

Capital Improvements Committee

February 16, 2021- Special Meeting

MEETING SUMMARY

A special meeting of Capital Improvement Committee of Oshtemo Township was held on Tuesday, February 16, 2021 at 1:00 PM. Due to Executive Order of the Governor to implement social distancing during the COVID-19 public health crisis, the meeting was conducted as a virtual meeting via Zoom. Persons in virtual attendance included Clare Buszka, Libby Heiny-Cogswell, Marc Elliott, Dick Hertzell, Bernie Mein, Josh Owens, James Porter, Ryan Russell, Dick Skalski, Tom Wheat, Zak Ford, Anna Horner, Iris Lubbert, Tim Mallet, Matt Johnson and Mark Worden.

1. Call to Order. The February 16, 2021 special meeting of the Capital Improvements Committee of Oshtemo Township was called to order at approximately 1:00 PM by Libby Heiny-Cogswell.
2. Meeting Summary. Members reviewed a summary of the special CIC meeting held January 19, 2020. Upon motion of Ford and second by Skalski, the CIC meeting summary was approved.
3. Roadway PAR. Staff reviewed for the committee members that the 2021 PAR funds were originally anticipated to be used for the sewer expansion areas and respective road reconstructions. The Oshtemo Road – Sidewalk – Shared Use Path Assessment Policy stipulates leveraging township road dollars only when sanitary sewer is available to be extended in coordination. Since those projects were suspended, Township staff asked The Road Commission of Kalamazoo County to submit additional road segments based on PASER ratings and asset management plan. Mark Worden reviewed a list of preventative maintenance projects including: Westport Trails Subdivision, Breckenridge Subdivision, 2nd Street, H Ave, Quail Run Drive, Forest Creek Subdivision, Maple Hill, Stadium Parkway, Hobbit Circle, Chime and Erie Streets, and Quail Meadows Subdivision. The rollover amount from 2020 PAR is \$57,692 and 2021 PAR is \$258,108 for a total of \$315,800 currently available to Oshtemo. Suggested projects totaled \$631,803. All were in favor of recommending these projects to the board (*this was determined in conjunction with discussion of item 5).
4. Regional/Commission Water Service Agreement with the City of Kalamazoo Finalized. Committee discussed approval of a new 40-year contract with the City for public water service. [The [full agreement](#) can be found in the Board's meeting packet on the Township web site.] Many expressed gratitude for those who made significant effort to see this process through.
5. 8th St Sanitary Sewer Extension, W Main to KL Ave. The project is currently preliminarily designed by Prein& Newhof and it would be anticipated for bidding in April/May 2020 to be built this year. The road commission has agreed to fund a contribution for classification change from county primary to local and would like to know as soon as possible if the project will move forward with construction in 2021 for budgetary obligations. Lengthy discussion was had on the approach for funding sewer projects in general in the Township with 8th Street being used as a “model”. Staff needed to confirm with CPA if road millage revenues, which start to be collected in December, could be used towards this project in 2021. It was noted that this system split at the high point in the road and was gravity fed in either direction. The section discharging towards the north, would be dry until Phase 1 expansion was completed.

6. MDOT US 131 Bridge Replacement at KL Ave. Director Elliott recently received contact from MDOT on US 131 bridge replacement over KL Ave project with construction scheduled for 2024. Staff and consultants are working to ensure the design engineering of the 10-foot trailway on north side of KL Ave is progressing at rate to be included in bridge plans. Utility and design meetings will start in March 2021. Township has received TAP funding from KATS in FY 2022. We have three years (ie 2025) to spend the KATs funds, so there should be good alignment.
7. 2021 Sidewalk Projects Associated with Anticipated Sewer Construction. Staff reviewed sidewalk construction was planned for 2021 that related to nearby sewers. Projects that were not directly adjacent to sewer expansion areas were still desired by CIC committee members. All were in favor of pursuing construction of Green Meadow Rd and Maple Hill-Croyden this year.
8. Consider Alternative Funding Options for Sewer Extension. Staff discussed work being done to determine funding sources and acceptable amounts of each funding source. Members heard feedback from public during voting that connection fees needed to be approximately \$5,000.00 per parcel. Discussions were held about road millage being leveraged, to reduce costs to residents, and how a lower cost would affect use of general fund dollars. Member comment on road millage being used only in sewer areas, but the intent is for the road millage to be used throughout the Township. Staff noted that additional funding is recommended by RC to keep up with all roads in township.
9. Residents Survey – Public Sewers. Planning Director Lubbert reviewed the questions compiled for community feedback survey developed with the W.E. Upjohn Institute. Another meeting with external partners to be held this week and survey sent to residents by end of the month. Members were supportive of the draft and provided additional constructive comments.
10. Street Light Capital Projects – LED Conversions. The capital budget for streetlights is \$18,000 for LED conversions. Staff reached out to consumers energy to consider W Main between Drake Rd and 10th St and Maple Hill/Croyden sidewalk projects for additional streetlights.
11. Interest Rate Determination Methodology – Utility Installment Agreements. At its January 26th Meeting, the Oshtemo Board adopted a more precise means for setting the interest rate for Township financing of Utility Connection Installment Payment Agreements.
12. S. 2nd St. Petition. Staff and others summarized a zoom meeting which Supervisor Heiny-Cogswell hosted among residents of S. 2nd St., between L and KL Avenues. There is local interest in circulating a petition to have their gravel road paved, to include safety improvements at the L Ave intersection. They were seeking clear understanding of how much the homeowners would be required to pay. [A project cost estimate from the RCKC had been previously distributed.] In summary, the residents were frustrated that the petition offered few guarantees regarding the individual cost. Most notably, the Board of the Kalamazoo County Road Commission would be responsible for holding the public hearing and appropriating the cost. The procedure includes an apportionment of some of the cost to the Township at large. Historically, RCKC has sought to respect the Township's input during the hearing process regarding what amount the Township regarded as appropriate. It was noted that a straw poll of the Board did suggest an apparent consensus in the range of \$10,000 as the Township's contribution. However this was not a formal action; nor has the Board discussed amending its budget to add the project.
13. Member Comments & Information Items. The general discussion entailed that more frequent meetings may be necessary with sewer extension projects and millage was noted and request to be mindful of meeting length was requested. Due to the current volume of work, CIC meetings will tentatively be scheduled to convene monthly.
14. Next Meeting. The next scheduled meeting of the Oshtemo Township Capital Improvements Committee (CIC) will be held on March, April 16, 2021 at 1:00 PM. Special Meetings will be

scheduled as needed while work continues with staff and consultants on financing structure determination.



7275 W. MAIN STREET, KALAMAZOO, MI 49009
269-216-5220 Fax 269-375-7180 www.oshtemo.org

Capital Improvements Committee

VIRTUAL ZOOM MEETING
Tuesday, February 16, 2021
1:00 P.M.

