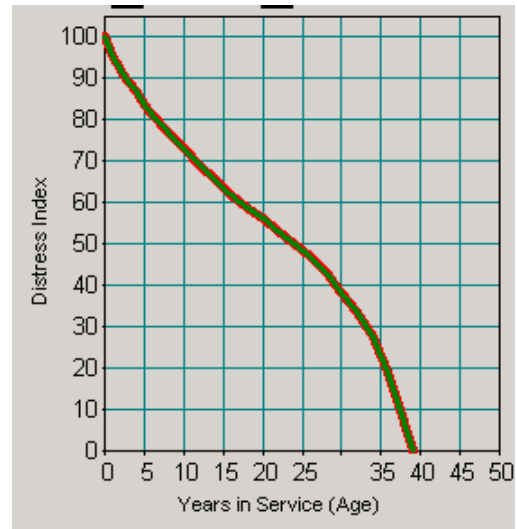


2020 Pavement Inspection and Maintenance Plan

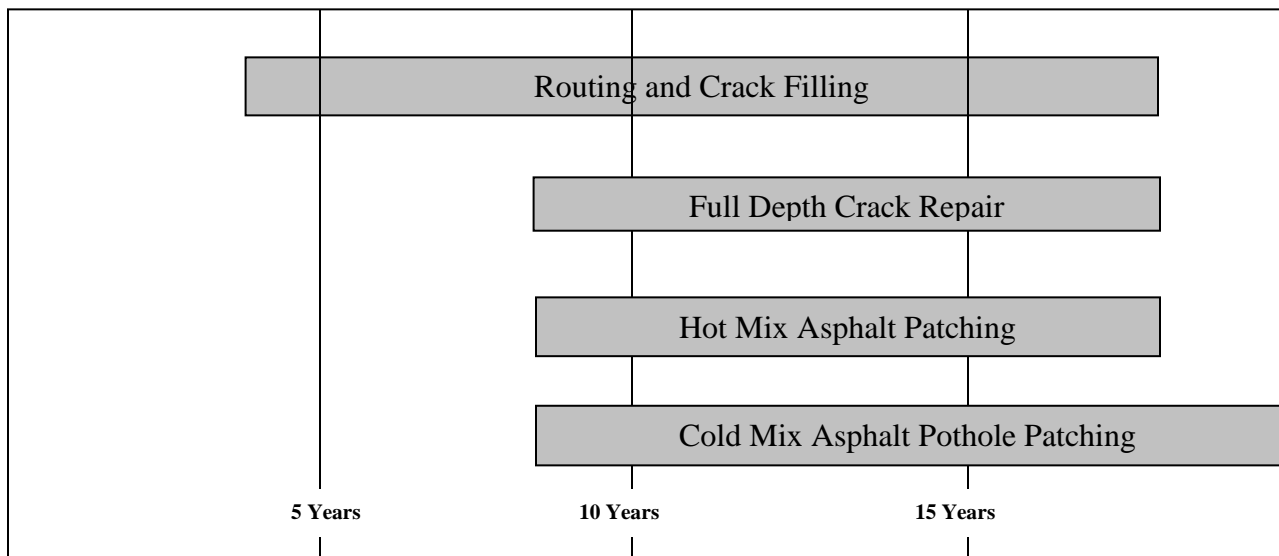
In general, we plan to get a twenty year or better life from our street pavements. This would result in resurfacing with associated patching at the twenty year point. Not all pavements will require resurfacing at twenty years and some may require resurfacing earlier.

To track the need for resurfacing Public Works uses the inspection system within the Cartegraph software. Each pavement segment is inspected at least once every four years. In addition to these four year inspections the following also occurs. The street sweeper that operates from April to November each year on a daily basis has a hand held recording device that the operator utilizes to record significant defects in the field that he finds while sweeping. Additionally Public Works is starting a program where each one of the streets staff is assigned a section of the Village to inspect once a year in March to identify significant pavement issues. If needed, added pavement segment inspections will be performed in identified areas. Defects are noted and input into the software which assigns an Overall Condition Index (OCI). OCIs run from 100, for defect free pavement, to 0. Additionally, the software uses this degradation curve to project future conditions.



