

Township of Amaranth 2018 Amendment to the 2016 Asset Management Plan

R.J. Burnside & Associates Limited 15 Townline Orangeville ON L9W 3R4 CANADA

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Record of Revisions

Revision	Date	Description				
1	July 17, 2018	Initial Submission to Township of Amaranth				
2	July 25, 2018	Final Amendment Submission to Township of Amaranth				

R.J. Burnside & Associates Limited

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Executive Summary

The Township of Amaranth (Township) has requested that a review of their Asset Strategy be undertaken in light of the localized extreme weather events of the last two years as well as the many capital projects undertaken by the Township. Given the updated information provided, an amendment to the Township of Amaranth 2016 Asset Management Plan was undertaken.

This Amendment to the Township of Amaranth 2016 Asset Management Plan will focus on updating and prioritizing the capital projects for Road and Bridge assets. The Amendment contains the following:

- Chapter 1: Introduction;
- Chapter 2: Amended State of Local Infrastructure;
- Chapter 3: Expected Levels of Service
- Chapter 4: Amended Asset Management Strategy;
- Chapter 5: Amended Financing Strategy; and
- Chapter 6: Recommendations.

As an Amendment to the Township Asset Management Plan the focus is on changes/updates to the "state of local infrastructure" from data that was provided by Township Staff. The overall asset inventory has not changed significantly but it is important to note that some asset types as roads and bridges continue to be the main focus of infrastructure gap and this Amendment. The Amendment will not report on overall condition, levels of service, or risk, but focus on the changes that have influenced an updated prioritized list of Road and Bridge capital projects.

The overall asset weighted condition or risk level have not changed significantly since last reported. However, due to changes in traffic flows and extreme weather events some capital road work priorities need to be re-assessed.

The "expected levels of service" recommended in the reported Asset Management Plan are being incorporated into the regular maintenance and service practices by Township Staff. As the Township continues to grow there will be a need to review the levels of service to ensure that the Township capital assets attain their maximum lifecycle while providing appropriate service to the public.

The updated "asset management strategy" provides an adjustment to the capital forecast for Road and Bridge asset related capital costs. This updated capital project list of the Township's Road and Bridge assets, although financially challenging need to be completed in a timely fashion to ensure that appropriate service levels are maintained and long-term vision and best practices are maintained. We have also taken into consideration the potential risk of not completing these capital projects.

The following have been identified based on the updated Township data as assets that need to be replaced or improved as soon as practicable:

Roads

- 20th Sideroad, from in between 9th Line & 8th Line to County Rd 11 Updated Recommendation which includes the previously recommended:
 - 20th Sideroad, from 7th Line to 8th Line Recommendation is to replace the surface of this asphalt road (approximate cost \$106,884; 2018).
 - 20th Sideroad from 4th Line to 5th Line (County Rd 12) Recommendation is to replace the surface of this asphalt road (approximate cost \$104,098; 2019).

The total project includes the following contiguous road segments:

- 20th Sideroad, from in between 9th Line & 8th Line to 8th Line
- 20th Sideroad, from 8th Line to 7th Line (as previously recommended)
- 20th Sideroad, from 7th Line to 6th Line
- 20th Sideroad, from 6th Line to County Rd 12
- 20th Sideroad, from County Rd 12 to 4th Line
- 20th Sideroad, from 4th Line to County Rd 11

The length of road is 7.8 km in length, with 5 km requiring reinforcement of the road base by way of pulverizing the asphalt surface and mixing it in with the road base. Additional type "A" gravel will also be added and compacted to extend the life of this road base. This part of the project will also have two lifts of asphalt. The remaining 2.8 km of road will be shave and paved as the road base is still in good condition (approximate cost \$1,300,000 plus Engineering and Construction Inspection, 2019).

- Amaranth/Grand Valley Townline, from 20th Sideroad to 1.8 km north of 20th Sideroad – Recommendation is to replace the surface of this asphalt road (approximate cost \$180,000; 2018). Expected to be completed in 2018.
- Amaranth/Grand Valley Townline from 1.6 km north of 15th Sideroad to 20th Sideroad

 Recommendation is to replace the surface of this asphalt road (approximate cost \$103,950; 2019).
- 5th Sideroad from 2nd Line to County Road 11 Recommendation is to replace the surface of this asphalt road (approximate cost \$100,960; 2019). Moved to 2020 due to 20th Sideroad priority.
- Devonleigh Drive from 30th Sideroad to 30th Sideroad Recommendation is to replace the surface of this asphalt road (approximate cost \$51,277; 2019). Moved to 2020 due to 20th Sideroad priority.

- Station Street from 10th Line/Mill Street to St. John Street Recommendation is to replace the surface of this asphalt road (approximate cost \$19,539; 2019). Moved to 2020 due to 20th Sideroad priority.
- Station Street from St. John Street to Peter Street Recommendation is to replace the surface of this asphalt road (approximate cost \$22,479; 2019). Moved to 2020 due to 20th Sideroad priority.
- Road bases are not expected to be fully replaced but improved and in localized places dug out and repacked. However, there are several road pavements showing that their road bases need some additional support and stabilization. One of these is the following:
 - 5th Sideroad from 2nd Line to County Road 11 (approximate cost \$100,000; 2019).
 Moved to 2020 due to 20th Sideroad priority

Bridges

- Bridge 17 (20th Sideroad) This bridge is being completed this year. The remaining elements to be completed are the bridge railings, approaches, waterproofing and road works. The Province of Ontario is providing an Ontario Community Infrastructure Fund (OCIF) Grant to pay 90% of the cost to replace this bridge (approximate cost to the Township \$100,000; 2017/18). To be completed in 2018.
- Bridge 15 (7th Line) The Township had to close this bridge since it did not have sufficient funds to replace it. Last year work was started on replacing the bridge deck but work was stopped due to the base elements required reinforcement. Approximately \$650,000 was already invested in this bridge reconstruction, but still more investment is required to have it completed (approximate remaining cost \$300,000; 2018). To be completed in 2018.
- Bridge 6 (10th Line) This bridge, based on the bridge inspection report, requires rehabilitation to extend the lifecycle (approximate cost \$275,000, 2019).
- Bridge 12 (6th Line) This bridge needs to be replaced based on the bridge inspection report (approximate cost \$800,000, 2020).
- Bridge 13 (6th Line) This bridge needs to be replaced based on the bridge inspection report (approximate cost \$800,000, 2020).

