



SPRING LAKE NORTH
SUBDIVISION

ROAD PROJECT

Mill and Overlay with Selective
Concrete Curb Replacement

This presentation to
homeowners covers
project research,
analysis, scope, and
projections.

10/01/2024



TOWNSHIP REPRESENTATIVES



PAUL BROWN
Township Treasurer



KIM FEIGLEY
Director of Assessing



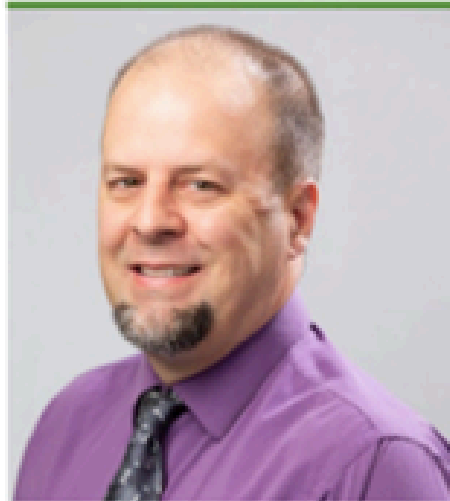
TONIGHT'S MEETING

- Where we started.
- What we found.
- Repair Solutions.
- How do we proceed from here?

ENGINEERING REPRESENTATIVE



Resume



Jeffrey M. Hayball, P.E.

Project Manager

Jeff is a Project Engineer in the G2 Troy office. He has been involved in various geotechnical engineering projects, primarily in pavement investigations. Additionally, he is directly involved in the field with Pile Dynamics Analysis (PDA) testing of deep foundation systems. He provides field installation of Thermal Integrity Profiler (TIP) Testing for drilled pier foundation systems. He has been expanding his scope of work into QA / QC of various residential pavement projects including bid packages and review of daily field reports. Finally, he works on geotechnical investigations, including new building construction, underground utilities, and building additions.

Jeff's project experience includes:

I-75 Modernization Project Pile Dynamic Testing, Oakland County, MI

Local Streets Paving Program, Ferndale, MI

Completed pavement investigations for the City of Ferndale's pavement improvement from 2017-2022.

GM Tech Center, Warren, MI

Conducted Thermal Integrity Profiler (TIP) testing for the new VEC Parking Structure Project and Design Deck Project.

EDUCATION

- ▶ Bachelor of Science, Civil Engineering – Michigan State University

REGISTRATIONS & CERTIFICATIONS

- ▶ Licensed Professional Engineer – State of Michigan
- ▶ ACI – Concrete Testing Technical, Level 1
- ▶ ACI – Concrete Strength Testing Technician
- ▶ ACI – Aggregate Testing Technical, Level 1
- ▶ ICC Structural Welding Special Inspector

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- What we found.
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SPRING LAKE NORTH SUBDIVISION

WHERE WE STARTED. RESEARCH

Starting in January of 2024, we began studying material from MDOT, TAMC, Michigan Tech, and various research papers. We were looking to understand the condition of the roads and begin formulating a plan to deal with the roadway infrastructure.

Analysis of TAMC Investment Reporting Data for Network Level Modeling on the Locally Owned Road System in Michigan



CAPITAL PREVENTIVE MAINTENANCE MANUAL

December 2020

CONSTRUCTION FIELD SERVICES
DIVISION



An Economic Analysis of the Value of Local Street Improvements In Springfield, Oregon

Ethan Rasmussen
Famery Yang

Presented to the Department of Economics, University of Oregon,
in partial fulfillment of requirements for honors in Economics.

