

**TIMBER RIDGE PROPERTY OWNERS ASSOCIATION
ROADWAY MASTER PLAN (RMP)
ONEIDA COUNTY,
WISCONSIN**



August 2015

INTRODUCTION

TRPOA is faced with the difficult task of allocating limited resources among the demands of property owners and the need to maintain the transportation infrastructure that is Timber Ridge. One method available to help manage and systematize the budget allocation process is to develop a Roadway Master Plan (RMP).

Timber Ridge is a 420+ lot private subdivision located in the towns of Minocqua and Hazelhurst, Oneida County, Wisconsin. The subdivision surrounds a public golf course and includes a restaurant and a tennis club. The existing entrance road from USH 51, Timber Ridge Road, and most other roads inside the subdivision boundary are maintained by the Timber Ridge Property Owners Association (TRPOA). Two exceptions are Fairway Lane and Timber Ridge Road, from the intersection with Trailwood Drive west to the clubhouse. The exceptions are private roads owned by the golf course and are not part of the RMP.

In October of 2014, the TRPOA retained MSA professional Services to develop a RMP. A RMP is simply an ongoing, systematic approach to identify, schedule, and efficiently allocate dollars to needed roadway projects. Typically, a RMP schedules needed road projects over a period of twenty years. Projects, including cost estimates, are assigned a date for completion based on a schedule with input from annual inspections. Each year the program is updated.

A carefully developed RMP allows local decision makers to anticipate its facility needs and to schedule improvements according to project needs and its local financial capabilities. The RMP process offers several additional benefits to a community.

1. Aid in the task of effectively allocating limited resources.
2. Improve communications and cooperation among various interests in the community.
3. Provide continuity in financial decisions by linking long-term planning to the programming and budgeting of major projects.
4. Stabilize local assessment rates by more effectively relating expenditures to financial capacity in a given time frame.

THE RMP PROCESS

A typical RMP procedure will include the following steps:

- A. Analyze Roadways
 - B. Prepare Project Descriptions
 - C. Analyze Fiscal Capacity
 - D. Set Project Priorities
 - E. Develop and Adopt RMP
 - F. Update RMP Annually
1. Analyze Roadways – MSA began by analyzing the roadways with an emphasis on its adequacy to serve the people and identify future capital improvement needs.
 - a. An onsite inspection was completed November 4, 2014.
 - b. The Paser rating system was used to rate the roads.
 - c. A color coded map showing the condition of the roads was prepared.
 - d. A meeting was held with the roadway committee of the home owners association.
 - e. Different maintenance treatments were evaluated, and a plan was developed to implement treatments bases on traffic volume.
 - f. A public meeting was held in December 2014.
 - g. Cost estimates were prepared along with a recommended assessment on a membership in TRPOA basis.
 2. Prepare Project Descriptions - After determining the need for roadway improvements, it is necessary to collect details on the projects so that its implementation priority can be accurately and equitably assigned. Cost estimates, project schedule, locations, are listed for each project.
 3. Analyze Fiscal Capacity - The next step is to analyze the community's financial capacity to fund capital improvements. The financial analyses examine projected operating revenues and expenses for each year of the programming period. The amount of financing available for capital

projects equals the surplus of projected operating revenues over expenditures.

4. Set Project Priorities - Since a community will often identify more projects than can be funded, priorities must be established. By doing so, priorities can be established so that limited financial resources are allocated efficiently. To accomplish this task, criteria is set to provide some objective standards in establishing priorities.
5. Develop and Adopt RMP - The final RMP combines the individual project descriptions, priorities, and financial analyses into a recommended schedule of capital projects. Upon general consensus of the board, the RMP should be adopted by resolution supporting the recommended program.
6. Implementation and Updating - It should be emphasized that the RMP is a flexible and dynamic document that is updated annually to reflect changing needs and new priorities. Each year the community will identify new projects, monitor fiscal capacity and set new priorities for the upcoming year. Through annual review and updating, the RMP will reflect the most current goals and priorities of the community.

EVALUATION and METHODS

An onsite evaluation using the Paser manual, Walker, Donald “*Pavement Surface Evaluation and Rating, Paser Manual Asphalt Roads*” Transportation Information Center, 2002 was completed November 4, 2014. The network of roads were broken into segments based on condition. Ratings were given to each segment based on the visible distress of the pavement. Conditions were rated from a low of Poor with a rating of 3, to Very Good a rating of 8. Notes were taken on shoulder conditions of the roadway and other defects present at the time. The inspection was completed the day after a rain event. Standing water on the pavement was recorded and later shown on the map as a “birdbath”.