Facilities

- Municipal Office HVAC System (Air Conditioner) The old system is well past its life and not working properly therefore needs to be replaced (approximate cost \$28,000; 2017). Completed in 2017.
- Public Works Garage Windows Old windows are scheduled to be replaced in 2017.
 (approximate cost \$6,000; 2017). Still to be completed.

- Municipal Office Well Water supply being critical for the proper functioning of this
 building the well and pump are still working and potentially in good condition but
 there is concern over its age, and this is recommended to be investigated. The
 Township may want to ensure that money is set aside for a replacement as soon as
 it is required (approximate cost \$15,000; 2018). Still to be scheduled.
- Public Works Garage Is an old facility and with growing need for more space for equipment. The expansion of this building is identified (approximate cost \$200,000; 2018). To be completed in 2018.

Vehicles

- 2000 Ford Sterling Plow Truck Has exceeded its life expectancy and therefore is recommended to be replaced. These types of trucks are critical to ensuring that the Township roads are in good repair and safe to drive (approximate cost \$275,000; 2017). New Truck was purchased 2017.
- 2009 Ford F-150 Pickup Truck Has exceeded it life expectancy and therefore is recommended to be replaced. This is a vehicle that has been well used by Township Road staff (approximate cost \$32,000). **New Truck was purchased 2017.**
- 1994 Grader Champion 740S4 Is well past its expected life and is recommended to be replaced. These types of vehicles are critical to ensuring that Township roads are in good repair and safe to drive (approximate cost \$415,000; 2018). Still to be scheduled.
- 1998 Volvo Loader This vehicle is past it's useful life and starting to show signed of its age, and recommended to be replaced (approximate cost \$250,000; 2020).

Street Lights

 Township Street Lights – The Township has not yet converted their street lights to LED lighting. The conversion will save the Township 40%-50% in electrical costs annually which can be over \$5,000 per year which will pay off the capital investment expense in less than 10 years (approximate cost \$45,000; 2018). To be completed in 2018.

Storm Ponds

 Storm Retention Pond James Street – Runoff from the neighbouring agricultural land has caused some cleanout work required to ensure that this storm pond is functioning well (approximate cost \$4,500; 2017). Completed in 2017.

The above clearly identifies the additional priorities as well as the completed capital projects that were recommended to be completed in the 2016 Asset Management Plan report.

Even though the Township received funding to replace Bridge 17 the Township experienced some extreme weather events, compounded by heavier traffic loads on 20th Sideroad which still leaves the Township with an exceeding gap in infrastructure relief. The Township is making steps forward to close this funding gap, and obtaining an OCIF funding grant to assist with the replacement of 7.8 km of 20th Sideroad will really help. However, more needs to be done to ensure that the Township can continue to offer appropriate levels of service to the public.

The "financing strategy" as described in Chapter 5 of this Amendment shows that if the Township receives the OCIF funding for the much needed 20th Sideroad re-construction work it will be able to maintain the previously identified financing strategy over the remaining 19 years defined in the 2016 Asset Management Plan.

Overall, this Amendment to the 2016 Asset Management Plan is provided to identify the progress and changes in priorities to capital funding projects.

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Appendices

Appendix A Township Roads and Bridge Asset Inventory & Asset Management Plan Assumptions

Appendix B 19 Year Detailed Asset Management Strategy & Financing Strategy

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1.0 Introduction

1.1 Overview

R.J. Burnside & Associates Limited (Burnside) was retained by the Township of Amaranth (Township) to prepare an amendment to their 2016 asset management plan. This amendment, in conjunction with the current asset management plan, is intended to be a tool for the Township to use during various decision-making processes, including the annual budget process and Provincial/Federal capital grant application processes. This plan will serve as a road map for sustainable infrastructure planning going forward.

Assets included in this asset management plan amendment are the following:

- Bridges;
- Roads (Bases and Surfaces Asphalt, Gravel);

It is recommended that the asset management plan be updated on an annual basis to ensure that it is kept up to date. As water system assets have their own sustainable financing plan as per Provincial Guidelines, they were not part of this amendment work.

1.2 Amendment Objectives

The Township's goals and objectives with respect to their capital assets relate to the level of service being provided to Township constituents. Services should be provided at expected levels, as defined within this asset management plan. Township infrastructure and other capital assets are anticipated to be maintained at condition levels that provide for a safe and functional environment for its residents and visitors. Therefore, the amendment to the asset management plan and its implementation will be evaluated based on the Township's ability to meet the plan's goals and objectives.

1.3 Amendment Development

The development of the Township's asset management plan amendment was based on the steps summarized below:

- 1. Identify the changes in condition of Road and Bridge assets, from reports and discussion with Township Staff.
- 2. Assess the risk of asset failure for the assets that have shown exceeding elements of ware/degradation since the asset management plan. This risk assessment was identified on an asset by asset basis and was used to identify the adjustment in priority projects for inclusion in the asset management plan amendment.

- 3. Prepare an asset management strategy based on identified priorities.
- 4. Determine a financial strategy to support the amended asset management strategy, thus determining how the capital related expenditure forecast will need to be amended over the asset management plan period ending 2036.
- 5. Prepare an amendment report, summarizing the process, strategy and results of the 2016 Asset Management Plan Amendment.

1.4 Maintaining the Asset Management Plan

The asset management plan should be updated as the capital needs and priorities of the Township changes. Extenuating weather and traffic load conditions have constituted the need to amend the Township asset management plan. Completing this type of amendment requires the understanding that the state of local infrastructure, expected levels of service, asset management strategy and financing strategy are integrated and impact each other. Looking at these components in reverse order, one can see the financing strategy outlines how the asset management strategy will be funded. The asset management strategy illustrates the costs required to maintain expected levels of service at a sustainable level. The expected levels of service component summarizes and links each service area to specific assets contained in the state of local infrastructure section and thus determines how these assets will be used to provide expected service levels.

This amendment report only covers road and bridge assets that have clearly changed the Township focus priorities.

1.5 Amendment Integration

The municipal environment is continually changing and demanding when it comes to legislation and other responsibilities. Integrating this asset management plan amendment with Township's budget process, as well as, Public Standards Accounting Board Handbook Section 3150 (tangible capital asset) requirements can make updates in all three areas more efficient.