The software helps to identify when to expect a pavement to exceed its minimum conditions. The software will adjust the date based on new information from each inspection.

To make the pavement last the intended 20 years the following maintenance actions are planned.



Pavement Inspections

Performed in April on a four year cycle

Year 2020 – Impressions, Bellchase, Drake Park, Meadowbrook Units east of Haligus Road

Year 2021 – Meadowbrook Units west of Haligus Road, Hidden Valley, Crystal Creek Big Sky North and Big Sky South

Year 2022 – Original Village, Heron Bay, Provence, Sumner Glen, Spring Lake South

Year 2023 – Concorde Hills, Spring Lake North

- All inspection information will be recorded on a Roadway Segment Rating Form (**See Attachment 1**)
- All Roadway Segment Rating Forms will be entered into Pavement View

OCI or Overall Condition Index rating system is

- Excellent
- Acceptable
- Poor
- Failed

Excellent - Has an OCI of 80 or more and minimal maintenance to be performed

- **Patched Areas**- Patch is in good condition and ride quality is acceptable. No maintenance required.
- **Surface Deformation (Ripples)** - Causes acceptable ride quality and does not affect travel speed. No maintenance required.
- **Surface Wear**- Aggregate or binder has begun to wear away but has not progressed significantly. No maintenance required.
- **Potholes**- Have been filled and hand tamped. No maintenance required.
- **Alligator Cracking**- Fine, longitudinal hairline cracks running parallel to each other with no, or only an interconnecting crack(s). No maintenance required.
- **Edge Cracking**- Minor cracks with no breakup or loss of material. No maintenance required.
- **Cracking**- Crack width is $< 1/8''$. Contractor to rout out and apply hot crack seal.

Acceptable - Has on OCI of 65 or more and Public Works to perform preventive maintenance

- **Patched Areas**- Patch is moderately deteriorated and/or ride quality is fair. Grind out area to a depth of 1 1/2" and fill with asphalt and roll smooth.
- **Surface Deformation (Ripples)** - Causes fair ride quality. Continue to monitor area closely for further deformation.
- **Surface Wear**- Aggregate and/or binder has worn away and the surface texture is becoming rough and pitted; loose particles, loss of fine aggregate and coarse aggregate. Apply hot asphalt filler/sealer or rejuvenator.
- **Potholes**- Depth is less than 1" and diameter is 4-8". Fill potholes and tamp by hand.

- **Alligator Cracking-** Further development of light cracks turning into a pattern or network of cracks that may be spreading. Apply hot asphalt filler/sealer or rejuvenator.
- **Edge Cracking-** Medium cracks with some breakup or loss of material. Remove loose pieces and replace with asphalt and add gravel to shoulder if needed to bring to grade.
- **Cracking-** Crack width is 3/8" or greater. Contractor to rout out and apply hot asphalt crack seal.

Poor - Has an OCI of 50 or more and Public Works to perform preventive maintenance

- **Patched Areas-** Patch is badly deteriorated and/or ride quality is poor. Public Works to perform full depth reconstruction.
- **Surface Deformation (Ripples) -** Causes poor ride quality. Public Works to perform full depth reconstruction.
- **Surface Wear-** Aggregate and/or binder have worn away considerably, and the surface texture is rough and pitted; loss of course aggregate and the asphalt binder has lost its binding effect and become loose. Apply hot asphalt filler/sealer or rejuvenator.
- **Potholes-** Depth is greater than 1" and less than 2" and diameter is 8-12". Fill potholes and compact using plate compactor.
- **Alligator Cracking-** Network or pattern cracking has progressed so that pieces are well defined and are broken up from affected area. Public Works to perform full depth reconstruction.
- **Edge Cracking-** Considerable breakup and loss of material for more than 10% of the length of the affected portion of the pavement. Remove loose pieces and replace with asphalt and add gravel to shoulder if needed to bring to grade.
- **Cracking-** Any crack surrounded by severe random cracking where a few inches of pavement around the crack is severely broken. Public Works to apply cold pour filler to cracks that measure a quarter-inch or greater.