RATINGS AND TREATMENT MEASURES

There are several options available to maintain asphaltic pavement. The “Paser Manual” has a chart used to determine possible treatment measures that can be used

to extend pavement life based on the surface rating used. Below is a condensed version of that chart with the ratings used in this report.

Surface Rating	Visible Distress	Treatment measures
8	No longitudinal cracks, occasional transverse cracks, widely spaced (40' or greater) All cracks sealed or tight (open less than 1/4")	None
7	Slight to no raveling, surface shows wear longitudinal cracks (1/4 "open) spaced 10' apart. Very few patches	None maintain with routine crack filling
6	Slight raveling longitudinal cracks (open 1/4" to 1/2" apart) spaced 10' apart. Possible block cracking. Occasional patching in good condition	Could extend life with sealcoat or chip seal.
4	Severe surface raveling. Multiple longitudinal and transverse cracking. Longitudinal cracks in wheel path. Block cracking (over 50% of surface). Patching in fair shape. Slight rutting.	Structural overlay 2" or more
3	Closely spaced longitudinal and transverse cracking raveling and crack erosion. Severe block cracking (>50% of surface). Patches in fair to poor condition. Moderate rutting. Occasional pothole	Patching, Overlay 2" or more. Pulverize and overlay.

IMPROVEMENT OPTIONS

Surface treatment options used to determine costs estimates are defined in the following table.

Treatment Type	Description	Life expectancy	Cost per Mile
Chip Seal	An asphalt emulsion is applied to the roadway and pea gravel or stone chips are spread on the roadway and pressed into the emulsion.	Industry standard 6 to 8 years. Low volume roads may be higher.	\$18,000
Overlay	The existing roadway is overlaid with 1 ½” to 2” of new asphalt and new shoulders installed.	12-20 years.	\$90,000
Reconstruction	The existing roadway has 6” of crushed aggregate added the added aggregate and the existing asphalt are pulverized and a 2 ¼” overlay of asphalt is installed and new shoulders applied.	20+ years	\$180,000

MAPPING

A color coded condition map with an aerial photo for a background was completed. See attachment A. To help illustrate where pavement maintenance treatments will be applied a map showing each the location of each type is shown in Attachment B.

COST ESTIMATES

Cost estimates were prepared with a five year reoccurring maintenance schedule and includes crack sealing, shoulder maintenance, and a 10% contingency. Chip seal and overlay will be the primary methods to maintain the roadways. Chip seal is scheduled to be used on all the spur roads (Ridgeview Court and Woodgate Court as examples) with very low traffic volumes. Higher traffic volume roads (Timber Ridge Road and Forest Drive as examples) are scheduled to be overlaid with asphalt pavement. The cost estimates include a 3% inflation per year. See Attachment C.

EXECUTIVE SUMMARY

The existing road network constructed in the 1980's is currently in reasonably good shape and should remain in good condition with timely and regular maintenance. A schedule included in this report will help direct maintenance efforts for the next 20-years. Annual roadway inspections will provide the board with information needed to respond to pavement conditions as they change. As conditions change the maintenance schedule will need to adjust as time and the elements take their toll on the pavement.

Attachments

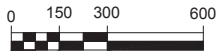
Attachment A - Project Location Map with Paser condition ratings.

Attachment B - Pavement Maintenance Treatments.

Attachment C - Cost Estimate Breakdowns – By Segment.