With respect to integrating the Township's budget process with asset management planning, both require a projection of capital and operating costs over a future period. The budget outlines total operating and capital requirements for the Township, while the asset management plan focuses in on specific asset related requirements. With this link to the annual budget, the budget update process can also become an asset management plan update process.

2.0 Amended State of Local Infrastructure

2.1 Scope and Process

This section of the amendment provides an opportunity to outline the assets that have more rapidly degraded and are therefore looking to become higher priorities for either capital improvement or replacement over a short 2 to 4 year period.

The Township asset management plan provides a detailed asset inventory listing which was used as a starting point. Discussions with Township staff identified the changes to asset conditions, which then reflected on the asset improvement needs.

Burnside engineers and the Township staff reviewed the lifecycles of the assets identified in this project and believe they now reflect the conditions, maintenance practices and management of Township assets.

2.2 Road and Bridge Asset Overview

From the Township Asset Management Plan it is clear that Township owned road and bridge assets have the greatest percentage tax supported replacement cost if the road base values were included in the calculation (see Figure 2-2 2016 Asset Management Plan). Road bases were explained as assets that will never be totally replaced, but will from time to time be improved and in small locations reconstructed on an as needed basis.

2.3 Road Environment Assets

The Township's road assets make up a key service that reflects the economic and social development of the community. The road surface and bridge assets contain the following percentage of Township assets when not including the road bases:

- Road Surface Asphalt 22% of the total Township Road asset replacement costs;
- Road Surface Gravel 8% of the Total Township Road asset replacement costs;
- Bridges 70% of the total Township Road asset replacement costs;

Below we provide more detail on the two key asset groups in the Road Environment group of assets, Roads, and Bridges.

2.3.1 Roads

At the 2016 replacement cost the road environment assets account for \$16.9 million dollars or 57% of the Township's tax supported assets excluding road bases.

This has increased due to some significant increases in replacement costs as well as accelerated needs to \$19.4 million or close to 61% of the Township's tax supported assets excluding road bases. The composition of the road surfaces is outlined in Table 2-1.

Table 2-1: Road Surface Composition

Road Surface	Length (m)	Condition (weighted average)	Condition (Text)	Replacement Cost	
Asphalt	46,129	6.5	Average	\$4,789,212	
Gravel	182,965	6.3	Average	\$439,820	
Total	229,094		Average	\$5,229,032	

Burnside met with the Township Staff to review the Township roads and establish the main changes to the road conditions from when they were reviewed for the 2016 Asset Management Plan. Discussions with the Township Director of Public Works, helped to identify the road conditions, and identified the changed needs for the asphalt and gravel surface roads. The weighted average condition of the Asphalt roads has decreased from 6.9 (value between 1 to 10), to 6.5. This shows that the Township road network is experiencing greater stress and requiring more attention and funding.

It was identified that both:

- 20th Sideroad between County Road 11 and 9th Line; and
- 5 Sideroad form 2nd Line to County Road 12

have experienced more rapid increase in degradation caused by potentially several factors as:

- Increased road traffic:
- Increased vehicle loads (weight); and
- Some severe/extreme weather events.

Both of these roads were identified in the 2016 Asset Management Plan as priority capital projects, however due to the above noted more rapid degradation greater extended lengths of these roads are now in the greatest need of rehabilitation and capital replacement.

It was noted that the Township was falling behind in trying to maintain good asphalt road surfaces, which do eventually affect the road bases (the costlier rehabilitation). It is very important to maintain the road surfaces which are comparatively a minor replacement cost to the major cost to replace/rehabilitate a road base. Due to other major projects as

bridge replacements the funding has not been made available to re-enforce the above road bases and replace their asphalt surfaces.

A section of 5 Sideroad from County Rd 11 to County Rd 12 noted above is a gravel surface road which has been identified as a problem area which requires more and more calcium and grading to maintain an appropriate level of service to the public.

To gain a better understanding of the road conditions it is recommended that the Township complete a Road Needs study. This will provide a more detailed report of condition related deficiencies, and other deficiencies that may impact longevity or operations of Township roads, including road widths, drainage, surface type, alignment, and brushing maintenance where required.

2.3.2 Bridges

The Township has a total of just under \$12 million replacement cost of bridge and culvert assets. Figure 2-1 provides the distribution of the types of bridges that the Township owns.

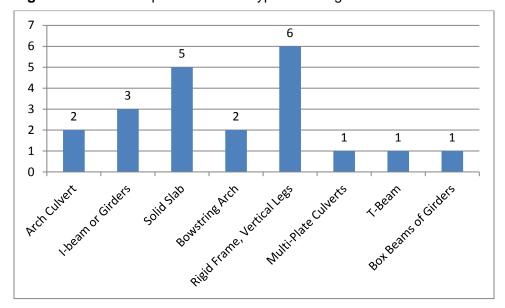


Figure 2-1: Township of Amaranth Types of Bridge Structures

The capital works needs include any repair, rehabilitation or replacement work which would typically be completed by a Township hired Contractor, to assist in extending the service life of a structure and increasing the Bridge Condition Index (BCI).

Taking into consideration the structures calculated BCl's, several structures have been identified for rehabilitation. Within the next six years, three structures have been identified for rehabilitation capital works.

Based on the biennial inspection of each structure, the Bridge Condition Index (BCI) is calculated for each structure. The Bridge Condition Index Distribution graph, shown in Figure 2-2 below, provides a summary of the current state of the Township's structures.

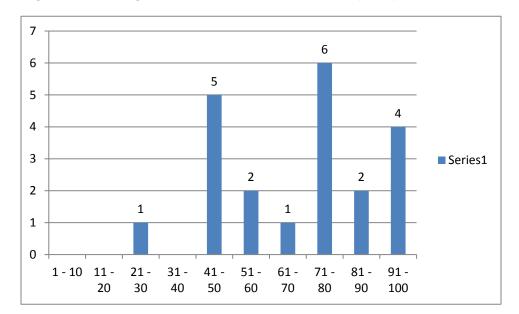


Figure 2-2: Bridge Condition Index Distribution (2016)

The Township moved forward with the reconstruction of Bridge 15 (7th Line) and Bridge 17 (20th Sideroad). These projects are expected to be completed in 2018. There are 7 more bridges that will need some improvements or replacement to achieve the Province MTO's established goal of 85% of Township structures in good condition (BCI of greater than 70).