Under the supervision of
Professor Bruce Blonigen


June 2012



Center for Technology & Training
Michigan Technological University
309 Dillman Hall
1400 Townsend Drive
Houghton, MI 49931

ROAD SURFACE EVALUATION

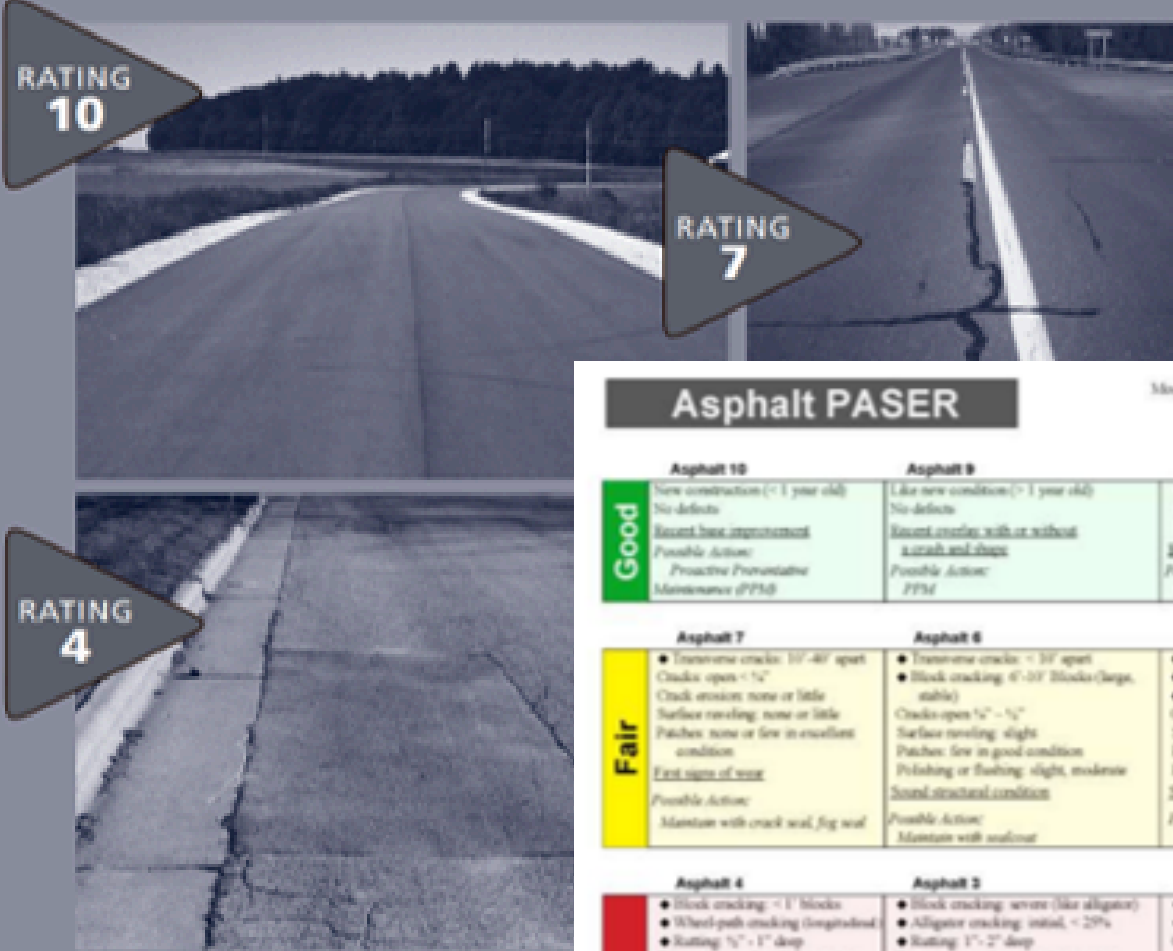
During the month of March 2024 we endeavored to grade our roads using the PASER road grading manual. This is the manual used by most states, including Michigan, to obtain surface structure ratings.