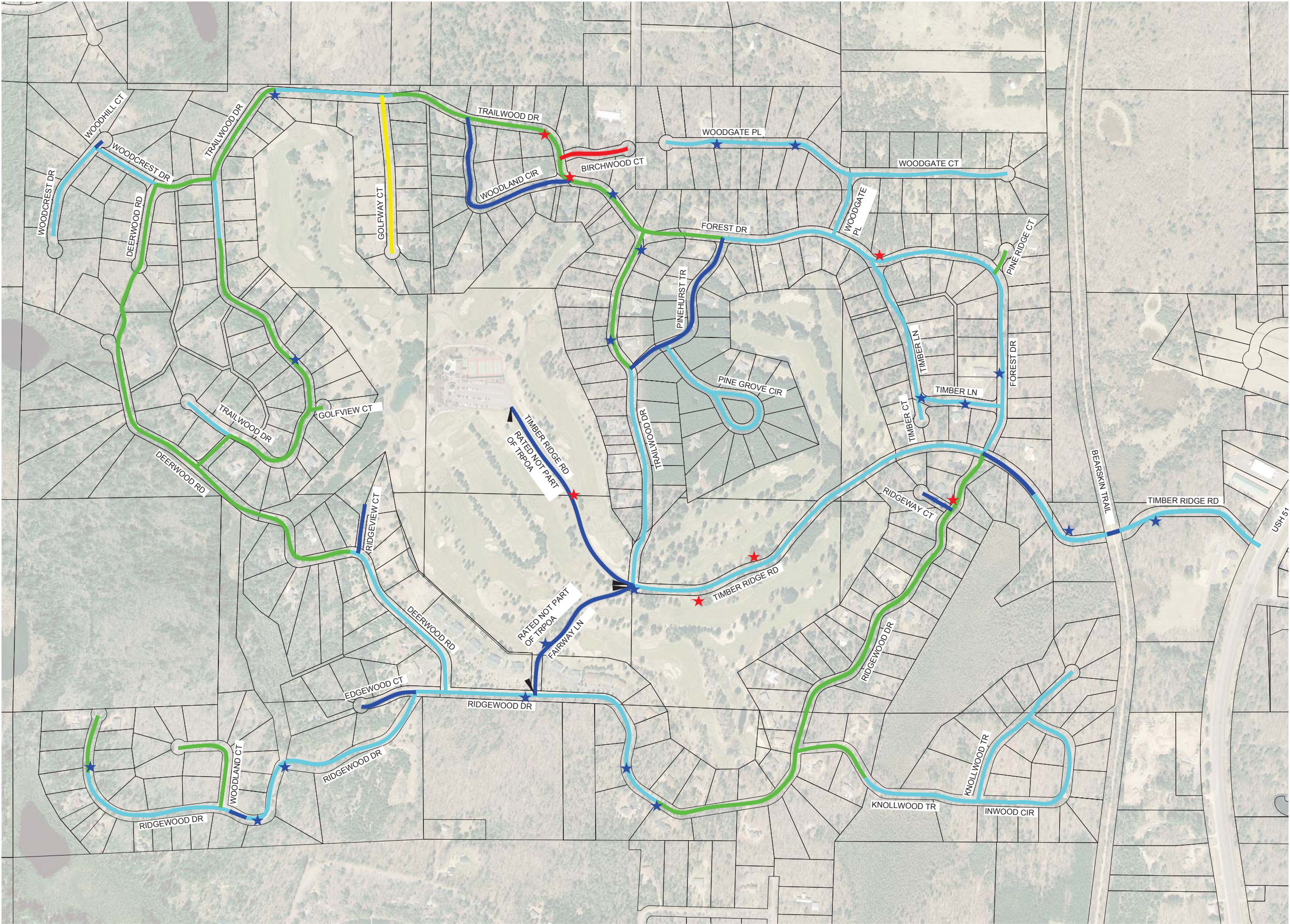
Attachment D – Summary Cost Estimates and Assessment Schedule.

Attachment A



LEGEND

- PACER RATING 3
- PACER RATING 4
- PACER RATING 6
- PACER RATING 7
- PACER RATING 8
- LOW SHOULDERS
- BIRD BATHS



PROJECT NO.:	16556000	SCALE: AS SHOWN	NO.	DATE	REVISION	BY
PROJECT DATE:	JUNE 2015	DRAWN BY:	PJK	-	-	-
F.B.:	NONE	CHECKED BY:	JWB	-	-	-
PLOT DATE:	6/16/15	P:\165500\165500\16556\16556000\CADD\base with pavement ratings.dwg				


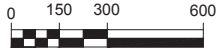
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PAVEMENT RATINGS