The next priorities for bridge rehabilitation and/or replacement are:

- Bridge 6 10th Line, Rehabilitation including deck surface replacement, cleaning, waterproofing, and asphalt resurfacing (approximate cost \$250,000)
- Bridge 12 6th Line, Replacement of a single lane bridge with proper two-lane bridge (approximate cost \$800,000)
- Bridge 13 6th Line, Replacement of a single lane bridge with proper two-lane bridge (approximate cost \$800,000)

Continued maintenance and completion of rehabilitative or replacement works as recommended in the Bridge report will help to continue a trend of overall improvement of the Municipality's bridge assets.

3.0 Expected Levels of Service

The Township of Amaranth has been offering and maintaining, for its municipality, good service levels during challenging economic times. The Province has become more demanding of all municipalities requiring residents to invest more and more into replacing older infrastructure. Reviewing past records has shown that small investments were being made into maintaining and replacing Township infrastructure. The last few years have seen improvements with greater investments in retaining proper service levels on Township assets. It is important to note that the long-term objective of the Township needs to be infrastructure sustainability. In general, the Township is performing maintenance activities when required.

3.1 Scope and Process

The levels of service (LOS) analysis completed in the Asset Management Plan clearly outlined the expected actions the Township was to move forward on to appropriately maintain Township assets. This Amendment to the Township Asset Management Plan does not see any additional service requirements that need to be applied at this time.

What was identified as an oversight omission in the body of the text to the 2016 Asset Management Plan was that the Bridge related assets levels of service table. This table was part of Appendix C in the 2016 Asset Management Plan. The same levels of service table related to Township Bridges is now included in Table 3-1.

Township of Amaranth

2016 Asset Management Plan July 25, 2018

Table 3-1: Township Bridge Expected Levels of Service

			Level of Service (LO	S) Analysis		
	Expected Strategic LOS	Current LOS	Expected LOS Benchmar Applicab		Estimated Cost of Expected LOS	Cost Description
Bridge & Culvert	Safe Bridges	Maintain good bridge condition and 8 bridges with load limits.	Maintain good condition and no load limits.	MTO bridge guides		Township is working towards completing this LOS. Closed Bridge 17 will be re-opened after new construction in 2017, and Bridge 15 will be replaced.
Assets	Bridges Maintained	Follow Bridge Inspection Report recommendations for Bridge and Culvert maintenance.	Proactive Bridge and Culvert maintenance (based on bridge report).		\$100,600	Township is completing this LOS, with improving the maintenance issues identified in the Township's Bridge Inspection Report over the next 10 years. Required funds are identified in the LOS tables
	Proper Bridge Spring Maintenance	Blowing out Expansion Joints & Washing of Bridges in Spring	Blowing out Expansion Joints & Washing of Bridges in Spring			Township is completing this LOS
	DIMOTOR INSTOLUCTIONS		Bridge inspections (i.e. using OSIM reports) required every 2 years.	Completed every 2 years	\$7,800	Township is completing this LOS

4.0 Amended Asset Management Strategy

4.1 Scope and Process

The asset management strategy provides the recommended course of actions required to maintain (or move towards) a sustainable asset position while delivering appropriate levels of service. This course of actions, when combined, form a long-term operating and capital forecast that includes:

- Non-infrastructure solutions: Reduce costs and/or extend expected useful life estimates:
- Maintenance activities: Regularly scheduled activities to maintain existing levels of service levels, or repairs needed due to unplanned events;
- Renewal/Rehabilitation: Significant repairs or maintenance planned to maintain the levels of service and increase the remaining life of assets; and
- Replacement/Disposal: Complete disposal and replacement of assets, when renewal or rehabilitation is no longer an option.

Priority identification becomes a critical process during the development of an asset management strategy. Priorities have been determined based on assessment of the overall risk of asset failure, which is determined by looking at both the probability of an asset failing, as well as, the consequences of failure. The consequences of the municipality not meeting desired levels of service must also be considered in determining risk. Adding enhanced levels of service results in both operating and capital budget impacts over the remaining 19 years of a 20-year forecast period. This must be taken into consideration, with the overall objective of reaching sustainable levels while mitigating risk.

4.2 Risk Assessment

The risk of an asset failing is defined by the following calculation:

Risk of Asset Failure = Probability of Failure X Consequence of Failure

Probability of failure has been linked to the condition assessment for each asset, assuming that an asset in "very good" condition has a "rare" probability of failure. The following table outlines the probability factor tied to each condition rating:

Table 4-1: Probability of Failure Matrix

Condition (Value)	Condition	Probability of Failure		
9 – 10	Very Good	Rare		
7 – 8	Good	Unlikely		
5 – 6	Average	Possible		
3 – 4	Poor	Likely		
1 – 2	Very Poor	Almost Certain		

Consequence of failure has been determined by examining each asset type separately. Consequence refers to the impact on the municipality if a particular asset were to fail.

Types of impacts include the following:

- Cost Impacts: the cost of failure to the Township (i.e., capital replacement, rehabilitation, fines and penalties, damages, etc.);
- Social impacts: potential injury or death to residents;
- Environmental impacts: the impact of the asset failure on the environment; and
- Service delivery impacts: the impact of the asset failure on the Township's ability to provide services at desired levels.

Each type of impact was reviewed and consequence of failure for each asset type was determined by using the information contained in Table 4-2 as a guide to assess the level of impact. Levels of impact were documented as ranging from "significant" to "insignificant".

Table 4-2: Consequence of Failure Matrix

	Cost	Social	Environmental	Service Delivery
Significant	Significant Cost – Difficult to Recover	Death, Serious Injury	Long-term Impact – Permanent	Major Interruptions
Major	Substantial Cost – Multi-year Budget Impacts	Major Injury	Long-term Impact – Fixable	Significant Interruptions
Moderate	Considerable Cost – Requires Revisions to Budget	Moderate Injury	Medium-term Impact – Fixable	Moderate Interruptions
Minor	Small/Minor Cost - Within Budget Allocations	Minor Injury	Minor Injury Short-term/Minor Impact – Fixable	
Insignificant	Negligible or Insignificant Cost	No Injury	No Impact	No Interruptions

With both probability of failure and consequence of failure documented, total risk of asset failure was determined using the matrix contained in Table 4-3. Total risk has been classified under the following categories:

- Extreme Risk (E): Risk beyond acceptable levels;
- High Risk (H): Risk slightly beyond acceptable levels;
- Medium/Moderate Risk (M): Risk at acceptable levels, monitoring required to ensure risk does not become high; and
- Low Risk (L): Very little risk.