4 / 10
Avg. Road Grade

Pavement Surface Evaluation and Rating

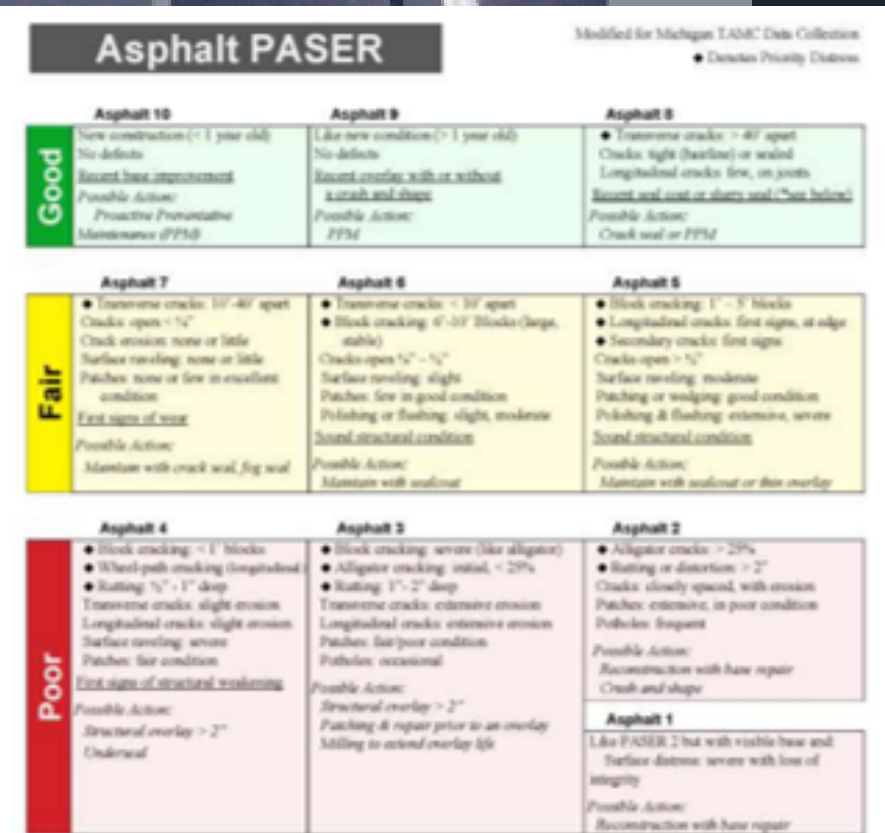
PASER Asphalt Roads Manual



RATING 10

RATING 7

RATING 4



Asphalt PASER Modified for Michigan TAMC Data Collection
Denotes Priority Districts

	Asphalt 10	Asphalt 9	Asphalt 8
Good	<ul style="list-style-type: none"> New construction (< 1 year old) No defects Recent base improvement Possible Action: Preventive Maintenance (PPM) 	<ul style="list-style-type: none"> Like new condition (> 1 year old) No defects Recent overlay with or without a crack and shape Possible Action: PPM 	<ul style="list-style-type: none"> Transverse cracks > 40' apart Cracks tight (hairline) or sealed Longitudinal cracks fine, on joints Recent seal coat or slurry seal (See below) Possible Action: Crack seal or PPM
Fair	<ul style="list-style-type: none"> Transverse cracks 30'-40' apart Cracks open < 1/2" Crack erosion: none or little Surface raveling: none or little Patches: none or few in excellent condition First signs of wear Possible Action: Maintain with crack seal, fog seal 	<ul style="list-style-type: none"> Transverse cracks < 30' apart Block cracking 4'-30' blocks (large, stable) Cracks open 1/2" - 1" Surface raveling: slight Patches: few in good condition Polishing or flashing: slight, moderate Sound structural condition Possible Action: Maintain with sealcoat 	<ul style="list-style-type: none"> Block cracking 1' - 5' blocks Longitudinal cracks: first signs, at edge Secondary cracks: first signs Cracks open > 1/2" Surface raveling: moderate Polishing or flashing: good condition Polishing & flashing: extensive, severe Sound structural condition Possible Action: Maintain with sealcoat or thin overlay
Poor	<ul style="list-style-type: none"> Block cracking < 1' blocks Wheel-path raveling (longitudinal) Rutting 1/2" - 1" deep Transverse cracks: slight erosion Longitudinal cracks: slight erosion Surface raveling: severe Patches: few condition First signs of structural weakening Possible Action: Structural overlay > 2" Overlaid 	<ul style="list-style-type: none"> Block cracking: severe (like alligator) Alligator cracking: initial, < 25% Rutting 1" - 2" deep Transverse cracks: extensive erosion Longitudinal cracks: extensive erosion Patches: few poor condition Potholes: occasional Possible Action: Structural overlay > 2" Patching & repair prior to an overlay Milling to extend overlay life 	<ul style="list-style-type: none"> Alligator cracks > 25% Rutting or distortion > 2" Cracks: closely spaced, with erosion Patches: extensive, in poor condition Potholes: frequent Possible Action: Reconstruction with base repair Crack and shape <p>Asphalt 1</p> <ul style="list-style-type: none"> Like PAPER 2 but with visible base and surface distress: severe with loss of integrity Possible Action: Reconstruction with base repair