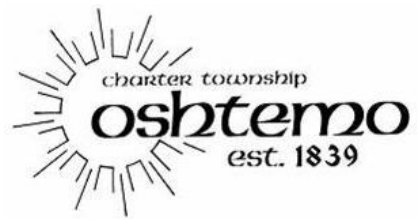
Meeting Agenda - VIRTUAL

1. Welcome/Introductions/Call to Order. The Chair shall welcome members and call the February 16th, 2021 special meeting of the Capital Improvements Committee to order.
2. Meeting Summary. Members shall review a summary of the regular CIC meeting held January 19, 2021.
3. Roadway PAR. The first round of local road contracts are targeted to be completed this month. The Road Commission of Kalamazoo County has indicated that RC's proposed PAR projects should be available 2/15/21. [Please anticipate receiving a supplemental email in advance of our meeting.] Project selection is based upon the latest [paser ratings](#) (see enclosed road asset management ratings map) and established policy to coordinate utilities. (Did Mark Worden find anything for us?)
4. Regional/Commission Water Service Agreement with the City of Kalamazoo Finalized. At their February 9, 2021 meeting, the Township Board did approve a new 40-year contract with the City for public water service. [The [full agreement](#) can be found in the Board's meeting packet on the Township web site.] COK Commission is expected to entertain the agreement in March.
5. 8th St Sanitary Sewer Extension, W Main to KL Ave. The 2021 Budget was adopted in October, knowing that Oshtemo voters would consider the question of issuing municipal bonds for proposed sewer construction, this and other sewer construction was not made part of the budget. The CIC will consider RC offered assistance, plus use of PAR, and whether to make recommendation to the Board to proceed with this project.
6. MDOT US 131 Bridge Replacement at KL Ave. MDOT has restarted its bridge replacement project with construction scheduled for 2024. The bridge design will include accommodation of the Township's planned 10-ft wide pathway along the north side of KL Ave.
7. 2021 Sidewalk Projects Associated with Anticipated Sewer Construction. Sidewalk construction was planned for 2021 that related to nearby sewers (Whitegate Ln, Green Meadow Rd, and Maple Hill-Croyden). The CIC will consider recommendation on sidewalk construction prioritization.
8. Consider Alternative Funding Options for Sewer Extension. Staff and others will review ongoing discussions of sewer extensions.
9. Residents Survey – Public Sewers. Oshtemo is working with the W.E. Upjohn Institute to develop a survey to provide community feedback.
10. Street Light Capital Projects – LED Conversions. Members will discuss prioritization of the \$18,000 capital budget for street lights.
11. Interest Rate Determination Methodology – Utility Installment Agreements. At its January 26th Meeting, the Oshtemo Board adopted a more precise means for setting the interest rate for Township financing of Utility Connection Installment Payment Agreements.

12. Member Comments & Information Items.

13. Next Meeting. The next regularly scheduled meeting of the Oshtemo Township Capital Improvements Committee (CIC) will be held on Tuesday, April 20, 2021 at 1:00 PM.

12a N 2nd St Gravel to HMA petition



Capital Improvements Committee

January 19, 2021

MEETING SUMMARY

A special meeting of Capital Improvement Committee of Oshtemo Township was held on Tuesday, January 19, 2021 at 1:00 PM. Due to Executive Order of the Governor to implement social distancing during the COVID-19 public health crisis, the meeting was conducted as a virtual meeting via Zoom. Persons in virtual attendance included Clare Buszka, Libby Heiny-Cogswell, Marc Elliott, Dick Hertzell, Bernie Mein, Josh Owens, James Porter, Ryan Russell, Dick Skalski, Tom Wheat, and Mark Worden.

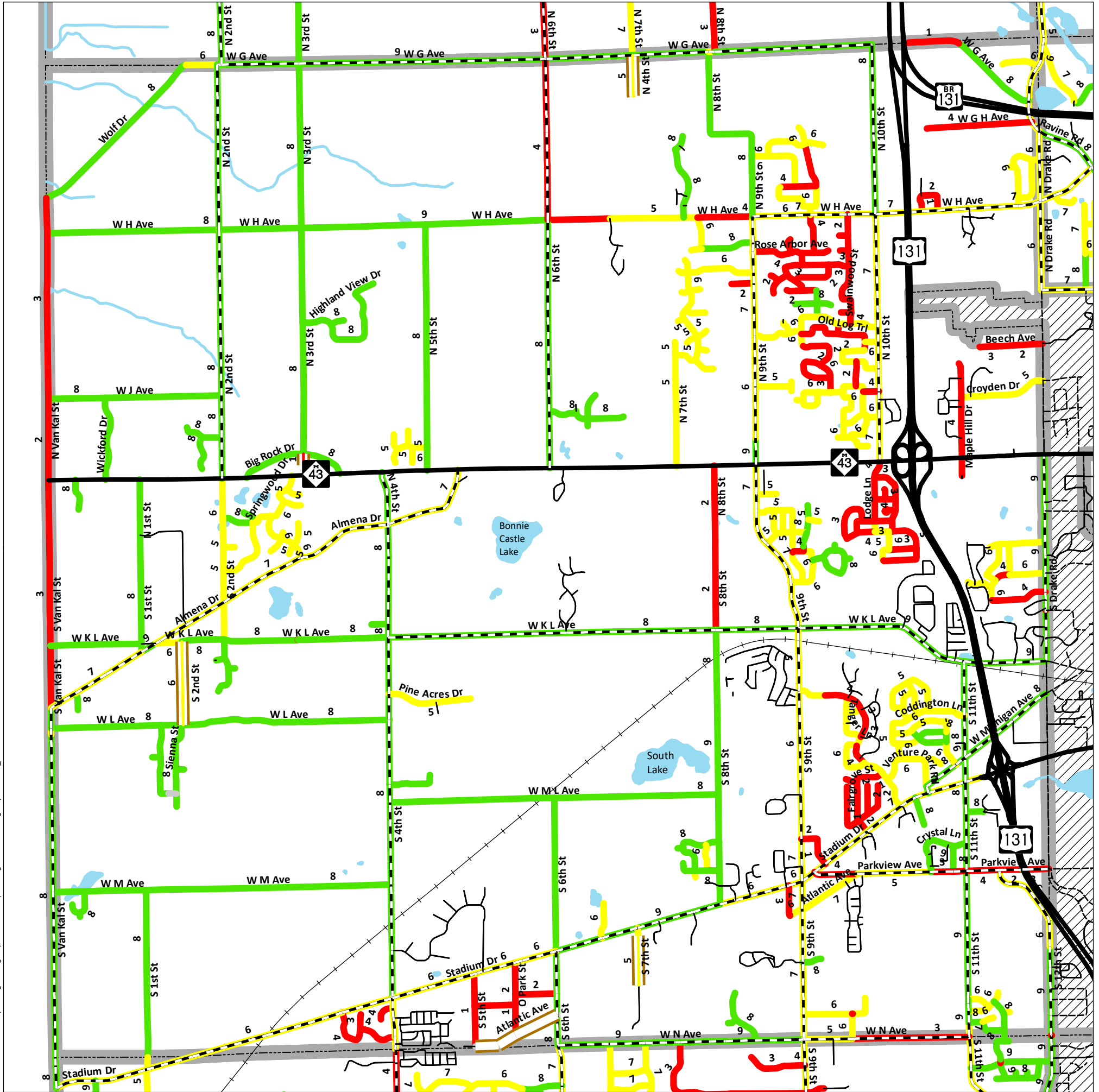
1. Call to Order. The January 19th, 2021 regular meeting of the Capital Improvements Committee of Oshtemo Township was called to order at approximately 1:00 PM by Libby Heiny-Cogswell.
2. Meeting Summary. Members reviewed a summary of the special CIC meeting held November 17, 2020. Upon motion of Mein and second by Hertzell, the CIC meeting summary was approved.
3. Roadway PAR. The Road Commission of Kalamazoo County notice of available matching PAR dollars for 2021 was distributed to CIC members in advance of the meeting. The rollover amount available to Oshtemo is \$315,800. A signification portion of this was intended to be applied to the sewer extensions. Staff displayed the RCKC passer ratings from last year (i.e. the 2020 project-related improvements have not been yet mapped). Staff displayed the neighborhood roads and other areas with planned utility extensions. Following further discussion and CIC contributed guidance, Worden stated he would have his staff develop a revised 2021 proposed CIP project list. The list will focus on expending the offered roadway maintenance PAR dollars in needed areas, other than roadways where utility extensions are planned. It remains the sewer capital plan to construct the sewer projects (to include reconstructed roads) where the USDA has offered sewer-project financing. In response to members questions, it was noted the phase 1 project is designed, and state sewer permits to construct have been issued. Phase 2 is still in design phase and expected to be completed this winter.
4. Sewer Surcharge Adjustment. Staff distributed a sample of the post cards that were distributed in January to the billing address of all public sewer service customers in order to notify them of the new sewer surcharge.
5. Mandatory Sewer Connection Program. Of the "300" properties where existing sewer service is available those who had not completed their connections (137 count) were notified by mail last week that the Covid-19 suspension of enforcement has ended, and that service connections are to be completed during 2021. An example of the letter was provided to CIC members. All those remaining will have more than a two year notice to connect to the public sewer.
6. Consider Alternative Funding Options for Sewer Extension. Staff presented to members a rough, preliminary draft of alternative funding strategies and a broadly generic cost comparison to residents and properties to be connected to sewers. Members discussed the information provided and encouraged staff to continue their work with financial consultants and others. The CIC collectively supported this work towards finding an alternative way forward to proceed with the planned public sewer extensions. It was specifically noted that these efforts are both timely and