Table 4-3: Total Risk of Asset Failure Matrix

Probability of Failure	Consequence of Failure									
Of Failule	Significant	Major	Moderate	Minor	Insignificant					
Almost Certain	Е	Е	Н	Н	М					
Likely	Е	Н	Н	M	M					
Possible	Е	Н	M	M	L					
Unlikely	Н	M	M	L	L					
Rare	Н	M	L	L	L					

Risk levels can be reduced or mitigated through planned maintenance, rehabilitation and/or replacement of an asset. An objective of this asset management plan is to reduce risk levels where they are deemed to be too high, as well as, ensure assets are maintained in a way that keeps risk at acceptable levels.

4.3 Priority Identification

Through a review of the asset risk of failure assessment, the road and bridge assets/categories were identified as being priorities of the Township for over the next few years. Further review of what has been completed and yet to be completed or altered due to changing priorities is listed below.

Roads

- 20th Sideroad, from in between 9th Line & 8th Line to County Rd 11 Updated Recommendation which includes the previously recommended:
 - 20th Sideroad, from 7th Line to 8th Line Recommendation is to replace the surface of this asphalt road (approximate cost \$106,884; 2018);
 - 20th Sideroad from 4th Line to 5th Line (County Rd 12) Recommendation is to replace the surface of this asphalt road (approximate cost \$104,098; 2019).

The total project includes the following contiguous road segments:

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- 20th Sideroad, from 7th Line to 6th Line
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The length of road is 7.8 km in length, with 5 km requiring reinforcement of the road base by way of pulverizing the asphalt surface and mixing it in with the road base. Additional type "A" gravel will also be added and compacted to extend the life of this road base. This part of the project will also have two lifts of asphalt. The remaining 2.8 km of road will be shave and paved as the road base is still in good condition. The Township is applying for OCIF funding for this project (approximate cost \$1,300,000 plus Engineering and Construction Inspection, 2019).

- Amaranth/Grand Valley Townline, from 20th Sideroad to 1.8 km north of 20th Sideroad – Recommendation is to replace the surface of this asphalt road (approximate cost \$180,000; 2018). Expected to be completed in 2018.
- Amaranth/Grand Valley Townline from 1.6 km north of 15th Sideroad to 20th Sideroad

 Recommendation is to replace the surface of this asphalt road (approximate cost \$103,950; 2019).
- 5th Sideroad from 2nd Line to County Road 11 Recommendation is to replace the surface of this asphalt road (approximate cost \$100,960; 2019). **Moved to 2020 due to 20th Sideroad priority.**
- Devonleigh Drive from 30th Sideroad to 30th Sideroad Recommendation is to replace the surface of this asphalt road (approximate cost \$51,277; 2019). **Moved to 2020 due to 20th Sideroad priority.**
- Station Street from 10th Line/Mill Street to St. John Street Recommendation is to replace the surface of this asphalt road (approximate cost \$19,539; 2019). Moved to 2020 due to 20th Sideroad priority.
- Station Street from St. John Street to Peter Street Recommendation is to replace the surface of this asphalt road (approximate cost \$22,479; 2019). Moved to 2020 due to 20th Sideroad priority.
- Road bases are not expected to be fully replaced but improved and in localized places dug out and repacked. However, there are several road pavements showing that their road bases need some additional support and stabilization. One of these is the following:
 - 5th Sideroad from 2nd Line to County Road 11 (approximate cost \$100,000; 2019).
 Moved to 2020 due to 20th Sideroad priority.

Bridges

- Bridge 17 (20th Sideroad) This bridge is being completed this year. The remaining elements to be completed are the bridge railings, approaches, waterproofing and road works. The Province of Ontario is providing an Ontario Community Infrastructure Fund (OCIF) Grant to pay 90% of the cost to replace this bridge (approximate cost to the Township \$100,000; 2017/18). To be completed in 2018.
- Bridge 15 (7th Line) The Township had to close this bridge since it did not have sufficient funds to replace it. Last year work was started on replacing the bridge deck but work was stopped due to the base elements required reinforcement.
 Approximately \$650,000 was already invested in this bridge reconstruction, but still more investment is required to have it completed (approximate remaining cost \$300,000; 2018).

 To be completed in 2018.
- Bridge 6 (10th Line) This bridge based on the bridge inspection report requires rehabilitation to extend the lifecycle (approximate cost \$275,000, 2019).
- Bridge 12 (6th Line) This bridge needs to be replaced based on the bridge inspection report (approximate cost \$800,000, 2020).
- Bridge 13 (6th Line) This bridge needs to be replaced based on the bridge inspection report (approximate cost \$800,000, 2020).

Facilities

- Municipal Office HVAC System (Air Conditioner) The old system is well past its life and not working properly therefore needs to be replaced (approximate cost \$28,000; 2017). Completed in 2017.
- Public Works Garage Windows Old windows are scheduled to be replaced in 2017.
 (approximate cost \$6,000; 2017). Still to be completed.
- Municipal Office Well Water supply being critical for the proper functioning of this building the well and pump are still working and potentially in good condition but there is concern over its age, and this is recommended to be investigated. The Township may want to ensure that money is set aside for a replacement as soon as it is required (approximate cost \$15,000; 2018). Still to be scheduled.
- Public Works Garage Is an old facility and with growing need for more space for equipment. The expansion of this building is identified (approximate cost \$200,000; 2018).

Vehicles

 2000 Ford Sterling Plow Truck – Has exceeded its life expectancy and therefore is recommended to be replaced. These types of trucks are critical to ensuring that the Township roads are in good repair and safe to drive (approximate cost \$275,000; 2017). New Truck was purchased 2017.

- 2009 Ford F-150 Pickup Truck Has exceeded it life expectancy and therefore is recommended to be replaced. This is a vehicle that has been well used by Township Road staff (approximate cost \$32,000). New Truck was purchased 2017.
- 1994 Grader Champion 740S4 Is well past its expected life and is recommended to be replaced. These types of vehicles are critical to ensuring that Township roads are in good repair and safe to drive (approximate cost \$415,000; 2018). Still to be scheduled.
- 1998 Volvo Loader This vehicle is past it's useful life and starting to show signed of its age, and recommended to be replaced (approximate cost \$250,000; 2020).