Transportation Information Center
University of Wisconsin-Madison

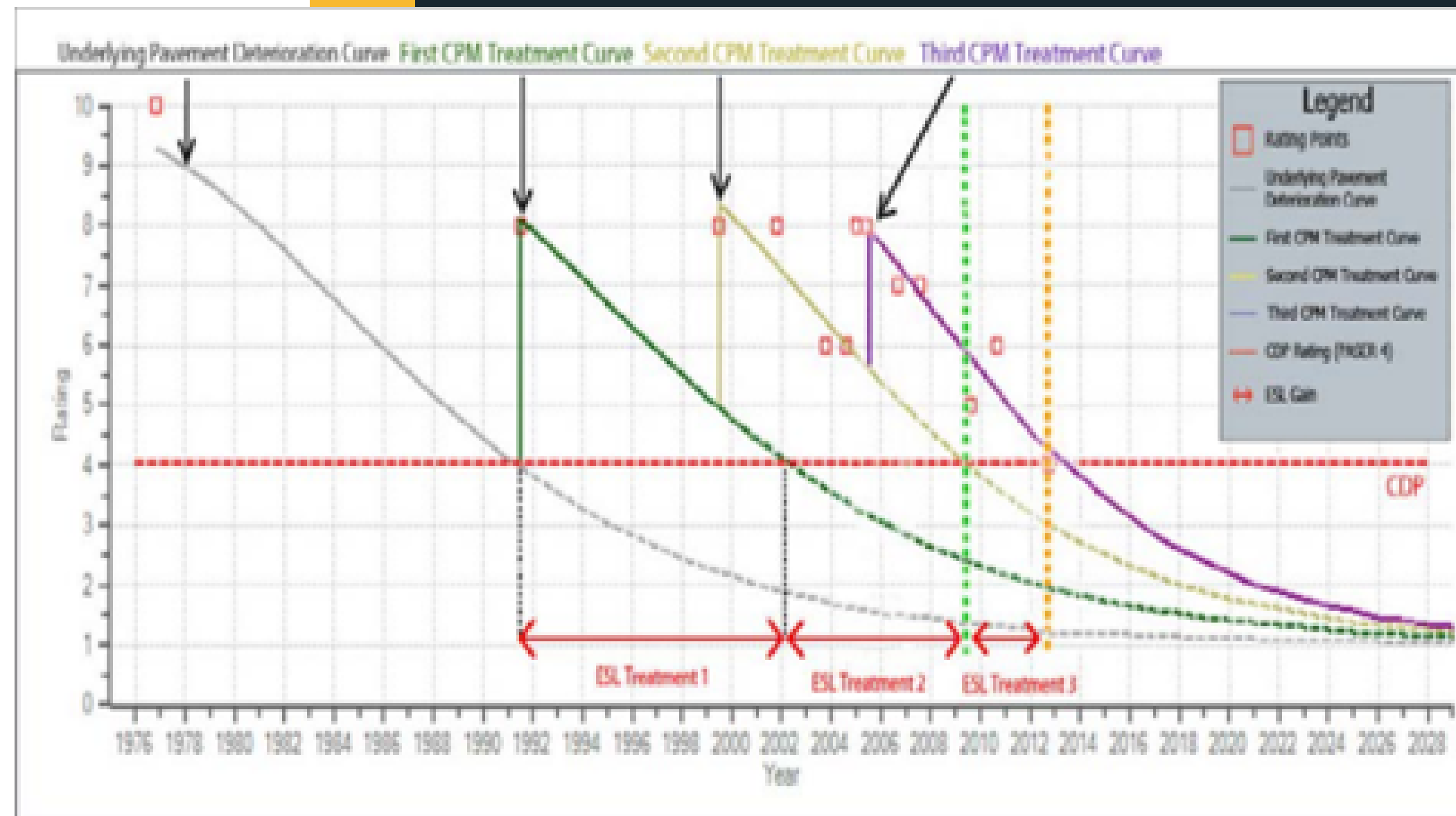
HOW PAVEMENTS AGE NON-LINEAR

Cost-Effective Repair

Our research in collaboration with G2 Consulting has shown us that milling the asphalt surfaces four inches and making selective curb replacements will give us the best cost-effective repair.

