed as some roads were deferred due to budget or other constraints and the pavement condition of other roads became serious due to a more rapid rate of deterioration. This shuffling can be frustrating to Village residents as expectations are set based upon published 10-year road programs that end up being modified several years later. Targeting a 5-year road program will allow for a more regular and systematic approach to evaluating which roads need attention in any given year.*

At the August 26, 2014 meeting the Board approved acceptance of the Pavement Condition Study without voting on acceptance of either five-year option presented in the plan. After initial presentation

of two potential five year resurfacing programs (2015-2019), several suggestions were made regarding both the duration of the plan as well as the annual funding and additional options were presented to the Village Board in January. The discussion ultimately was tabled this past spring as the 2015 budget had already been set, but as the Village approaches the 2016 budgeting process the Roads & Bridges Committee has requested feedback from the Board regarding whether a more formal adoption of a multi-year road program plan is desired.

### Resurfacing Costs

When considering various funding options, it is noted that 2015 resurfacing costs are approximately \$297,000 per mile based on the approved low bid. The table below illustrates the average lifespan required of Village roadways depending upon the level of funding established, not accounting for inflation. Please note our recommendation is to resurface a minimum of 3.2 miles of roads per year, which would result in an average surface life of 12 years.

Average "Road Maintenance Contracts" Budget Amount (2015 Dollars)	Miles of Road Resurfacing	Average Pavement Lifespan
\$800,000	2.69	14.5
\$900,000	3.03	12.9
\$1,000,000	3.37	11.6
\$1,100,000	3.70	10.5

As a reminder, this calculation represents a single line item (Road Maintenance Contracts) within the Roads & Bridges budget. Below is the overall Roads & Bridges budget approved for 2015.