critically important to preserve the Township's opportunity to take advantage of currently offered federally-subsidized interest rates through the USDA's rural development program.

7. Member Comments & Information Items. No notable items were brought forward.
8. Next Meeting. The next regularly scheduled meeting of the Oshtemo Township Capital Improvements Committee (CIC) will be held on Tuesday, April 20, 2021 at 1:00 PM.

2021 Current Asset Management Ratings Map

Oshtemo Twp



1/12/2021 2:52:58 PM I:\S:\Engineering\Maps and GIS\MapRatings\Current Rating Maps\Current_RATING.mxd

ASSET MANAGEMENT

Asset Management is a systematic approach to selecting the best investment at the right time to maximize the life of the asset being measured, in this case, road surface conditions. The goal is to maintain our roads in good condition, making periodic investments in the pavement, rather than letting it deteriorate to a level that requires a major investment to bring it back to a good condition. Periodic maintenance investments typically total less than the major investment required to rebuild a road.

PASER RATINGS

PASER stands for Pavement Surface Evaluation and Rating. The PASER rating scale ranges from 1, failed condition, to 10, brand new pavement. A pavement will only be a 10 the first year of its life, the second year it may automatically become a 9. Any condition of 8 or greater is considered to be a good condition, 7, 6 or 5 are fair, 4 or lower is poor.

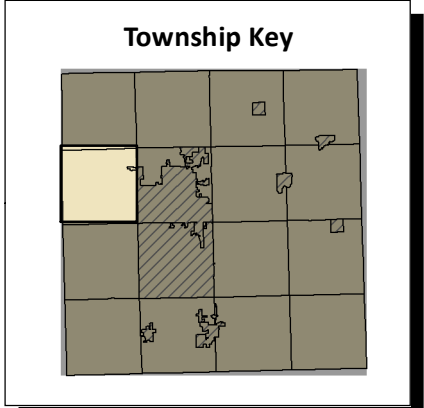
- PASER based on physical ratings and project improvements.
- Private roads not rated.

IBR SYSTEM

IBR stands for Inventory Based Rating. Condition assessment of unpaved/gravel roads is based on the Surface Width, Drainage Adequacy and Structural Adequacy of the roadway. Each of these three assessment areas are then aggregated to the IBR rating for good, fair, poor ranging from 1, poor condition, to 10, good condition. Once initial ratings are established, updates only occur when a construction or rehabilitation activity is completed. The baseline IBR rating occurred in 2015.

THE RIGHT FIX AT THE RIGHT TIME

The RCKC determines the best fix to optimize service life for each of our projects. Good pavement management involves less expensive treatments earlier in the life of the pavement in order to take full advantage of infrastructural investments.



Road Classification	Paved Road Ratings	Gravel Road Ratings	Boundary Designations
State Trunkline	Good (10, 9, 8)	Good (10, 9, 8)	Township/City
County Primary	Fair (7, 6, 5)	Fair (7, 6, 5)	Lakes & Rivers
County Local - Gravel	Poor (4, 3, 2, 1)	Poor (4, 3, 2, 1)	City/Village Limits
City	Unrated		
Private	Private Roads (Not Rated)		

Last Updated: 1/12/2021

RCKC
Road Commission
of Kalamazoo County
3801 E. Kilgore Road
Kalamazoo, MI 49001
(269) 381-3171
Fax (269) 381-1760
www.kalamazoo-countyroads.com

For more information on this, as well as on other topics, please feel free to contact our office or visit our website.



Date Prepared: 12/10/20
 Township: Oshtemo
 Location: **Forest Creek Drive** - Stadium Drive to Olde Forest Drive,
Olde Forest Drive - Forest Creek Drive to 475' north of Greystone Road,
Greystone Road - Olde Forest Drive to 4th Street
 Project Description: Crack Fill, Chip Seal, Fog Seal
 Estimator: Bill Oxx
 Length: 0.59 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)
10,317	3,095	30			7854
Conv Factor					
9					

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
Crack Fill	Heavy	2,950	lbs	1.60	4,720	
Vacuum Sweeping	2x	6.00	hour	135.00	810	
RCKC Equipment		4.69	hour	933.97	4,380	
RCKC Labor/Fringe		4.70	hour	674.28	3,172	
Contractor Equipment/Labor		2888.67	gallon	0.22	636	
CST Fine Aggregate	20#/square yard	103	ton	42.72	4,407	
CRS-2M (emulsion)	.28 gallon/square yard	2,889	gallon	1.89	5,460	
Fog Seal	0.10 gal per syd	10,317	sq yd	0.40	4,127	
Estimated Billable Costs					\$27,711	
Overhead Billable				7.23%	\$2,003	
Total Estimated Billable Project Cost					\$29,714	
Total Estimated Project Cost					\$29,714	