CRITICAL DISTRESS POINT (CDP): THE PASER 4 LINE— WHEN PAVEMENT DETERIORATION CHANGES FROM EXHIBITING AGE-RELATED TO STRUCTURAL DISTRESSES

Source: Michigan Local Agency Pavement Treatment Life Study 2018 (MDOT)



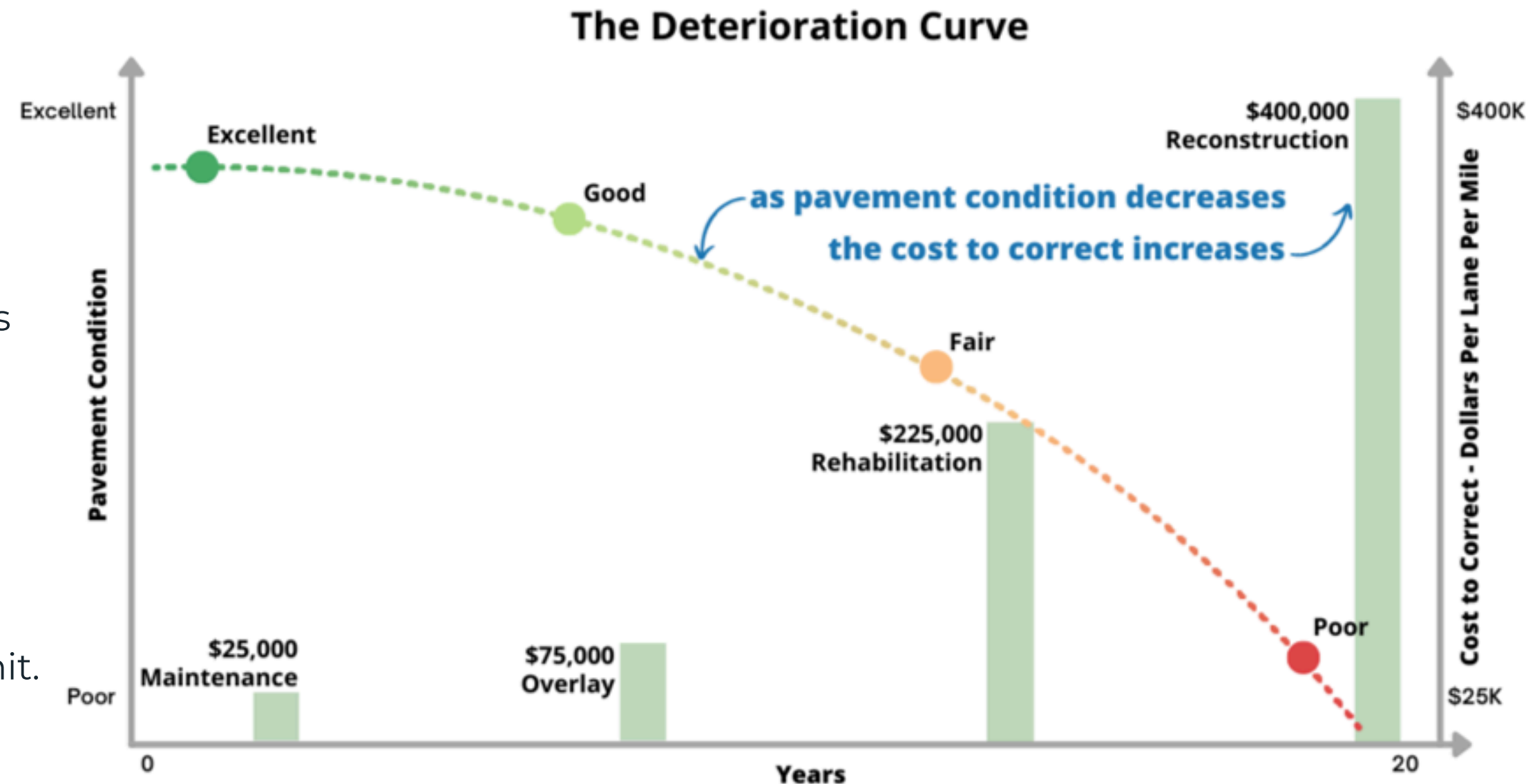
PAVEMENT REPAIR OPTIONS

Do Nothing

The roads will continue to deteriorate. The HOA does not have the funds required to repair the roads as they worsen. We expect that potholes will rapidly become an issue as the road weakens over the next two years. Our options for road repair in the future would also be limited as the structure continues to weaken.