ROADWAY MASTER PLAN
TIMBER RIDGE PROPERTY OWNERS ASSOCIATION
ONEIDA COUNTY WISCONSIN

FILE NO.
16556000
SHEET
P1

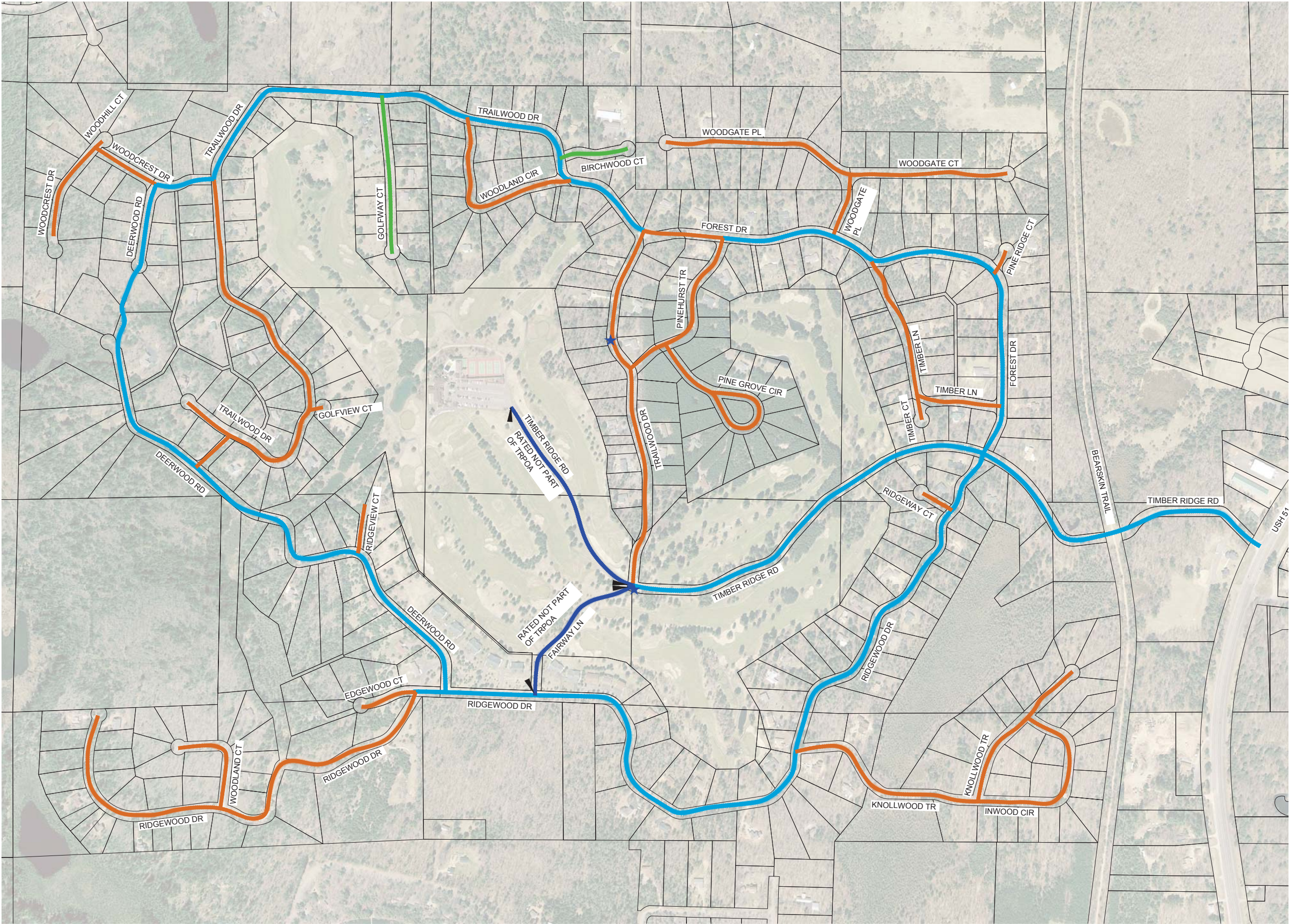
LEGEND

PAVEMENT MAINTENANCE TREATMENTS

PULVERIZE & OVERLAY

CHIP SEAL

OVERLAY



PROJECT NO.:	16556000	SCALE: AS SHOWN	NO.	DATE	REVISION	BY
PROJECT DATE:	JUNE 2015	DRAWN BY:	PJK	-	-	-
F.B.:	NONE	CHECKED BY:	JWB	-	-	-
PLOT DATE:	6/16/15	P:\165500\165500\16556000\CADD\Pavement treatments.dwg				