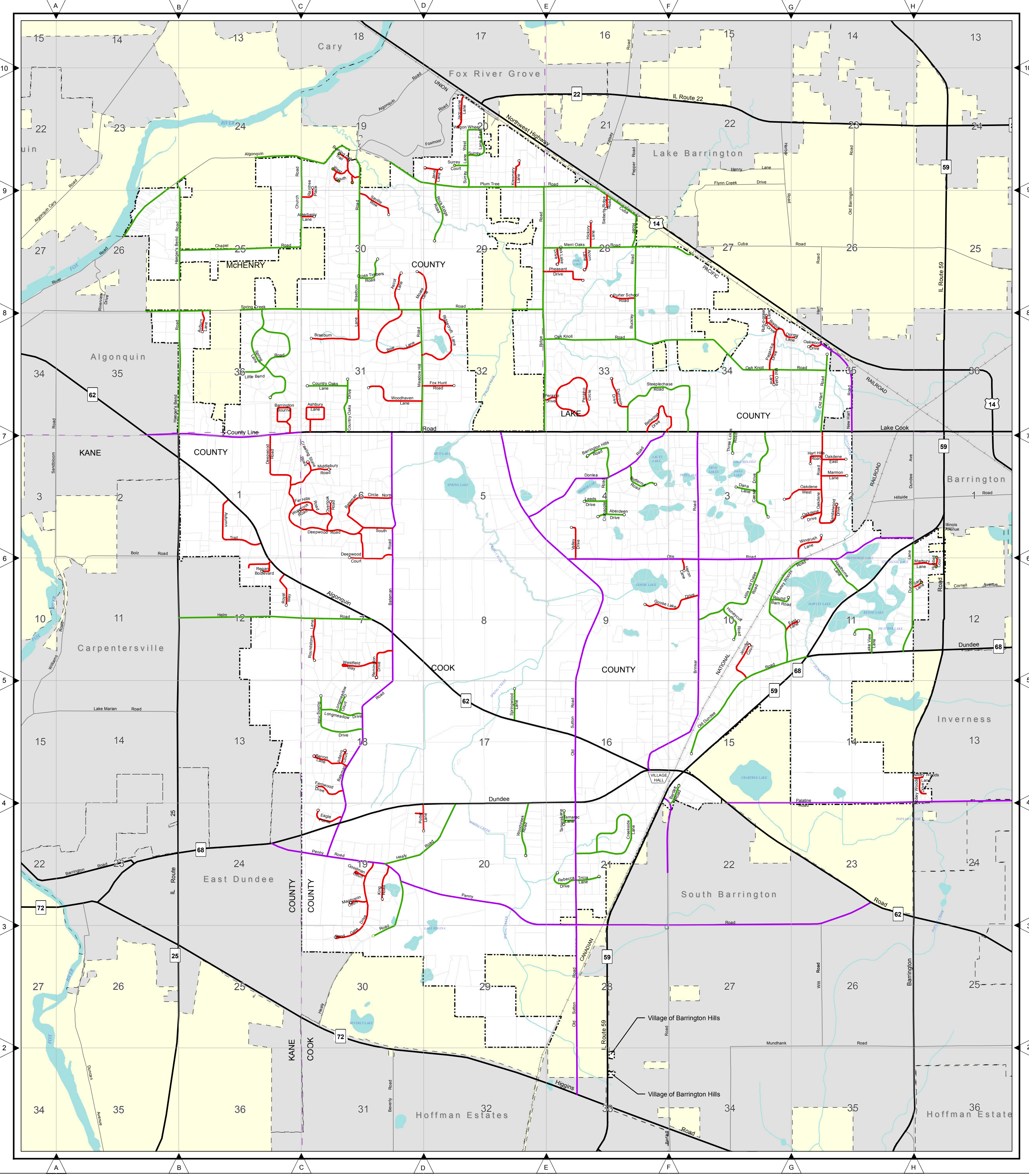
2015 BUDGET		
<b>50701</b>	ROAD MAINTENANCE CONTRACTS	\$ 986,846.00
<b>50702</b>	SNOWPLOWING CONTRACTS	260,000.00
<b>50703</b>	MOWING/CLEANUP CONTRACTS	35,000.00
<b>50704</b>	SIGN PURCHASE/INSTALLATION	14,000.00
<b>50705</b>	DRAINAGE MANAGEMENT	120,000.00
<b>50706</b>	ENGINEERING FEES	180,000.00
<b>50707</b>	ROAD STRIPING	1,000.00
<b>50708</b>	EQUIPMENT MAINTENANCE	4,000.00
<b>50709</b>	ROAD PATCHING CONTRACTS	15,000.00
<b>50710</b>	EQUIPMENT PURCHASES	2,000.00
<b>50711</b>	BRIDGE INSPECTIONS	8,000.00
<b>50713</b>	CUBA ROAD BRIDGE RESTORAL EXP	<u>160,000.00</u>
	TOTAL EXPENDITURES	\$ 1,785,846.00

### Village Board Review

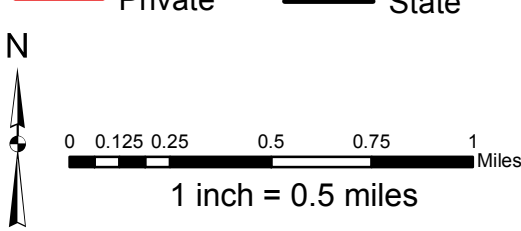
The request of the Roads & Bridges Committee is for the Village Board to provide feedback regarding the preferred duration and funding level for a multi-year road program that would then be considered for approval at the September Board meeting.



# VILLAGE OF BARRINGTON HILLS ROAD JURISDICTION MAP



- Legend**
- Village
  - County
  - Private
  - State
  - Outside Village



Jurisdiction	Mileage
State	17.20
County	20.50
Village	37.30
Private	24.40
<b>Totals:</b>	<b>99.40</b>



VILLAGE OF BARRINGTON HILLS  
112 ALGONQUIN ROAD  
BARRINGTON HILLS, ILLINOIS 60010-5199  
(847)551-3000  
Revised: April 22, 2015  
Map Code: RJ1824