Failed - Has an OCI of less than 50 and to be considered for repair through the MFT Resurfacing Program

- **Patched Areas-** Patch is deteriorated and/or ride quality is poor. Public Works to perform full depth reconstruction.
- **Surface Deformation (Ripples) -** Causes poor ride quality. Public Works to perform full depth reconstruction.
- **Surface Wear-** Aggregate and/or binder has worn away and the surface texture is rough and pitted; loss of course aggregate and the asphalt. Public Works to perform full depth reconstruction.
- **Potholes-** Depth is greater than 1" and less than 2" and diameter is 18-30". Grind out area to a depth of 1 1/2" and fill with asphalt and roll smooth.
- **Alligator Cracking-** Network or pattern cracking has progressed so that pieces are broken up and removed from affected area. Public Works to perform full depth reconstruction.
- **Edge Cracking-** Considerable breakup and loss of material for more than 50% of the length of the affected portion of the pavement. Grind out area to a depth of 1 1/2" and fill with asphalt and roll smooth add gravel to shoulder if needed to bring to grade.

- **Cracking-** Any crack surrounded by severe random cracking where several feet of pavement around the crack is severely broken. Public Works to apply cold pour filler to cracks that measure a quarter-inch or greater.

Hot Crack Sealing

Crack sealing locations and amount are determined by the annual pavement inspections data and crack sealing candidate report that is generated after the inspection information is entered into the Pavement View system. Crack sealing is performed in house by the Streets Division that routs out each crack to a depth of $\frac{3}{4}$ "and width of $\frac{3}{4}$ " and then applies a hot tar sealant to the crack and then a squeegee is used to level out and smooth the sealer. This maintenance is generally performed in the summer months from May to August.

2020- 2015 Resurfaced Streets, Concorde Hills, Spring Lake North

2021 -2016 Resurfaced Streets, Impressions, Bellchase, Drake Park, Meadowbrook Units east of Haligus Road

2022 -2017 Resurfaced Streets, Impressions, Bellchase, Drake Park, Meadowbrook Units east of Haligus Road

2023- 2018 Resurfaced Streets, Meadowbrook Units west of Haligus Road, Hidden Valley, Crystal Creek Big Sky North and Big Sky South

2024- 2019 Resurfaced Streets, Original Village, Heron Bay, Provence, Sumner Glen, Spring Lake South

Patching

Pothole patching is performed in house by the Streets Division. Potholes patching is performed at minimum twice a month throughout the year. Potholes are identified by crews working out in the field and sometimes by resident phone calls. During winter months when hot asphalt mix is not available, cold mix patching will be performed to fill the holes to prevent water from penetrating and freezing causing the pavement to heave and buckle. Areas that receive an abundant amount of cold patch throughout the winter may be scheduled for hot mix patching the next season. During the months when hot mix asphalt is available crews use that to fill potholes and hand tamp smooth.

Full depth patching is performed yearly at locations that have been identified thru pavement inspection data, reports and crews out in the field. It is our intention to start full depth patching in July and continue until asphalt plants close for the season around November. Full depth patching involves grinding out the area to a depth of 1 1/2" replacing the base if needed, adding hot mix asphalt and rolling smooth with a roller. This patching will continue until the pavement is within two years of resurfacing which could be beyond the twenty year life.