Date Prepared: 12/10/20
 Township: Oshtemo
 Location: **Maple Hill Drive** - 580' south of M-43 to 1,089' north of Croyden Avenue,
Hobbit Circle - 604' west of 4th Street to 4th Street,
Stadium Park Way - Stadium Drive to 1,174' north of Stadium Drive
 Project Description: Crack Fill, Chip Seal, Fog Seal
 Estimator: Bill Oxx
 Length: 0.99 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
20,748	675	45			7854	1
Conv Factor	4,500	33				
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
Crack Fill	Heavy	4,950	lbs	1.60	7,920	
Vacuum Sweeping	2x	8.00	hour	135.00	1,080	
RCKC Equipment		9.43	hour	933.97	8,809	
RCKC Labor/Fringe		9.46	hour	674.28	6,379	
Contractor Equipment/Labor		5809.35	gallon	0.22	1,278	
CST Fine Aggregate	20#/square yard	207	ton	42.72	8,863	
CRS-2M (emulsion)	.28 gallon/square yard	5,809	gallon	1.89	10,980	
Fog Seal	0.10 gal per syd	20,748	sq yd	0.40	8,299	
Estimated Billable Costs					\$53,607	
Overhead Billable				7.23%	\$3,876	
Total Estimated Billable Project Cost					\$57,483	

Total Estimated Project Cost	\$57,483
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Date Prepared: 2/9/21

Township: Oshtemo

Location: **Cross Country Drive** - 7th Street to 400' north of Oak Highland Drive,
Oak Highland Drive - 350' west of Cross Country Drive to 9th Street,
Hawthorn Valley - 250' west of Cross Country Drive to 300' east of Cross Country Drive,
Arborn Valley Drive - Cross Country Drive to 650' east of Cross Country Drive,
Farmwood Court - 175' west of Cross Country Drive to Cross Country Drive,
Foxmoor Court West - 350' west of Cross Country Drive to Cross Country Drive,
Foxmoor Court East - Cross Country Drive to 350' east of Cross Country Drive,
Windcrest Court - Cross Country Drive to 300' east of Cross Country Drive,
SteepleChase Court - Cross Country Drive to 700' east of Cross Country Drive

Project Description: Crack Fill, Chip Seal, Fog Seal

Estimator: Bill Oxx

Length: 1.70 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
35,698	8,950	28			7854	9
Conv Factor						
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
High Shoulder Removal		179	Station	25.00	4,475	no charge light shoulder removal
		Estimated Nonbillable Cost			\$4,475	
		Overhead - Nonbillable		7.23%	\$324	
		Total Estimated Nonbillable Cost			\$4,799	
Crack Fill	Heavy	8,500	lbs	1.60	13,600	
Vacuum Sweeping	2x	16.00	hour	135.00	2,160	
RCKC Equipment		27.31	hour	933.97	25,509	
RCKC Labor/Fringe		27.39	hour	674.28	18,472	
Contractor Equipment/Labor		9995.56	gallon	0.22	2,199	
CST Fine Aggregate	20#/square yard	357	ton	42.72	15,250	
CRS-2M (emulsion)	.28 gallon/square yard	9,996	gallon	1.89	18,892	
Fog Seal	0.10 gal per syd	35,698	sq yd	0.40	14,279	
		Estimated Billable Costs			\$110,361	
		Overhead Billable		7.23%	\$7,979	
		Total Estimated Billable Project Cost			\$118,340	
		Total Estimated Project Cost			\$123,139	



Date Prepared: 2/9/21
 Township: Oshtemo
 Location: Promenade Street - Northstar Avenue to H Avenue,
 North Star Avenue - 330' south of North Star Avenue to 9th Street
 Project Description: Crack Fill, Chip Seal, Fog Seal
 Estimator: Bill Oxx
 Length: 0.35 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)
5,200	1,800	26			7854
Conv Factor					
9					

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
Crack Fill	Heavy	1,750	lbs	1.60	2,800	
Vacuum Sweeping	2x	3.00	hour	135.00	405	
RCKC Equipment		3.17	hour	933.97	2,962	
RCKC Labor/Fringe		3.18	hour	674.28	2,145	
Contractor Equipment/Labor		1456.00	gallon	0.22	320	
CST Fine Aggregate	20#/square yard	52	ton	42.72	2,221	
CRS-2M (emulsion)	.28 gallon/square yard	1,456	gallon	1.89	2,752	
Fog Seal	0.10 gal per syd	5,200	sq yd	0.40	2,080	
Estimated Billable Costs					\$15,685	
Overhead Billable				7.23%	\$1,134	
Total Estimated Billable Project Cost					\$16,819	
Total Estimated Project Cost					\$16,819	



Date Prepared: 2/9/21
 Township: Oshtemo
 Location: **H Avenue - 6th Street to 9th Street**
 Project Description: Crack Fill, HMA Wedging, Chip Seal, Fog Seal
 Estimator: Bill Oxx
 Length: 1.25 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)
19,067	6,600	26			7854
Conv Factor					
9					

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
Pavement Marking		6,600	lin ft	0.10	660	no charge
High Shoulder Removal		132	Station	25.00	3,300	no charge
		Estimated Nonbillable Cost			\$3,960	
		Overhead - Nonbillable		7.23%	\$286	
		Total Estimated Nonbillable Cost			\$4,246	
Crack Fill	Heavy	6,250	lbs	1.60	10,000	
HMA Wedging		350	ton	69.50	24,325	
RCKC Equipment		8.67	hour	933.97	8,095	
RCKC Labor/Fringe		8.69	hour	674.28	5,862	
Contractor Equipment/Labor		5338.67	gallon	0.22	1,175	
CS2 Fine Aggregate	20#/square yard	191	ton	42.72	8,145	
CRS-2M (emulsion)	.28 gallon/square yard	5,339	gallon	1.89	10,090	
Fog Seal	0.14 gal per syd	19,067	sq yd	0.40	7,627	
		Estimated Billable Costs			\$75,318	
		Overhead Billable		7.23%	\$5,446	
		Total Estimated Billable Project Cost			\$80,764	
Total Estimated Project Cost					\$85,010	



Date Prepared: 2/9/21
 Township: Oshtemo
 Location: Old Savannah Drive - H Avenue to Stone Mountain Drive,
 Stone Mountain Drive - Old Savannah Drive to 525' north of Old Savannah Drive
 Project Description: Crack Fill, Chip Seal, Fog Seal
 Estimator: Bill Oxx
 Length: 0.54 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)
10,373	2,850	30			7854
Conv Factor					
9					