**Village of Barrington Hills  
Roadway List by Jurisdiction**

<u>Name</u>	<u>Length</u>	<u>From</u>	<u>To</u>	<u>Jurisdiction</u>	<u>County</u>
Bateman Road	3.7	Penny Road North	Lake Cook Road	County	Cook
Brinker Road	3	Lake Cook Road South	Algonquin Road	County	Cook
Donlea Road	1.4	Lake Cook Road South	Sutton Road	County	Cook
Old Sutton Road	4.25	Lake Cook Road South	N. of Penny Road	County	Cook
Otis Road	2.7	Old Sutton Road East	Dundee Avenue	County	Cook
Palatine Road	1.4	Stover Road East	Village Limits	County	Cook
Penny Road	2.4	Old Sutton Road West	Village Limits	County	Cook
<b>TOTAL:</b>	<b>18.9</b>				

<u>Name</u>	<u>Length</u>	<u>From</u>	<u>To</u>	<u>Jurisdiction</u>	<u>County</u>
Algonquin Road (62)	5.2	Village Limits West	Elgin Road (25)	State	Cook, Kane
Barrington Road	0.25	Village Limits South	Palatine Road	State	Kane
Dundee Road	5.5	Barrington Road West	Village Limits	State	Cook
Elgin Road (25)*	0.8	Algonquin Road (62) South	Bolz Road	State	Cook
Hawthorne/New Sutton Road (59)	2.5	Dundee Lane South	Village Limits	State	Cook
Lake Cook Road*	5.6	Haeger's Bend Road East	Village Limits	State	Cook, Lake
<b>TOTAL:</b>	<b>19.9</b>				

\*Note: Jurisdiction of County Line Road west of power lines and Elgin Road North of IL Rte 62 is McHenry County DOT

<u>Name</u>	<u>Length</u>	<u>From</u>	<u>To</u>	<u>Jurisdiction</u>	<u>County</u>
Aberdeen Drive	0.2	Crabapple Road	East & West	Village	Cook
Barrington Hills Road	0.5	Donlea Road North	End	Village	Cook
Butternut Road	0.4	Donlea Road South	End	Village	Cook
Caesar Drive	0.8	Lake Cook Road South	End	Village	Cook
Country Oaks Drive	0.6	Lake Road Road North	End	Village	McHenry
Country Oaks Lane	0.3	Country Oaks Drive West	End	Village	McHenry
Crabapple Road	0.3	Donlea Road South	End	Village	Cook
Creekside Lane	1.2	Old Sutton Road East	in Cricle	Village	Cook
Cross Timbers Road	0.3	Braeburn Road East	End	Village	McHenry
Dana Lane	0.2	Caesar Drive West	End	Village	Cook
Healy Road	0.7	Penny Road	Village Limits	Village	Cook
Hickory Lane	0.2	Merri Oaks Road North	End	Village	Lake
Honeycut Road	0.2	Hills & Dales Road South	End	Village	Cook
Lake View Lane	0.4	Dundee Road (68) North	End	Village	Cook
Leeds Drive	0.2	Crabapple Road West	End	Village	Cook
Little Bend Road	0.7	Spring Lane	End	Village	McHenry
Longmeadow Court	0.1	Longmeadow Drive North	End	Village	Cook
Longmeadow Drive	0.4	Bateman Road West	Rolling Hills Drive	Village	Cook