Full depth patching locations for 2020:

- Greenshire Circle (2 areas 30hrs)
- Pingree Road (3 areas 80 hrs)
- Village Creek Drive (2 areas 40 hrs)
- Oakleaf Road (2 area, 10 hrs)
- Indian Trail (3 areas 40 hrs)
- East Oak Street (2 area 50 hrs)
- Crystal Lake Road (2 area 40 hrs)

Resurfacing

In general, we plan to get a twenty-year or better life from our street pavements. This would result in resurfacing with associated patching at the twenty-year point. Not all pavements require resurfacing at twenty years. Resurfacing generally will take place when the OCI is between 50 and 60. Below is our resurfacing plan for the next five years; however, please note that the schedules listed below may be adjusted.

2020

Street	Beginning Street	Ending Street	Length
Baronet Court	Annandale Dr	End	330
Annandale Drive	Baronet Ct	Windermere Way	1,400
Windermere Way	Annandale Dr	Annandale Dr	1,360
Provence Place	Bordeaux Dr	Noelle Bend	760
Parc Court	Bordeaux Dr	Normandy Ln	740
Normandy Lane	Bordeaux Dr	Reed Rd	700
Crossview Lane	Annandale Drive (South)	Annandale Drive (South)	1,145
Bridlewood Circle	Whitmore Way	Whitmore Way	1,154
Annandale Drive (South)	Algonquin Rd	Tenneyson Ct	210
Princeton Lane	Thistle Ln	Brisbane Dr	375
Highwood Lane	Thistle Ln	Brisbane Dr	1,275
Montrose Drive	Danbury Circle	End	470
Arland Court	Albrecht Rd	End	275
Asbury Court	Albrecht Rd	End	330
Danbury Circle	Worthington Ln	Montrose Dr	950
McKenzie Drive	Aurora Drive	Sienna Drive	260
Montrose Drive	Danbury Cir	End	470
Wexford Lane	Stanton Cir	Wexford Ct	375
Banford Court	Banford Cir	End	260
Heron Drive	Barharbor Drive	Barharbor Drive	1,175
Cheyenne Drive	Hilltop Dr	Hiawatha Dr	1,015
Chippewa Trail	Delaware Dr	Hiawatha Dr	350
Roosevelt Street	Adams St	Jefferson St	275
Winslow Way	Stickley Ln	Chancery Way	570
Steeplechase Way	Annandale Drive (South)	End	1,415
Wedgewood Court	Annandale Drive (South)	End	465
Total Length			18,104

2021

Cost \$978,180

Street	Beginning Street	Ending Street	Length
Industrial Drive	Imhoff Dr	Walter Ct	934
Hilltop Drive	Willow St	Cheyenne Dr	312
Hilltop Drive	Cheyenne Dr	Pawnee Dr	302
Hilltop Drive	Pawnee Dr	Bernyce St	344
Banbury Court	Banbury Ln	End	169
Margate	Banford Cir	End	407
Stanton Court	Stanton Cir	End	279
Willow Street	Seminole Trl	Huron Trl	299
Alexandria Drive	Annandale Dr (North)	Annandale Dr (North)	1098
Montclair Court	Princeton Ln	Princeton Ln	197
Industrial Drive	Walter Ct	Prosper Ct	438
Trinity Drive	Virginia Rd	Illinois Route 31	1,486
Willow Street	Huron Trl	Pyott Rd	754
Geneva Court	Geneva Ln	End	232
Banford Circle	Banford Ct	Margate Ct	462
Camden Court	Melbourne Ln	End	175
Hayward Lane	Hayward Ct	Banbury Ln	342
Cherokee Trail	Delaware Dr	Hiawatha Dr	366
Crystal Lake Road	Oak St (East)	Linden St	407
Courtney Drive	Impressions Dr	Albrecht Rd	590
Albrecht Road	Impressions Dr	Crimson Ct	270
McKenzie Drive	Sienna Dr	McKenzie Ct	339
Stanton Circle	Raxburg Ct	Sussex Ct	360
Baldwin Lane	Baldwin Ct	Thistle Ln	418
Indian Trail	Acorn Ln (East)	Hickory Rd	763
Indian Trail	Wander Way	Acorn Ln (East)	676
Melbourne Court	Waterford Ln	End	180
Winslow Way	Chancery Way	Normandy Ln	735
Walter Court	Industrial Dr	End	662
Chadwick Lane	Highwood Ln	Princeton Ln	1,289
Cadbury Circle	Albrecht Rd	Albrecht Rd	2,143
Avalon Lane	Danbury Cir	Geneva Ln	880
Stanton Circle	Wexford Ln	Stanton Ct	886
Princeton Lane	Chadwick Ln	Thistle Ln	382
Albrecht Road	Courtney Dr	Magnolia Ln	251
Indian Trail	Hickory Rd	Pheasant Trl	226
Hayward Lane	Miller Rd	Hayward Ct	203
Stanton Circle	Sussex Ct	Wexford Ln	429