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
Crack Fill	Heavy	2,700	lbs	1.60	4,320	
Vacuum Sweeping	2x	5.00	hour	135.00	675	
RCKC Equipment		4.72	hour	933.97	4,404	
RCKC Labor/Fringe		4.73	hour	674.28	3,189	
Contractor Equipment/Labor		2904.35	gallon	0.22	639	
CST Fine Aggregate	20#/square yard	104	ton	42.72	4,431	
CRS-2M (emulsion)	.28 gallon/square yard	2,904	gallon	1.89	5,489	
Fog Seal	0.10 gal per syd	10,373	sq yd	0.40	4,149	
				Estimated Billable Costs		\$27,296
				Overhead Billable	7.23%	\$1,974
				Total Estimated Billable Project Cost		\$29,270
					Total Estimated Project Cost	\$29,270



Date Prepared: 2/9/21
 Township: Oshtemo
 Location: **Bramble Drive** - H Avenue to Bay Field Drive,
Bay Field Drive - Hollison Drive to Bramble Drive,
Hollison Drive - Bay Field Drive to Oak Harbor Street,
Oak Harbor Street - Bramble Drive to 544' north of Trayburne Trail,
Kelfrey Cove - Hollison Drive to Lindenhurst Lane,
Lindenhurst Lane - 9th Street to Kelfrey Cove,
Trayburne Trail - Lindenhurst Lane to 550' east of Oak Harbor Lane
 Project Description: Crack Fill, Chip Seal, Fog Seal
 Estimator: Bill Oxx
 Length: 1.72 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
26,997	9,043	26			7854	1
Conv Factor						
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
Crack Fill	Heavy	8,600	lbs	1.60	13,760	
Vacuum Sweeping	2x	16.00	hour	135.00	2,160	
RCKC Equipment		16.46	hour	933.97	15,376	
RCKC Labor/Fringe		16.51	hour	674.28	11,135	
Contractor Equipment/Labor		7559.13	gallon	0.22	1,663	
CST Fine Aggregate	20#/square yard	270	ton	42.72	11,533	
CRS-2M (emulsion)	.28 gallon/square yard	7,559	gallon	1.89	14,287	
Fog Seal	0.10 gal per syd	26,997	sq yd	0.40	10,799	

<i>Estimated Billable Costs</i>		\$80,713
<i>Overhead Billable</i>	7.23%	\$5,836
<i>Total Estimated Billable Project Cost</i>		\$86,548

Total Estimated Project Cost	\$86,548
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Date Prepared: 2/9/21
 Township: Oshtemo
 Location: **2nd Street - KL Avenue to M-43**
 Project Description: Crack Fill, HMA Wedging, Chip Seal, Fog Seal
 Estimator: Edward Klein
 Length: 0.95 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)
13,686	1,675	22			7854
Conv Factor	3,320	26			
9					

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes	
Pavement Marking		4,995	lin ft	0.10	500	no charge	
High Shoulder Removal		100	Station	25.00	2,500	no charge	
		Estimated Nonbillable Cost			\$3,000		
			Overhead - Nonbillable	7.23%	\$217		
		Total Estimated Nonbillable Cost			\$3,216		
Crack Fill	Heavy	4,750	lbs	1.60	7,600		
HMA Wedging		400	ton	69.50	27,800		
RCKC Equipment		4.07	hour	933.97	3,801		
RCKC Labor/Fringe		4.08	hour	674.28	2,752		
Contractor Equipment/Labor		5474.22	gallon	0.22	1,204		
CS2 Fine Aggregate	20#/square yard	137	ton	42.72	5,846		
CRS-2M (emulsion)	.40 gallon/square yard	5,474	gallon	1.89	10,346		
Fog Seal	0.14 gal per syd	13,686	sq yd	0.40	5,474		
		Estimated Billable Costs			\$64,824		
			Overhead Billable	7.23%	\$4,687		
		Total Estimated Billable Project Cost			\$69,511		
		Total Estimated Project Cost				\$72,727	



Date Prepared: 2/9/21

Township: Oshtemo

Location: **Buckham Wood Drive** - 9th Street to Caddam Wood Avenue,
Caddam Wood Avenue - Beymoure Street to Buckham Wood Drive,
Wood Hollow Avenue - Buckham Wood Drive to Gabriella Trail,
Gabriella Trail - Wood Hollow Avenue to Wood Hollow Avenue,
Ben Street - Wood Hollow Avenue to 169' north of Wood Hollow Avenue,
Sabrina Trail - Wood Hollow Avenue to 181' east of Wood Hollow Avenue

Project Description: Crack Fill, Chip Seal, Fog Seal

Estimator: Edward Klein

Length: 0.91 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)
15,967	4,790	30			7854
Conv Factor					
9					

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
Crack Fill	Heavy	4,550	lbs	1.60	7,280	
Vacuum Sweeping	2x	9.00	hour	135.00	1,215	
RCKC Equipment		9.74	hour	933.97	9,094	
RCKC Labor/Fringe		9.77	hour	674.28	6,585	
Contractor Equipment/Labor		4470.67	gallon	0.22	984	
CST Fine Aggregate	20#/square yard	160	ton	42.72	6,821	
CRS-2M (emulsion)	.28 gallon/square yard	4,471	gallon	1.89	8,450	
Fog Seal	0.10 gal per syd	15,967	sq yd	0.40	6,387	
Estimated Billable Costs					\$46,815	
Overhead Billable				7.23%	\$3,385	
Total Estimated Billable Project Cost					\$50,200	
Total Estimated Project Cost					\$50,200	



Date Prepared: 2/9/21

Township: Oshtemo

Location: Lexy Lane - 9th Street to Beymoure Street,
 Jane Ann's Way - Beymoure Street to 335' east of Beymoure Street,
 Mickey's Trail - 9th Street to Murphy's Trail,
 Belle Street - Lexy Lane to Mickey's Trail,
 Mauri's Lane - Lexy Lane to Mickey's Trail,
 Murphy's Circle - 423' south of Lexy Lane to Lexy Lane,
 Murphy's Trail - Lexy Lane to Mickey's Trail,
 Beymoure Street - Caddam Wood Avenue to 553' north of Jane Ann's Way

Project Description: Crack Fill, Chip Seal, Fog Seal

Estimator: Edward Klein

Length: 1.35 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)
26,351	7,120	30			7854
Conv Factor					
9					

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
Crack Fill	Heavy	6,750	lbs	1.60	10,800	
Vacuum Sweeping	2x	12.00	hour	135.00	1,620	
RCKC Equipment		16.07	hour	933.97	15,009	
RCKC Labor/Fringe		16.12	hour	674.28	10,868	
Contractor Equipment/Labor		7378.37	gallon	0.22	1,623	
CST Fine Aggregate	20#/square yard	264	ton	42.72	11,257	
CRS-2M (emulsion)	.28 gallon/square yard	7,378	gallon	1.89	13,945	
Fog Seal	0.10 gal per syd	26,351	sq yd	0.40	10,541	
Estimated Billable Costs					\$75,663	
Overhead Billable				7.23%	\$5,470	
Total Estimated Billable Project Cost					\$81,134	
Total Estimated Project Cost					\$81,134	



Date Prepared: 2/9/21
 Township: Oshtemo
 Location: **Laurel Wood Street** - Buckham Wood Drive to Caddam Wood Avenue Avenue,
Caddam Wood Avenue - Laurel Wood Street to Beymoure Street
 Project Description: HMA Overlay
 Estimator: Edward Klein
 Length: 0.27 Miles