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PAVMENT MAINTENANCE TREATMENTS

ROADWAY MASTER PLAN
TIMBER RIDGE PROPERTY OWNERS ASSOCIATION
ONEIDA COUNTY WISCONSIN

FILE NO.	16556000
SHEET	P1

Attachment C

TIMBER RIDGE MASTER PLAN

Full Schedule

Year	Reoccurring Maintenance				Segment number	Location	Termini	Pavement Maintenance				
	Crack seal	Shoulder maintenance	Other	Totals				Termini	Chip seal 2015	Chip seal	Overlay	Pulverize and overlay
2015	\$10,000.00	\$10,000.00	\$2,000.00	\$22,000.00								
2016					17	Golfway Court	Cul-du-sac	Trailwood Drive				\$35,008.30
2016					15	Birchwood Court	Trailwood Drive	Cul-du-sac				\$15,204.20
2016								Totals				\$50,212.50
2017					41	Ridgeway Court	Ridgewood Drive	Cul-du-sac	\$719.32	\$763.12		
2017					39	Edgewood Court	Ridgewood Drive	Cul-du-sac	\$1,217.05	\$1,291.16		
2017					35	Ridgewood Drive	East of Woodland Court	East of Woodland Court	\$378.41	\$401.45		
2017					31	Ridgeview Court	Deerwood Road	Cul-du-sac	\$1,043.18	\$1,106.71		
2017					16	Woodland Circle	Trailwood Drive	Trailwood Drive	\$4,169.32	\$4,423.23		
2017					12	Trailwood Drive N&S	Pinehurst Trail	Forest Drive	\$3,211.36	\$3,406.94		
2017					13	Pinehurst Trail	Trailwood Drive	Forest Drive	\$3,688.64	\$3,913.27		
2017					14	Forest Drive	Pinehurst Trail	Trailwood Drive	\$1,704.55	\$1,808.35		
2017					4	Pine Ridge Court	Forest Drive	Cul-du-sac	\$555.68	\$589.52		
2017								Totals		\$17,703.77		
2018												
2019					1	Woodgate Place E&W	Cul-du-sac	Woodgate Court	\$4,172.73	\$4,696.44		
2019					2	Woodgate Place N&S	Forest Drive	Woodgate Court	\$1,370.45	\$1,542.46		
2019					3	Woodgate Court	Woodgate Place	Cul-du-sac	\$3,368.18	\$3,790.92		
2019					6	Timber Lane N&S	Cul-du-sac	Forest Drive	\$3,068.18	\$3,453.27		
2019					7	Timber Lane E&W	Timber Court	Forest Drive	\$1,823.86	\$2,052.77		
2019					46	Pinegrove Circle	Pinehurst Trail	Pinegrove Circle	\$4,312.50	\$4,853.76		
2019					8	Timber Court	Cul-du-sac	Timber Lane	\$552.27	\$621.59		
2019								Totals	\$13,803.41	\$21,011.20		
2020	\$11,592.74	\$11,592.74	\$2,318.55	\$25,504.03								
2021												
2022					9	Timber Ridge Road	USH 51	4-way intersection			\$43,961.00	
2022					10	Timber Ridge Road	4-way intersection	Trailwood Drive			\$52,577.11	
2022					5	Forest Drive	4-way intersection	Pinehurst Trail			\$62,409.11	
2022								Totals			\$158,947.22	
2023												
2024					11	Trailwood Drive N&S	Timber Ridge Road	Pinehurst Trail	\$4,735.23	\$6,178.40		
2024					34	Ridgewood Drive	Edgewood Court	East of Woodland Court	\$5,168.18	\$6,743.31		
2024					36	Ridgewood Drive	Woodland Court	West	\$3,559.09	\$4,643.81		
2024					37	Ridgewood Drive	West	Cul-du-sac	\$1,251.14	\$1,632.45		
2024					38	Woodland Court	Ridgewood Drive	Cul-du-sac	\$2,250.00	\$2,935.74		
2024								Totals		\$22,133.70		
2025	\$13,439.16	\$13,439.16	\$3,115.93	\$29,994.26								
2026												
2027					32	Deerwood Road	Ridgeview Court	Ridgewood Drive			\$27,170.47	
2027					33	Ridgewood Drive	Edgewood Court	East			\$48,848.51	
2027					40	Ridgewood Drive	4-way intersection	East of Fairway Lane			\$82,653.63	
2027								Totals			\$158,672.61	
2028												
2029					42	Knollwood Trail	Ridgewood Drive	Hill	\$1,837.50	\$2,779.38		
2029					43	Knollwood Trail	Hill	Inwood Circle	\$2,567.05	\$3,882.89		
2029					44	Inwood Circle	Knollwood Trail	Knollwood Trail	\$3,988.64	\$6,033.17		
2029					45	Knollwood Trail	Inwood Circle	Cul-du-sac	\$3,569.32	\$5,398.91		
2029					26	Woodcrest Drive	Deerwood Road	Woodhill Court	\$1,534.09	\$2,320.45		
2029					27	Woodhill Court	Woodcrest Drive	Cul-du-sac	\$204.55	\$309.39		
2029					28	Woodcrest Drive	Woodhill Court	Cul-du-sac	\$2,192.05	\$3,315.67		
2029					21	Trailwood Drive	Woodcrest Drive	377'	\$1,285.23	\$1,944.02		
2029								Totals		\$25,983.89		
2030	\$15,579.67	\$15,579.67	\$4,854.52	\$36,013.87								
2031												
2032					18	Trailwood Drive	Forest Drive	Golfway Court			\$54,966.57	
2032					19	Trailwood Drive	Golfway Court	Bend			\$20,932.94	
2032					20	Trailwood Drive	Bend	Woodcrest Drive			\$19,890.52	
2032					25	Woodcrest Drive	Trailwood Drive	Deerwood Road			\$10,396.04	
2032					29	Deerwood Road	Woodcrest Drive	Ridgeview Court			\$92,719.12	
2032								Totals			\$198,905.19	
2033												
2034					22	Trailwood Drive	377'	Trailwood Drive hill	\$7,002.27	\$12,278.53		
2034					23	Trailwood Drive	Trailwood Drive hill	Cul-du-sac	\$1,155.68	\$2,026.50		
2034					24	Trailwood Drive	Trailwood Drive hill	Deerwood Road	\$995.45	\$1,745.54		
2034					30	Golfview court	Trailwood Drive	Cul-du-sac	\$289.77	\$508.12		
2034								Totals		\$16,558.68		
2035	\$18,061.11	\$18,061.11	\$8,767.81	\$44,890.04								