Old Bartlett Road	0.2	Bartlett Road	Cul-de-Sac	Village	Cook
Old Dundee Road	1.4	Routes 58 & 68 South	Cul-de-Sac	Village	Cook
Rebecca Drive	0.3	Old Sutton Road West	End	Village	Cook
Rock Ridge Road	0.5	Plum Tree Road South	End	Village	McHenry
Rolling Hills Drive	0.6	Bateman Road West	Longmeadow Drive	Village	Cook
Round Barn Road	0.2	Hawley Woods Road East	End	Village	Cook
Spring Lane	1	Spring Creek Road	End	Village	McHenry
Springwood Lane	0.2	Algonquin Road (62) North	End	Village	Cook
Steeplechase Road	1.1	Lake Cook Road North	in Cricle	Village	Lake
Surrey Court	0.1	Surrey Lane West	End	Village	McHenry
Surrey Lane East	0.1	Surrey Lane West	Wagon Wheel	Village	McHenry
Surrey Lane West	0.7	Plum Tree Road North	End	Village	McHenry
Tamarack Lane	0.2	Old Sutton Road West	End	Village	Cook
Three Lakes Road	0.2	Lake Cook Road South	End	Village	Cook
Tricia Lane	0.2	Old Sutton Road East	End	Village	Cook
Wagon Wheel Lane	0.2	Surrey Lane East	Surrey Lane West	Village	McHenry
Woodcreek Road	0.5	Dundee Road (68) South	End	Village	Cook
Braeburn Road	1.3	Spring Creek Road South	Plum Tree Road	Village	McHenry
Buckley Road	0.8	Cuba Road South	Oak Knoll Road	Village	Lake
Chapel Road	1	Haeger's Bend Road East	Church Road	Village	McHenry
Church Road	0.7	Chapel Road North	River Road	Village	McHenry
Cuba Road	0.7	Merri Oaks	Plum Tree Road	Village	Lake
Dundee Lane	1	Dundee Road (68) North	Route 59	Village	Cook
Hawley Woods Road	1.1	Otis Road South	Old Dundee Road	Village	Cook
Hawthorne Lane	0.4	Route 59 North	Otis Road	Village	Cook
Healy Road	0.8	Dundee (48) Road	Penny Road	Village	Cook
Hills & Dales Road	0.8	Brinker Road East	Otis Road	Village	Cook
Meadow Hill Road	1	Lake Cook Road North	Spring Creek Road	Village	McHenry
Merri-Oaks Road	0.7	Ridge Road East	Cuba Road	Village	Lake
Oak Knoll Road	2.4	Old Hart Road West	Ridge Road	Village	Lake
Old Hart Road	0.6	Lake Cook Road North	End	Village	Lake
Spring Creek Road	3.3	Ridge Road West	Village Limits	Village	McHenry
Haeger's Bend Road	2	Lake Cook Road North	Village Limits	Village	McHenry
Helm Road	0.8	Algonquin Road (62) West	Village Limits	Village	Cook, Kane
Plum Tree Road	1.7	C & NW Railroad West	Village Limits	Village	Lake, McHenry
Ridge Road	2	Lake Cook Road North	Plum Tree Road	Village	Lake, McHenry
River Road	0.5	Haeger's Bend Road South	Village Limits	Village	McHenry
<b>TOTAL:</b>	<b>39.0</b>				