Total Area (Syd)	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
4,633	1,390	30			7,854	0
Conv Factor						
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
High Shoulder Removal		28	Station	25.00	700	no charge
Sanitary Sewer Manhole Adjustment		5	each	800.00	4,000	no charge (City of Kalamazoo)
		<i>Estimated Nonbillable Cost</i>			\$4,700	
			<i>Overhead - Nonbillable</i>	7.23%	\$340	
		Total Estimated Nonbillable Cost			\$5,040	
Material Testing		1	each	500.00	500	
Cold Milling	1 - 2 inches	4,633	sq yd	0.80	3,706	
Roadside Restoration	1-2' wide	28	station	150.00	4,200	topsoil restoration/seeding
HMA 36A Surface Course	220#/sq yd	700	ton	59.50	41,650	Includes HMA Curbing
Fog Seal Construction Joint	2' wide	1,390	lin ft	0.50	695	
		<i>Estimated Billable Costs</i>			\$50,751	
			<i>Overhead Billable</i>	7.23%	\$3,669	
		Total Estimated Billable Project Cost			\$54,421	
Total Estimated Project Cost					\$59,461	



Date Prepared: 2/9/21
 Township: Oshtemo
 Location: **GH Avenue** - 3,350' west of Ravine Road to Ravine Road
 Project Description: HMA Overlay
 Estimator: Edward Klein
 Length: 0.64 Miles

Total Area (Syd)	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
8,095	3,250	20			7,854	1
Conv Factor						
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
High Shoulder Removal		65	station	25.00	1,625	no charge
Tree Pruning and Removal		15	each	1,000.00	15,000	no charge
Pavement Marking		3,250	lin ft	0.10	325	no charge
		Estimated Nonbillable Cost			\$16,950	
			Overhead - Nonbillable	7.23%	\$1,225	
		Total Estimated Nonbillable Cost			\$18,175	
Material Testing		2	each	500.00	1,000	
Driveway Adjustments - Asphalt		12	each	150.00	1,800	
Driveway Adjustments - Concrete		1	each	500.00	500	
Placement of Gravel Shoulders	2'-3' wide	65	station	33.00	2,145	
23A Gravel (shoulder/driveway material)		350	ton	12.50	4,375	includes gravel driveway transitions
Cold Milling	1 - 2 inches	110	sq yd	6.00	660	Butt joint at intersection
Roadside Restoration	1-2' wide	11	station	150.00	1,650	topsoil restoration/seeding
HMA 36A Surface Course	220#/sq yd	1,100	ton	59.50	65,450	
Fog Seal Construction Joint	2' wide	3,250	lin ft	0.50	1,625	
		Estimated Billable Costs			\$79,205	
			Overhead Billable	7.23%	\$5,727	
		Total Estimated Billable Project Cost			\$84,932	
Total Estimated Project Cost					\$103,107	



Date Prepared: 2/5/21
 Township: Oshtemo
 Location: **Chime Street** - Erie Street to Stadium Drive,
Erie Street - Chime Street to 9th Street
 Project Description: Crack Fill, HMA Wedging, Chip Seal, Fog Seal
 Estimator: Dean Disterheft
 Length: 0.26 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
4,241	550	22			7854	0
Conv Factor	150	31				
9	630	34				

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
High Shoulder Removal		27	Station	25.00	675	no charge
		Estimated Nonbillable Cost			\$675	
		Overhead - Nonbillable		7.23%	\$49	
		Total Estimated Nonbillable Cost			\$724	
Crack Fill	Heavy	1,300	lbs	1.60	2,080	
HMA Wedging		100	ton	69.50	6,950	
Vacuum Sweeping	2x	3.00	hour	135.00	405	
RCKC Equipment		1.26	hour	933.97	1,178	
RCKC Labor/Fringe		1.26	hour	674.28	853	
Contractor Equipment/Labor		1696.44	gallon	0.22	373	
CS2 Fine Aggregate	20#/square yard	42	ton	42.72	1,812	
CRS-2M (emulsion)	.40 gallon/square yard	1,696	gallon	1.89	3,206	
Fog Seal	0.14 gal per syd	4,241	sq yd	0.40	1,696	

Estimated Billable Costs		\$18,553
Overhead Billable	7.23%	\$1,341
Total Estimated Billable Project Cost		\$19,895

Total Estimated Project Cost	\$20,619
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Road Commission of Kalamazoo County

Road Commission of Kalamazoo County
 3801 East Kilgore Road
 Kalamazoo, MI 49001
 www.kalamazoocountyroads.com

2021 Project Estimate
VALID FOR 90 DAYS

Date Prepared: 2/5/21

Township: Oshtemo

Location: **Coddington Lane** - Oshtemo Woods Lane to 11th Street,
Oshtemo Ridge Trail - Coddington Lane to Darlington Trail,
Elington Drive - Coddington Lane to Darlington Trail,
Tillingsdale Drive - Coddington Lane to Elington Drive,
Darlington Trail - Tillingsdale Drive to Elington Drive

Project Description: Crack Fill, Chip Seal, Fog Seal

Estimator: Dean Disterheft

Length: 1.41 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
26,511	6,925	32			7854	0
Conv Factor	500	34				
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
Crack Fill	Medium	5,640	lbs	1.60	9,024	
Vacuum Sweeping	2x	12.00	hour	135.00	1,620	
RCKC Equipment		16.17	hour	933.97	15,100	
RCKC Labor/Fringe		16.22	hour	674.28	10,934	
Contractor Equipment/Labor		7423.11	gallon	0.22	1,633	
CST Fine Aggregate	20#/square yard	265	ton	42.72	11,326	
CRS-2M (emulsion)	.28 gallon/square yard	7,423	gallon	1.89	14,030	
Fog Seal	0.10 gal per syd	26,511	sq yd	0.40	10,604	

Estimated Billable Costs	\$74,271
Overhead Billable	7.23%
Total Estimated Billable Project Cost	\$79,640

Total Estimated Project Cost	\$79,640
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Date Prepared: 2/5/21
 Township: Oshtemo
 Location: **Tanager Lane** - Quail Run Drive to Quail Run Drive,
Pheasant Lane - Tanager Lane to Quail Run Drive,
Partridge Lane - Quail Run Drive to Quail Run Drive
 Project Description: Crack Fill, Chip Seal, Fog Seal
 Estimator: Dean Disterheft
 Length: 0.69 Miles

Total Area	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
12,942	1,600	32			7854	0
Conv Factor	2,040	32				
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
Crack Fill	Heavy	3,450	lbs	1.60	5,520	
Vacuum Sweeping	2x	8.00	hour	135.00	1,080	
RCKC Equipment		5.86	hour	933.97	5,471	
RCKC Labor/Fringe		5.88	hour	674.28	3,962	
Contractor Equipment/Labor		5176.89	gallon	0.22	1,139	
CS2 Fine Aggregate	20#/square yard	129	ton	42.72	5,529	
CRS-2M (emulsion)	.40 gallon/square yard	5,177	gallon	1.89	9,784	
Fog Seal	0.14 gal per syd	12,942	sq yd	0.40	5,177	
Estimated Billable Costs					\$37,661	
Overhead Billable				7.23%	\$2,723	
Total Estimated Billable Project Cost					\$40,384	
Total Estimated Project Cost					\$40,384	