Street Lights

 Township Street Lights – The Township has not yet converted their street lights to LED lighting. The conversion will save the Township 40%-50% in electrical costs annually which can be over \$5,000 per year which will pay off the capital investment expense in less than 10 years (approximate cost \$45,000; 2018). To be completed in 2018.

Storm Ponds

 Storm Retention Pond James Street – Runoff from the neighbouring agricultural land has caused for some cleanout work required to ensure that this storm pond is functioning well (approximate cost \$4,500; 2017). Completed in 2017.

This list of capital asset replacements are only for the next few years, and do not limit the needs that the Township requires to become fully sustainable. The Finance Strategy will further outline the needs for investing in assets annually via reserves to ensure that funds are available for future asset replacements.

4.4 Long-term Forecast

For many years, lifecycle costing has been used in the field of engineering to evaluate the advantages of using alternative materials in construction or production design. The method has gained wider acceptance and use recently in the management of capital assets. By definition lifecycle costs are all the costs which are incurred during the lifecycle of a capital asset, from the time it is purchased or constructed, to the time it is taken out of service for disposal.

In defining the long-term forecast for the Township's asset management strategy, costs incurred through an asset's lifecycle, the assets condition, expected LOS, and risk were considered and documented. Asset Replacement Analysis in forecasting the municipality's asset replacement needs are summarized in Figure 4-1, which we are calling Amended Asset Strategy Scenario 1 based on expected levels of service. This asset strategy was further developed into an Amended Scenario 2a, and 2b.

This second developed scenario takes the developed asset strategy and applies a Capital Phased-In Approach as shown in Figure 4-2. Scenario 2 is fully discussed in Chapter 5.

The amended asset strategy incorporated all the information discussed above in this amendment report and based on the information provided by the Township, staff input, and understanding of the asset's reaction in their current environment as well as the expected asset maintenance levels, and the current asset condition, which is expected to produce a reduced asset potential risk of failure. The outcome of this scenario approach was to provide appropriate asset service levels, and assets are expected to meet or exceed their useful life which reduces expected infrastructure deficits. In total, \$25.5 million in assets (inflated to appropriate year) are shown as replacement needs in the amended 19 years of the 20-year forecast – assuming the Township receives approximately \$1.3 million in OCIF funding for 20th Sideroad reconstruction. This is the recommended amended asset strategy for the Township of Amaranth. Without the OCIF funding the total will be \$26.8 million over the same period.

Assets like Bridges, Storm Water, and Facility Structures, are not expected to be replaced for usually over 50 years. It needs to be stated to ensure that these assets have reserve funding for their replacement schedule in the future. These assets will need to be replaced beyond the amended 19 year analysis period and not having reserve funds to do so will elevate the risk of failure to extreme levels in the future. Scenario 2b attempts to provide the Township with an investment plan into Township reserve accounts.

For the recommended scenario to be feasible, it is important that the Township follow through with the expected level of service adjustments discussed in the 2016 Asset Management Plan in conjunction with the current level of service amounts in order to effectively maintain and rehabilitate the assets as required.

The financing strategy discussed in the next chapter will incorporate the level of service adjustments into the recommended financing analysis. Please refer to Appendix C for the full amended 19-year details.

Figure 4-1: Amended Scenario 1 - Proposed Tax Supported Asset Strategy Based on Expected Levels of Service and OCIF Funding

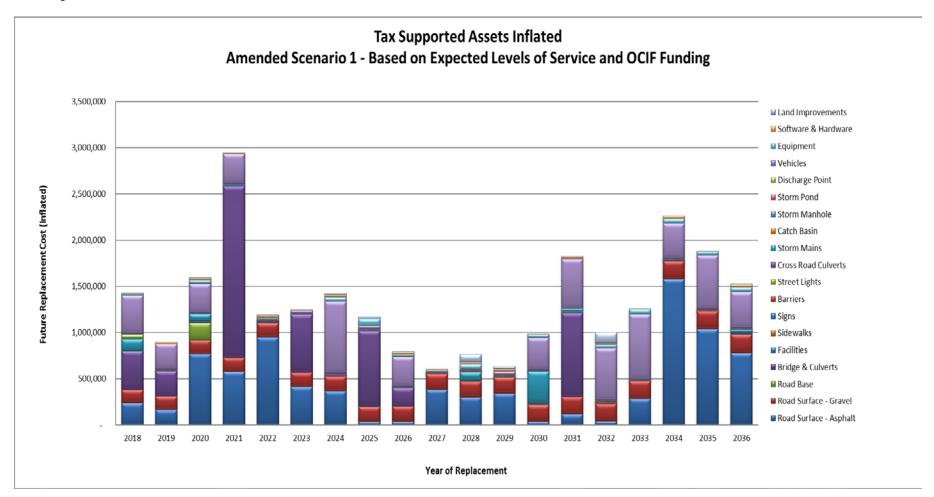
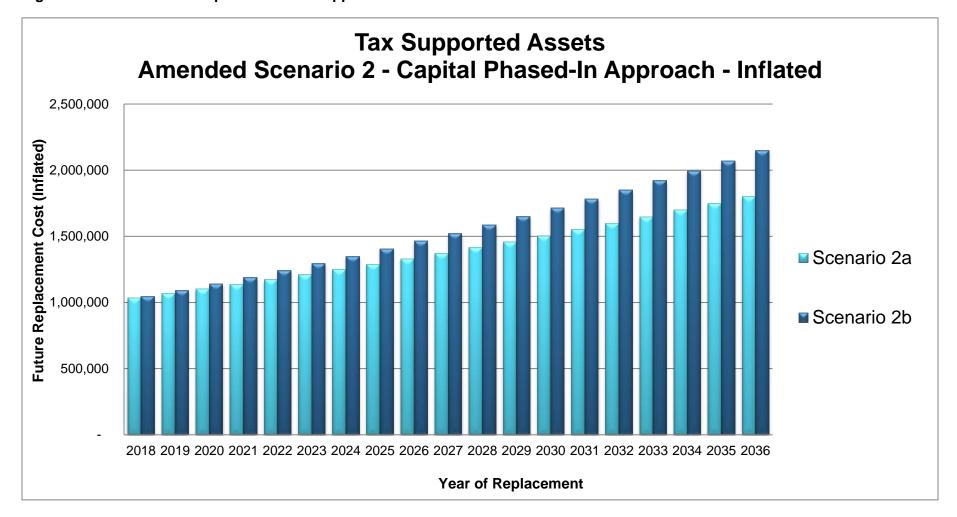