<u>Name</u>	<u>Length</u>	<u>From</u>	<u>To</u>	<u>Jurisdiction</u>	<u>County</u>
Abbey Woods Lane	0.1	Barrington Road	End	Private	Cook
Abbey Woods Drive	0.2	Abbey Woods Lane	End	Private	Cook
Acorn Lane	0.2	Merri Oaks Road South	End	Private	Lake
Alderberry Lane	0.1	Church Road East	End	Private	McHenry
Ascot Lane	0.3	Spring Creek Road North	End	Private	McHenry
Ashbury Lane	0.5	Lake Cook Road North	in Circle	Private	McHenry
Auburn Lane	0.2	Spring Creek Road South	End	Private	McHenry
Autumn Trail	0.7	Algonquin Road (62) South	in Circle	Private	Kane
Barrington Bourne	0.5	Lake Cook Road North	in Circle	Private	McHenry
Bateman Circle	0.9	Bateman Road West	in Circle	Private	Cook
Bellwood	0.5	Lake Cook Road North	in Circle	Private	Lake
Berron Lane	0.4	Bateman Road	End	Private	Cook
Bisque Drive	0.1	Paganica Drive West	End	Private	Lake
Bow Lane	0.8	Spring Creek Road South	Meadow Hill Road	Private	McHenry
Braeburn Lane	0.6	Spring Creek Road South	End	Private	McHenry
Burning Oak Trail	0.4	Braeburn Road West	in Circle	Private	McHenry
Crawling Stone Road	0.3	Deepwood Road North	End	Private	Cook
Deepwood Court	0.1	Deepwood Road West	End	Private	Cook
Deepwood Road	2	Batemen Road North	Lake Cook Road	Private	Cook
Dormy Lake	0.2	Paganica Drive East	End	Private	Lake
Dunrovin Drive	0.35	Steeplechase Road North	End	Private	Lake
Eagle Pointe Drive	0.25	Bateman Road West	End	Private	Cook
East Lane	0.1	Hawley Woods Road East	End	Private	Cook
Far Hills Road	0.5	Deepwoods Road North	in Circle	Private	Cook
Fernwood Drive	0.25	Bateman Road West	End	Private	Cook
Fox Hunt Road	0.25	Meadow Hill Road East	End	Private	Lake
Goose Lake Drive	0.6	Brinker Road West	End	Private	Cook
Hart Hills Road	0.15	Oakdene Road West	End	Private	Cook
Heron Lane	0.1	Otis Road South	End	Private	Cook
Hubbell Court	0.1	Marbury Lane East	End	Private	Cook
Jacqueline Drive	0.25	Asbury Avenue South	End	Private	McHenry
Jane Lane	0.3	Plum Tree Road North	End	Private	McHenry
Jennifer Court	0.4	Old Dundee North	End	Private	Cook
Juliano Court	0.1	Thornhill Drive	End	Private	Cook
King Road	0.3	Penny Road South	End	Private	Cook
Kresmery Lane	0.15	Plum Tree Road North	End	Private	McHenry
Magnuson Court	0.15	Pondgate Drive	End	Private	Cook
Marbury Lane	0.2	Dundee Lane East	Hubbell Court	Private	Cook
Marmon Lane	0.2	Oakdene Road West	End	Private	Cook
Mid Oaks Lane	0.1	Oak Knoll Road South	End	Private	Lake
Middlebury Road	0.2	Crawling Stone Road East	End	Private	Cook
Moate Lane	0.35	Spring Creek Road North	End	Private	McHenry
Oak Lake Drive	0.15	Merri Oaks Road South	End	Private	Lake
Oak Wood Drive	0.2	New Hart Road South	End	Private	Lake
Oakdene Drive	0.2	Oakdene Road West	End	Private	Cook
Oakdene East	0.15	Oakdene Road	End	Private	Cook
Oakdene Road	0.7	Lake Cook Road North	Windrush Lane	Private	Cook
Oakdene West	0.6	Oakdene Road	End	Private	Cook
Overlook Road	0.1	Far Hills Road East	End	Private	Cook
Paganica Drive	0.35	Oak Knoll Road North	End	Private	Lake
Peraino Circle	0.9	Peraino Drive North	In Circle	Private	Lake
Peraino Drive	0.1	Ridge Road East	Periano Circle	Private	Lake
Pheasant Drive	0.3	Ridge Road East	End	Private	Lake
Pondgate Drive	0.8	Penny Road	End	Private	Cook
Porter School Road	0.2	Buckley Road West	End	Private	Lake
Potter Lane	0.1	Dundee Road South	End	Private	Cook
Raintree Place	0.2	Church Road East	End	Private	McHenry
Regan Boulevard	0.2	Algonquin Road (62) South	End	Private	Kane
Remington Drive	0.45	Bateman Road	End	Private	Cook
Ridgecroft Lane	0.7	Meadow Hill Road East	Spring Creek Road	Private	McHenry
Roundstone Lane	0.5	Helm	End	Private	Cook
Royal Way	0.3	Algonquin Road (62) South	in Circle	Private	Kane
Rub-of-Green Lane	0.1	Bisque Drive	North & South	Private	Lake
Sandalwood Drive	0.3	Oakdene Road East	End	Private	Cook
Sara Lane	0.1	Dundee Lane East	End	Private	Cook
Saville Row	0.3	Braeburn Road East	End	Private	McHenry
Sieberts Ridge Road	0.2	Cuba Road South	End	Private	Lake
Valley Drive	0.3	Otis Road North	End	Private	Cook
Wesley Court	0.1	Pondgate Drive	End	Private	Cook
West Lane	0.1	Hawley Woods Road	End	Private	Cook
Westfield Way	0.4	Remington	End	Private	Cook
Windrush Lane	0.3	Otis Road North	End	Private	Cook
Woodhaven Lane	0.5	Meadow Hill Road West	End	Private	McHenry
Woodrock Road	0.15	Far Hills Road West	End	Private	Cook, Kane
<b>TOTAL:</b>	<b>24.5</b>				