Date Prepared: 2/5/21
 Township: Oshtemo
 Location: **Quail Run Drive** - Stadium Drive to 9th Street
 Project Description: HMA Overlay
 Estimator: Dean Disterheft
 Length: 1.15 Miles

Total Area (Syd)	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
21,633	5,500	32			7,854	0
Conv Factor	550	34				
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
Sanitary Sewer Manhole Adjustment		32	each	800.00	25,600	no charge (City of Kalamazoo)
		Estimated Nonbillable Cost			\$25,600	
		Overhead - Nonbillable		7.23%	\$1,851	
		Total Estimated Nonbillable Cost			\$27,451	
Material Testing		5	each	500.00	2,500	
Cold Milling	1 - 2 inches	21,633	sq yd	0.80	17,306	
Roadside Restoration	1-2' wide	32	station	150.00	4,800	topsoil restoration/seeding
Storm Sewer Manhole Adjustment		10	each	800.00	8,000	
36A HMA Surface Course	220#/sq yd	2,900	ton	59.50	172,550	incudes HMA valley gutter
Fog Seal Construction Joint	2' wide	6,050	lin ft	0.50	3,025	
		Estimated Billable Costs			\$208,181	
		Overhead Billable		7.23%	\$15,052	
		Total Estimated Billable Project Cost			\$223,233	
Total Estimated Project Cost					\$250,684	



Date Prepared: 2/1/21
 Township: Oshtemo
 Location: **8th Street - KL Avenue to M-43**
 Project Description: HMA Overlay
 Estimator: Bill Oxx
 Length: 1.00 Miles

Total Area (Syd)	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
14,080	5,280	24			7,854	0
Conv Factor						
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
High Shoulder Removal		106	station	25.00	2,650	no charge
Tree Pruning and Removal		6	each	1,000.00	6,000	no charge
Pavement Marking		5,280	lin ft	0.10	528	no charge
Monument Box Preservation		2	each	150.00	300	no charge
		Estimated Nonbillable Cost			\$9,478	
			Overhead - Nonbillable	7.23%	\$685	
		Total Estimated Nonbillable Cost			\$10,163	
Material Testing		4	each	500.00	2,000	
Placement of Gravel Shoulders	2'-3' wide	106	station	33.00	3,498	
23A Gravel (shoulder/driveway material)		600	ton	12.50	7,500	includes gravel driveway transitions
Cold Milling	1 - 2 inches	14,080	sq yd	0.80	11,264	
HMA 36A Surface Course	220#/sq yd	1,800	ton	59.50	107,100	
Fog Seal Construction Joint	2' wide	5,280	lin ft	0.50	2,640	
		Estimated Billable Costs			\$134,002	
			Overhead Billable	7.23%	\$9,688	
		Total Estimated Billable Project Cost			\$143,690	
Total Estimated Project Cost					\$153,854	



Road Commission of Kalamazoo County

Road Commission of Kalamazoo County
3801 East Kilgore Road
Kalamazoo, MI 49001
www.kalamazooountyroads.com

2021 Project Estimate
VALID FOR 90 DAYS

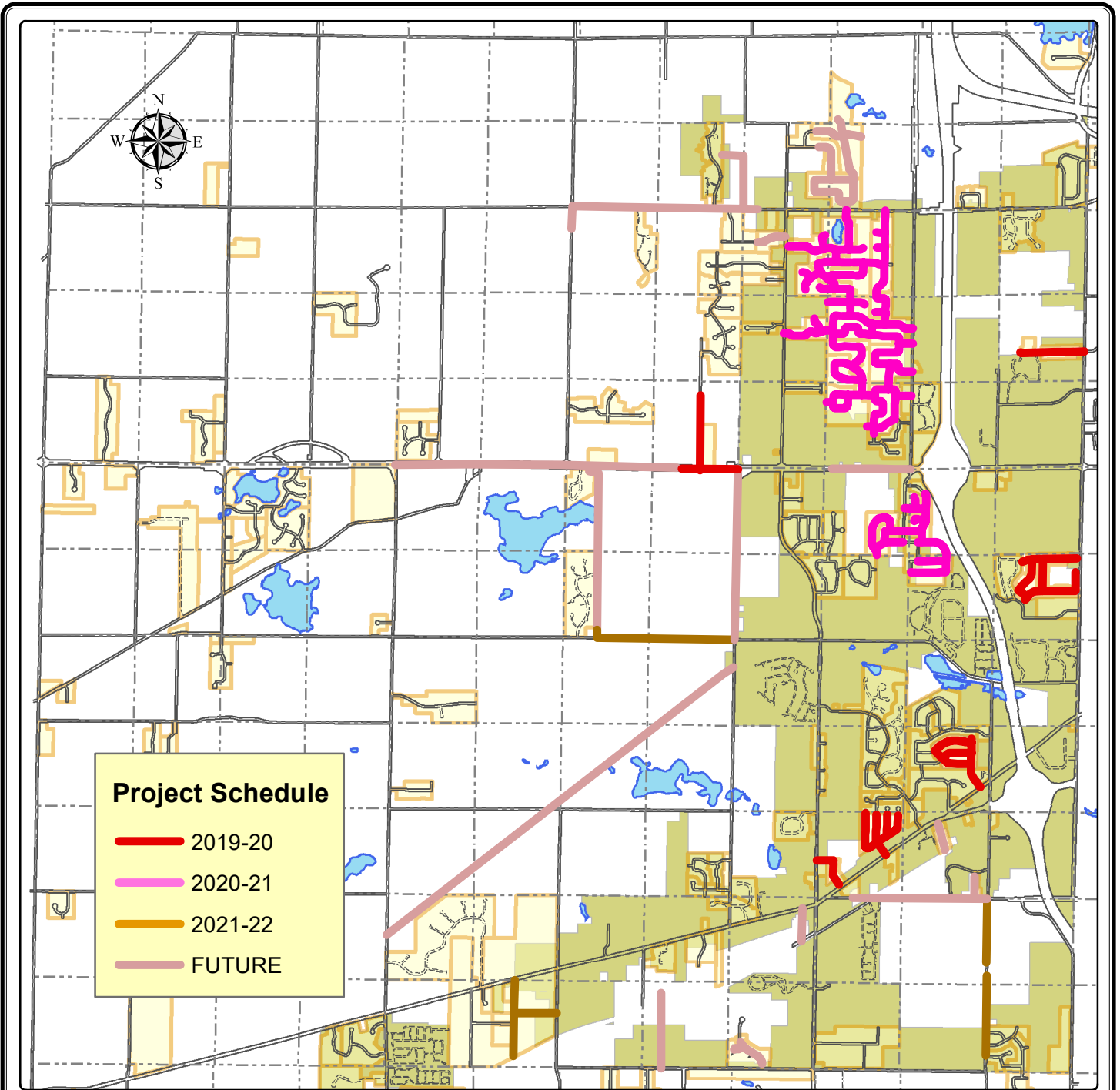
Date Prepared: 11/3/20
Township: Oshtemo
Location: **2nd Street - L Avenue to KL Avenue**
Project Description: HMA Base and Leveling Paving
Estimator: Dean Disterheft
Length: 0.50 Mile