Figure 4-2: Scenario 2 - Capital Phased In Approach



5.0 Amended Financing Strategy

5.1 Scope and Process

The financing strategy outlines the suggested financial approach to funding the tax supported asset management strategies outlined in Chapter 4, while utilizing the Township's existing budget structure and available funding sources. This section of the amended asset management plan includes:

- Annual expenditure forecasts broken down by lifecycle cost, including:
 - Maintenance/non-infrastructure solutions;
 - Renewal/rehabilitation activities;
 - Replacement/disposal activities; and
 - Expansion activities.
- An approximation of the annual funding devoted to Capital improvements/ Replacements;
- Identification of the funding shortfall and the infrastructure gap, including how the impact will be managed; and
- All key assumptions documented.

The financing strategy forecasts (including both expenditure and approximate capital revenue sources) were prepared consistent with the Township's budget structure so that it can be used in conjunction with the annual budget process. Various financing options, including user fees, reserve funds, debt, and grants were considered during the process.

For all amended financing strategy scenarios, a detailed 19 year of the original 20 year plan was generated. The plan identifies specific lifecycle costs and associated funding sources required for the asset management strategies described in Chapter 4.

5.2 Tax Supported Financing Strategies

As discussed in Chapter 4, two asset management strategies were developed to provide different avenues of moving towards sustainable asset management planning. Amended Scenario 1 outlines the preferred approach, allocating rehabilitation and replacement needs based on asset condition, risk and expected levels of service. Amended Scenario 2, the recommended approach, provides for the same capital needs as Amended Scenario 1 over the 19 years of the 20-year forecast period, however, some potential capital deferrals are used to phase-in the impact over earlier years to assist with affordability. Included in this chapter are three distinct financing strategies, one for Amended Scenario 1 and two for Amended Scenario 2 (referred to as 2a and 2b), that attempt to move the Township towards asset management sustainability.

Table 5-1 below provides a costing overview of the three financing strategies and the cumulative, non-inflated and inflated capital expenses over five, ten, and nineteen years of the original 20-year forecast. Please note that the totals below include not only rehabilitation and replacement needs identified in Chapter 4, but also levels of service and expansion related capital costs. Amended Scenarios 2a and 2b provide the same capital forecast; however, provide different options on how to finance the recommended asset management scenario. As noted above, Amended Scenario 2 ensures all capital identified in Amended Scenario 1 is completed by the end of the 20 year forecast, but achieves so at a marginally higher price due to capital inflation.

Table 5-1: Tax Supported Financing Strategy Scenarios

Capital	Over 5 Years	Total Potential Added to Reserves	Over 10 Years	Total Potential Added to Reserves	Over 19 Years	Total Potential Added to Reserves
Non-Inflated						
Amended Scenario 1	\$7,801,653	\$0	\$12,406,908	\$0	\$21,507,854	\$0
Amended Scenario 2a	\$5,187,500	(\$2,614,153)	\$10,687,500	(\$1,719,408)	\$21,375,000	(\$132,854)
Amended Scenario 2b	\$5,375,000	(\$2,426,653)	\$11,375,000	(\$1,031,908)	\$23,750,000	\$2,242,146
Inflated						
Amended Scenario 1	\$8,142,375	\$0	\$13,392,856	\$0	\$25,560,272	\$0
Amended Scenario 2a	\$5,509,803	(\$2,632,572)	\$11,959,358	(\$1,433,498)	\$26,382,139	\$821,867
Amended Scenario 2b	\$5,711,485	(\$2,430,890)	\$12,750,000	(\$642,856)	\$29,466,908	\$3,906,636

Several methods of funding capital expenditures are utilized across all three financing strategy scenarios, in particular:

- Taxation funding is suggested for all maintenance costs, reserve fund transfers, as well as levels of service adjustment related costs related to operations.
- Formula based Ontario Community Infrastructure Fund (OCIF) proceeds and Gas
 Tax proceeds are expected to be stable and long-term funding sources for capital
 projects.
- OCIF Proposal Funding for 20th Sideroad reconstruction project is included.

- External Debt financing may be an additional measure required to help smooth capital financing in years where there are increases in funding requirements. This is in particular a good method over the first five years of the 20-year plan.
- Internal debt issued from the Township's Reserve Fund (when accumulated) can be
 utilized to help fund annual capital needs understanding that these Reserve Funds
 need continuous investment to provide for potential unexpected capital needs as well
 as long term capital needs.
- The portion of newly acquired or constructed assets that are growth (DC) related can be financed by development charges.

The Township will be dependent upon maintaining healthy capital reserve funds in order to provide the remainder of the required funding over the forecast period. This will require the Township to proactively increase amounts being transferred to these capital reserve funds during the annual budget process. Amended Scenario 2b is the most applicable for the Township to implement and increase the capital reserve accounts, as beyond the 20-year forecast period there will be additional capital needs that will need funding.

5.2.1 Amended Scenario 1: Expected Levels of Service

Figure 5-1 below presents the first 10 years of the amended capital forecast for Amended Scenario 1. This forecast ensures that capital assets are rehabilitated or replaced as identified, based on levels of service, risk and condition (see Chapter 4).

Figure 5-1: Tax Supported Assets Amended Scenario 1 – Based on Expected Levels of Service

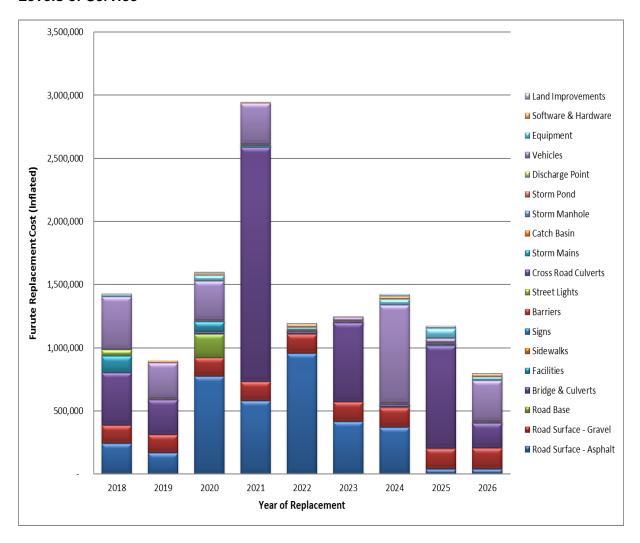


Table 5-2 shows the tax supported expenditure forecast for maintenance, renewal/rehabilitation, replacement/disposal and expansion for the first 10 years of the forecast. While this summary only shows high-level cost classifications, further detail (including the full 20-year forecast) can be obtained from Appendix A and Appendix C.