We would lose the following...

- Ability to finance the project.
- Economies of scale which affects price per unit.
- Increased NRIP grant funding.
- Ability to negotiate below retail pricing.
- Potential discounts with Sheringham's project.
- The ability to rehabilitate the roads vs. reconstruction which costs significantly more.
- Lost partnership with the township which means that the HOA would have to assess the homeowners directly.



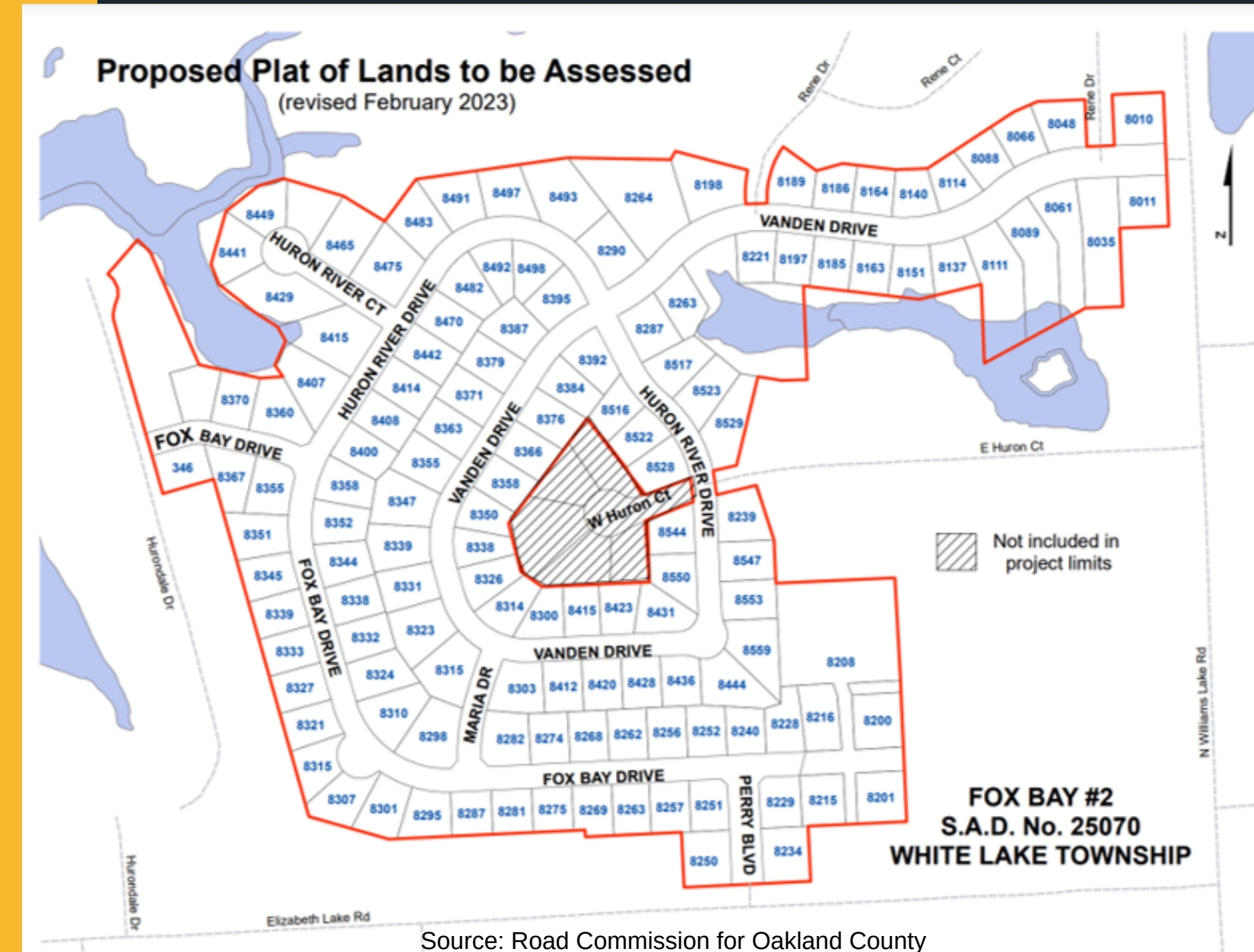
Source: <https://data.tempe.gov/pages/f222847cc6cb42f48a8814be1d52bbae>