Total Length 20,685

Cost \$1,234,247

2022

Street	Beginning Street	Ending Street	Length
Chantilly Circle	Annandale Dr (North)	Annandale Dr (North)	1,040
Baldwin Lane	Albrecht Rd	Baldwin Ct	801
Barharbor Drive	Heron Dr	Barharbor Ct	250
Danbury Circle	Geneva Ln	Avalon Ln	714
McKenzie Court	End	McKenzie Dr	167
Chancery Way	Annandale Dr (North)	End	55
Chancery Way	Wright Dr	Winslow Way	986
Albrecht Road	Crimson Ct	Courtney Dr	274
Stickley Lane	Alexandria Dr	Winslow Way	860
Princeton Court	Princeton Ln	End	132
Windermere Way	Windermere Way	Annandale Dr (North)	988
Halfmoon Gate	Clear Sky Trl	Miller Rd	209
Alexandria Drive	Stickley Ln	Ellis Rd	365
Annandale Dr (South)	Ferryville Dr	Windgate Way	339
Annandale Dr (South)	Crossview Ln	Steeplechase Way	989
Annandale Dr (South)	Whitmore Way	Tenneyson Ct	285
Annandale Dr (South)	Windgate Way	Whitmore Way	572
Annandale Dr (South)	Steeplechase Way	Crossview Ln	171
Chadwick Ln	Princeton Ln	Highwood Ln	263
Sierra Ct	Viewpoint Dr	End	431
Haligus Road	Grafton Farm Dr	Geneva Ln	986
Haligus Road	Corporate Limits	Wildspring Dr	224
Haligus Road	Wildspring Dr	Grafton Farm Dr	927
Ronan Drive	Harvard Ln	Ackman Rd	555
Lucerne Lane	Foxfield Ln	Grafton Farm Dr	536
Albrecht Road	Lakewood Rd	Impressions Dr	423
Bellchase Service Rd	Algonquin Rd (West)	End	240
Creekview Lane	Oak St (East)	McPhee Dr	1,195
Avalon Lane	Geneva Ln	Montrose Dr	368
Barharbor Drive	Barharbor Ct	Mackinac St	770
Sussex Court	Stanton Cir	End	318
Princeton Lane	Chadwick Ln	Princeton Ct	522
Foxfield Court	Foxfield Ln	End	172
Starwood Pass	Heaven's Gate	Clear Sky Trl	205
Thistle Lane	Highwood Ln	Princeton Ln	1,225
Annandale Drive (South)	Crossview Ln	Ferryville Dr	139