Total Area (Syd)	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
6,453	2,640	22			7,854	0
Conv Factor						
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
High Shoulder Removal		53	station	25.00	1,325	no charge
Tree Pruning and Removal		6	lump	1,000.00	6,000	no charge
Ditch Cleanup		10	station	300.00	3,000	no charge
Pavement Marking		2,640	lin ft	0.10	264	no charge
		Estimated Nonbillable Cost			\$10,589	
		Overhead - Nonbillable		7.23%	\$766	
		Total Estimated Nonbillable Cost			\$11,355	
Material Testing		6	each	550.00	3,300	
Temporary Traffic Control		1	lump	2,000.00	2,000	
22A Gravel	4 inches	1,300	ton	21.50	27,950	26' Wide
Driveway Adjustments - Asphalt		3	each	215.00	645	
Driveway Adjustments - Concrete		3	each	715.00	2,145	
Mailbox Adjustments		15	each	130.00	1,950	
Fine Grading		7,627	sq yd	0.90	6,864	
Dust Control	2,000 gallons/mile	1,000	gallon	0.22	220	
Placement of Gravel Shoulders	2'-3' wide	53	station	47.00	2,491	
23A Gravel (shoulder/driveway material)		350	ton	18.00	6,300	includes gravel driveway transitions
Cold Milling	1 - 2 inches	80	sq yd	8.50	680	
Roadside Restoration	3' wide	53	station	150.00	7,950	topsoil restoration/seeding
36A Modified HMA Base Course	220#/sq yd	850	ton	75.00	63,750	
36A Modified HMA Surface Course	220#/sq yd	850	ton	75.00	63,750	
Postage & Advertising		1	lump	250.00	250	
Fog Seal Construction Joint	2' wide	2,640	lin ft	0.50	1,320	
Grade corrections at L Avenue		1	lump	25,000.00	25,000	

Estimated Billable Costs		\$216,565
Overhead Billable	7.23%	\$15,658
Total Estimated Billable Project Cost		\$232,223

Total Estimated Project Cost	\$243,578
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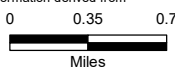
Phased Extensions of Public Sanitary Sewer

Assumes USDA Financing (2019-2021)
through the Rural Development Program



This map is for reference purposes only. While it is intended to be an accurate graphic representation, its accuracy cannot be guaranteed. Any conclusions or information derived from this map are at the users sole risk.

Date: 2/12/2021



- Plats and Condos
- Sewer Service Available

Preliminary Engineering Report
(Final Phasing As Submitted)

Charter Township of Oshtemo
Kalamazoo Co., Michigan



Date Prepared: 11/3/20
 Township: Oshtemo
 Location: **2nd Street - L Avenue to KL Avenue**
 Project Description: HMA Base and Leveling Paving
 Estimator: Dean Disterheft
 Length: 0.50 Mile

Total Area (Syd)	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
6,453	2,640	22			7,854	0
Conv Factor						
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
High Shoulder Removal		53	station	25.00	1,325	no charge
Tree Pruning and Removal		6	lump	1,000.00	6,000	no charge
Ditch Cleanup		10	station	300.00	3,000	no charge
Pavement Marking		2,640	lin ft	0.10	264	no charge
		Estimated Nonbillable Cost			\$10,589	
			Overhead - Nonbillable	7.23%	\$766	
		Total Estimated Nonbillable Cost			\$11,355	
Material Testing		6	each	550.00	3,300	
Temporary Traffic Control		1	lump	2,000.00	2,000	
22A Gravel	4 inches	1,300	ton	21.50	27,950	26' Wide
Driveway Adjustments - Asphalt		3	each	215.00	645	
Driveway Adjustments - Concrete		3	each	715.00	2,145	
Mailbox Adjustments		15	each	130.00	1,950	
Fine Grading		7,627	sq yd	0.90	6,864	
Dust Control	2,000 gallons/mile	1,000	gallon	0.22	220	
Placement of Gravel Shoulders	2'-3' wide	53	station	47.00	2,491	
23A Gravel (shoulder/driveway material)		350	ton	18.00	6,300	includes gravel driveway transitions
Cold Milling	1 - 2 inches	80	sq yd	8.50	680	
Roadside Restoration	3' wide	53	station	150.00	7,950	topsoil restoration/seeding
36A Modified HMA Base Course	220#/sq yd	850	ton	75.00	63,750	
36A Modified HMA Surface Course	220#/sq yd	850	ton	75.00	63,750	
Postage & Advertising		1	lump	250.00	250	
Fog Seal Construction Joint	2' wide	2,640	lin ft	0.50	1,320	
Grade corrections at L Avenue		1	lump	25,000.00	25,000	

Estimated Billable Costs		\$216,565
Overhead Billable	7.23%	\$15,658
Total Estimated Billable Project Cost		\$232,223

Total Estimated Project Cost	\$243,578
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Date Prepared: 2/1/21
 Township: Oshtemo
 Location: **8th Street - KL Avenue to M-43**
 Project Description: HMA Overlay
 Estimator: Bill Oxx
 Length: 1.00 Miles

Total Area (Syd)	Length	Width	Length	Width	Cul-de Sac Area (Sft)	Quantity
14,080	5,280	24			7,854	0
Conv Factor						
9						

Description of charge	Application Rate	Estimated Quantities	Units of measure	Estimated Unit Cost	Estimated Total	Notes
High Shoulder Removal		106	station	25.00	2,650	no charge
Tree Pruning and Removal		6	each	1,000.00	6,000	no charge
Pavement Marking		5,280	lin ft	0.10	528	no charge
Monument Box Preservation		2	each	150.00	300	no charge
		Estimated Nonbillable Cost			\$9,478	
			Overhead - Nonbillable	7.23%	\$685	
		Total Estimated Nonbillable Cost			\$10,163	
Material Testing		4	each	500.00	2,000	
Placement of Gravel Shoulders	2'-3' wide	106	station	33.00	3,498	
23A Gravel (shoulder/driveway material)		600	ton	12.50	7,500	includes gravel driveway transitions
Cold Milling	1 - 2 inches	14,080	sq yd	0.80	11,264	
HMA 36A Surface Course	220#/sq yd	1,800	ton	59.50	107,100	
Fog Seal Construction Joint	2' wide	5,280	lin ft	0.50	2,640	
		Estimated Billable Costs			\$134,002	
			Overhead Billable	7.23%	\$9,688	
		Total Estimated Billable Project Cost			\$143,690	
Total Estimated Project Cost					\$153,854	