PAVEMENT REPAIR OPTIONS

Remove the entire road structure.

We could remove and replace the entire road infrastructure. The cost is prohibitive, and we expect that the cost could be a burden on families within the subdivision. This option would give us brand new roads, however, which could be expected to last 30 years.

FOX BAY #2 RCOC S.A.D. EXAMPLE OF RCOC PROJECT



PROJECT EST: 2,577,972.60

PAVEMENT REPAIR OPTIONS

Mill and Overlay with Selective Curb Replacement.

Milling is the process of removing 4 inches of asphalt and resurfacing with new asphalt on top of the existing base layer. Curbs which have broken into multiple pieces or potholed would also be replaced. ***We have found this to be the most cost-effective solution for our homeowners.***



Report on Geotechnical Pavement
Investigation

**Spring Lake North
Pavements
Independence Township,
Michigan**

Latitude 42.722631° N
Longitude 83.398264° W

Prepared for:

Spring Lake North Subdivision HOA
5583 Adderstone Drive
Clarkston, Michigan 48346

G2 Project No. 243572
September 5, 2024

g2consultinggroup.com

Headquarters	1886 Woodlee St	Troy, MI 48063	P 248.680.0000	F 248.680.8715
Ann Arbor	1710 Eastway Pl	Ann Arbor, MI 48106	P 734.390.9100	F 734.390.9101
Chicagoland	1188 Heather Dr	Lake Zurich, IL 60047	P 847.253.8740	F 847.313.8742

PAVEMENT REPAIR OPTIONS

Engineering Recommendations from G2 Consulting

“As noted, **the pavements within the Spring Lake North Subdivision are generally in fair to poor condition.** Subgrade soils over the area generally have good support characteristics, and core samples of the pavement were generally recovered intact. It appears much of the cracking and weathering distress is within the upper leveling and top course layers of the pavement. Considering the relatively thick bituminous concrete (asphalt) section present along the roadways and general condition of the pavement, we recommend rehabilitation of the pavements by cold milling followed by installation of a bituminous (asphalt) overlay. **Single lift overlays are generally intended to extend the service life of pavements that are in relatively good condition.** For this project, we recommend a two lift overlay, 4 inches thick, with localized full depth repairs and localized replacement for areas of damaged or poorly draining curb and gutter. **We anticipate that a mill and two lift overlay pavement improvement option will provide an additional 15 to 20 years of serviceable life with normal maintenance.** Please note some reflective cracking within the new overlay may occur within the first 3 years of service.”



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Chicago-based	1188 Heather Dr	Lake Zurich, IL 60047	P 847.253.8740	F 847.333.8742

PROJECT COST ESTIMATE



\$879,758.38

This is the **estimated total** project cost for this project.

\$8,459.22

This is the **estimated cost** to each homeowner.

Keep in mind...

- This total includes an extra 10% allowance for extra materials and labor.
- This also includes township fees and engineering services.
- This also includes a \$50,000 long-term capital maintenance fund that can be used for minor road repair over the next 20 years.
- This estimate includes \$100,000 of NRIP grant funding from Independence Township.

HOW DO I PAY?

TWO OPTIONS

Pay the full amount.

The assessment will come with the Winter Tax Bill next year after construction. The assessment WILL NOT trigger an increase to your taxable value.