Total Length 18,696

Cost \$1,146,877

2023

Street	Beginning Street	Ending Street	Length
Impressions Drive	Albrecht Rd	Courtney Dr	622
Stanton Circle	Stanton Ct	Miller	231
Albrecht Road	Magnolia Ln	Ronan Dr	254
Starwood Pass	Clear Sky Trail	Sweetwater Ridge	387
Crystal Lake Road	Woodland Rd	Indian Trl	657
Village Hall Drive	End	Algonquin Rd	430
Sienna Drive	Danbury Cir	Miller Rd	259
Princeton Lane	Princeton Ct	Chadwick Ln	1,488
Birkdale Court	Annandale Dr (North)	End	146
Crystal Lake Road	Linden St	Lee St	250
Roosevelt Street	Monroe St	Adams St	321
Prosper Court	Industrial Dr	End	609
Sweetwater Ridge	Starwood Pass	Sweetwater Ct	304
Ronan Drive	Impressions Dr	Princeton Ln	519
Ronan Court	Albrecht Rd	End	285
Crystal Lake Road	Hilltop Dr	Oak St (East)	320
Starwood Pass	Prides Run	Heaven's Gate	216
Halfmoon Gate	Starwood Pass	Clear Sky Trl	325
Crystal Lake Road	Indian Trl	Hilltop Dr	542
Cedar Ridge Drive	Algonquin Rd (West)	Quail Run	489
Halfmoon Gate	Starwood Pass	Starwood Pass	987
Geneva Lane	Danbury Cir	Avalon Ln	842
Ronan Drive	Albrecht Rd	Impressions Dr	435
Woody Way	Oakleaf Rd	Wander Way	820
Terramere Lane	Alexandria Dr	Chancery Way	1,223
Heron Drive	Heron Ct	Barharbor Dr	297
Chancery Way	Annandale Dr (North)	Chancery Ct	300
Clear Sky Trail	Starwood Pass	Halfmoon Gate	957
Pheasant Trail	Oakleaf Rd	Wander Way	810
Sweetwater Ridge	Sweetwater Ct	Moonstone Run	658
Clear Sky Trl	Halfmoon Gate	End	237
Frank Road	Algonquin Rd (West)	Coyote Lakes Cir	921
Quail Run	End	Oakleaf Rd	311
Crystal Lake Road	Deer Path Rd	Hunters Path	337
Total Length			17,789
Cost			\$1,157,713

2024

Street	Beginning Street	Ending Street	Length
Sweetwater Court	Sweetwater Ridge	End	174
Barharbor Drive	Mackinac St	Mackinac St	775
Sonoma Circle	Miller Rd	Sonoma Ct	2,973
Sullivan Pass	Wright Dr	Lakewood Rd	216
Chancery Way	Terramere Ln	Winslow Way	320
Wexford Court	Wexford Ln	End	119
Heron Drive	Miller Rd	Heron Ct	205
Crystal Lake Road	Pheasant Trl	Deer Path Rd	345
Crystal Lake Road	Acorn Ln (East)	Woodland Rd	608
Barharbor Drive	Mackinac St	Saginaw St	264
Sweetwater Ridge	Moonstone Run	Starwood Pass	286
Barharbor Court	Barharbor Dr	End	296
Thistle Lane	Baldwin Ln	Highwood Ln	386
Mackinac Street	Barharbor Dr	Barharbor Dr	1,041
Worthington Lane	Miller Rd	Danbury Cir	227
Crystal Lake Road	Hunters Path	Woody Way	337
Oakleaf Road	Woody Way	Acorn Ln (East)	341
Crimson Court	Albrecht Road	End	98
Baldwin Court	Baldwin Ln	End	312
Harvest Gate	Algonquin Rd (West)	Village Hall Dr	608
Hawthorne Road	Pheasant Trl (West)	Hunters Path	686
Hawthorne Road	Hickory Rd	Acorn Ln (East)	397
Raxburg Cout	Stanton Circle	End	375
Quail Run	Oakleaf Rd	Cedar Ridge Dr	490
Roosevelt Street	Washington Street	Monroe St	318
Deer Path Road	Oakleaf Rd	Wander Way	820
Frank Road	Coyote Lakes Cir	Boulder Dr	655
Frank Road	Peartree Dr	Miller Rd	1,665
Frank Road	Willow View Dr	Peartree Dr	913
Hickory Rd	Hawthorne Rd	Indian Trl	348
Lake Dr	Pheasant Trl (West)	Pheasant Trl (West)	142
Oakleaf Rd	Hunters Path	Woody Way	347
Barharbor Dr	Saginaw St	Lakewood Rd	223
Total Length			17,310
Cost			\$1,171,830