TIMBER RIDGE MASTER PLAN COST SUMMARY**FUNDING SUMMARY**

	Crack Sealing and Maintenance	Pavement Maintenance			Annual Assessment		Total Lots	Fund Balance
Year	3% Addition for Inflation	Chip Seal	Overlay	Pulverize and Overlay	Year	Per Lot	Assessed	
2015	\$0.00				2015	\$0.00	420	\$100,000.00
2016				\$50,212.50	2016	\$91.00	420	\$88,007.50
2017		\$17,703.77			2017	\$91.00	420	\$108,523.73
2018					2018	\$91.00	420	\$146,743.73
2019		\$21,011.20			2019	\$91.00	420	\$163,952.53
2020	\$3,504.03				2020	\$91.00	420	\$198,668.50
2021					2021	\$91.00	420	\$236,888.50
2022			\$158,947.22		2022	\$91.00	420	\$116,161.28
2023					2023	\$91.00	420	\$154,381.28
2024		\$22,133.70			2024	\$91.00	420	\$170,467.58
2025	\$7,994.26				2025	\$91.00	420	\$200,693.32
2026					2026	\$91.00	420	\$238,913.32
2027			\$158,672.61		2027	\$91.00	420	\$118,460.71
2028					2028	\$91.00	420	\$156,680.71
2029		\$25,983.89			2029	\$91.00	420	\$168,916.83
2030	\$14,013.87				2030	\$91.00	420	\$193,122.95
2031					2031	\$91.00	420	\$231,342.95
2032			\$198,905.19		2032	\$91.00	420	\$70,657.77
2033					2033	\$91.00	420	\$108,877.77
2034		\$16,558.68			2034	\$91.00	420	\$130,539.09
2035	\$22,890.04				2035	\$91.00	420	\$145,869.05

Subtotals \$48,402.20 \$103,391.23 \$516,525.01 \$50,212.50

TOTAL REQUIRED 2015-2035 \$718,530.95

All capital costs are inflated 3% annually