Pay over 10 years at 6% interest

Homeowner's will have the option to pay over 10 years. The payments will be due with winter taxes. This is a great way to help make this more affordable.



OAKLAND COUNTY, MI

ESTABLISHED 1837

INDEPENDENCE TOWNSHIP

Experience Everything



WHO IS INVOLVED? OUR PARTNERS

Independence Township

Assessing Department
Treasurer's Department
Supervisor's Department
Clerks Office
Department of Public Works

Road Commission for Oakland County

Subdivision's Department
Permitting Department
Customer Services Department

Other's Involved

G2 Consulting Group
Spring Lake North HOA
Sheringham Woods HOA
Community Volunteers
Homeowners
Vendors bidding on project



FREQUENTLY ASKED QUESTIONS

The following slides include some of the most frequently asked questions.





HISTORY OF OUR ROADS BUILT IN 1993

Now rated at poor/fair condition.

The roads in our subdivision were built in 1993 and are currently 30 years old. The road surface has lasted as long as it was designed for and is now showing signs of rapid deterioration. Currently, our roads are rated on average as 4/10. 10 being a brand-new road and 1 being a totally broken and unusable surface requiring total replacement. The good news is that the road structure currently supports milling and resurfacing.



REPAIR SERVICE LIFE 15-20 YEARS

Backed by G2 and Research

The expectation is that we should expect this repair to last 15-20 years. This is backed up by research provided by MDOT, Michigan Technological University, Michigan Transport Asset Management Council, G2 Engineering, and various contractors. We are expecting that it will be closer to 20 years as we continue to seal and treat any problem areas during that time. The road base is also in a favorable condition to support a longer time frame. Since this is a repair and not a full replacement, we expect to see minor cracking in the surface after the first year. Continued seal treatments will address this.





CONSTRUCTION TIMELINE

SUMMER 2025

Curbs + Milling + Overlay

The project will start with selective curb replacements. The concrete work must be done first and allowed time to cure before the asphalt work begins. When the asphalt work commences, the subdivision will be split into work zones so that everyone has a space to park and can access their homes. More information will be made available to homeowners as we move closer to construction.





COUNTY TAXES AND ROADS WHY IS THERE NO FUNDING?

Road Commission for Oakland County

Our roads are classified as public roads and are owned by the Road Commission for Oakland County. However, there has been no funding set aside at the Federal, State, and County level to provide money for this project. This is true of most subdivisions within the State of Michigan.

Fortunately, Independence Township has decided to partner with us and provide a cost-effective solution. They are willing to provide the financing and additional grant money towards the project. Ultimately, it is the homeowners in our subdivision who will pay for the majority of this repair.





GRANT FUNDING NEIGHBORHOOD ROAD IMPROVEMENT PROGRAM

\$100,000

Independence Township has set aside funding to contribute as a grant to this project. This is provided through the Neighborhood Road Improvement Program (NRIP). The application has already been made with the Township.





WILL THIS RAISE MY TAXES? ASSESSMENTS VS. TAXES

This project does not reset the taxable value.

While the assessment will come with the winter taxes, it is not a tax bill. The assessment will not cause your taxes to be readjusted to reflect a higher tax burden. Assessments are in addition to taxes and do not reset the taxable value of your parcel.





WHAT IF I SELL MY HOME? NO PROBLEM

The S.A.D. is attached to the parcel.

A few homeowners have asked what happens when the home is sold with a Special Assessment attached. Typically, who pays the Special Assessment is determined by what is negotiated by the parties to the transaction. Keep in mind that there is a “Specific Benefit” to this project, which means that property values should increase.



QUESTIONS?



NEXT STEPS



- Visit our website to stay up to date on the project.
springlakenorth.com
- Expect a letter from our HOA in the next few days concerning project details.
- Expect a letter from Independence Township with information regarding our public hearing.
- Expect our formal petition to begin circulation soon.



THANK YOU!

I would like to extend a personal note of gratitude to our government employees, volunteers, engineers, vendors, homeowners, and most of all to my family. This project could not be facilitated without your support and kindness.



HAVE QUESTIONS?

Please don't hesitate to call me anytime. Your questions and concerns are important to us and our community.

Ben Hastings, Road Project Team Leader

(517) 425-0542