Table 5-2: Tax Supported Capital Expenditure Forecast Amended Scenario 1: Expected LOS

Asset Type	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Total Scheduled Capital - Inflated	1,502,010	898,025	1,601,589	2,945,053	1,195,699	1,244,722	1,425,623	1,172,353	799,845	607,938
Road Surface - Asphalt	242,800	167,013	772,431	580,512	954,997	415,691	368,113	38,826	39,602	386,872
Road Surface - Gravel	142,000	144,840	147,737	150,692	153,705	156,779	159,915	163,113	166,376	169,703
Road Base	1,000	1,019	188,312	1,061	1,082	1,104	1,126	1,149	1,172	1,195
Bridge & Culverts	417,860	275,461	18,582	1,854,843	19,332	623,872	20,113	815,636	196,675	-
Facilities	204,500	-	78,030	12,734	-	-	-	5,743	-	-
Sidewalks	-	-	-	-	-	-	-	-	586	-
Signs	4,500	4,590	4,682	4,775	4,871	4,968	5,068	5,169	5,272	5,378
Barriers	-	-	-	-	878	-	-	-	-	5,688
Street Lights	45,000	510	520	531	541	552	563	574	586	598
Cross Road Culverts	4,500	4,590	4,682	4,775	4,871	4,968	5,068	5,169	5,272	5,378
Storm Mains	-	-	-	-	-	-	-	-	-	-
Catch Basin	2,000	2,040	2,081	2,122	2,165	2,208	2,252	2,297	2,343	2,390
Storm Manhole	-	-	-	-	-	-	-	-	-	-
Storm Pond	-	-	-	-	-	-	-	-	-	-
Discharge Point	-	-	-	-	-	-	-	-	-	-
Vehicles	415,000	280,500	312,120	325,791	-	33,122	777,052	36,758	322,206	-
Equipment	20,350	408	44,217	1,167	19,700	662	46,004	77,587	29,291	20,914
Software & Hardware	2,500	17,053	17,791	6,049	27,061	794	23,456	3,101	24,019	9,823
Land Improvements	-	-	10,404	-	6,495	-	16,892	17,230	6,444	-

31

In order to fund the amended asset requirements over the forecast period using the Township's own available funding sources (i.e., using taxation, Gas Tax funding, **OCIF funding**, reserves/reserve funds, and internal and external debentures), no changes to the 2016 Asset Management Plan Financing Strategy will be required. This was identified as an increase in the Township's taxation levy of approximately 1% - 2% annually. However, if other funding sources become available (i.e., grant funding) or if maintenance and rehabilitation practices allow for the deferral of capital works, then the impact on the Township's taxation levy would decrease under Amended Scenario 1 implementation.

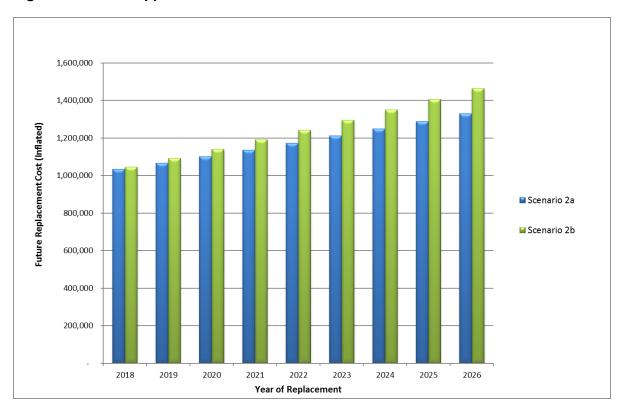
5.2.2 Amended Scenarios 2a, and 2b

As previously mentioned, Amended Scenarios 2a and 2b present different funding options to finance the recommended asset management strategy. The major difference between these two approaches is the extent to which capital assets are either financed through external debt, or deferred until funds are available as well as the resulting impact on projected taxation rates. Scenario 2b opts to use less external debentures, resulting in higher taxation rates, while Scenario 2a utilizes more potential external debentures, which has the effect of reducing the impact on taxation (by spreading capital costs out over many years). However, both Amended Scenarios require \$1.3 million in OCIF funding for 20th Sideroad reconstruction. Also note that even with a 1% annual tax increase towards capital funding it will take over 10 years in Scenario 2b to attain a positive investment into Capital Reserves.

Figure 5-2 below presents the first 10 years of the capital forecast for the recommended Amended Scenario 2 asset management strategy. In this figure, the different Amended Scenarios 2a and 2b are shown.

This forecast gradually increases the investment in capital assets over the forecast period. Both Amended Scenario 2a and 2b start at \$1,000,000 in 2017 as outlined in the 2016 Asset Management Plan. The difference between Amended Scenario 2a and 2b is that Scenario 2b has a higher annual increase in annual taxation. Scenario 2a increases by 0.5% and Scenario 2b increases by 1%, each year over the 20 year forecast period.

Figure 5-2: Tax Supported Assets Scenario 2a and 2b



The Amended Scenario 2 asset management strategy defers the timing of some of the capital assets identified in the early years of Amended Scenario 1 to assist in implementing sustainable funding. Please note that if additional funding is identified (i.e., grants) beyond the OCIF August 2018 submission or cost efficiencies are found through annual budget processes going forward, this infrastructure gap could be reduced further.

Table 5-3: Tax Supported Capital Expenditure Forecast

Asset Type	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Scenario 2a	1,032,750	1,066,410	1,101,003	1,136,554	1,173,086	1,210,625	1,249,196	1,288,825	1,329,540	1,371,369
Scenario 2b	1,045,500	1,092,420	1,140,799	1,190,675	1,242,091	1,295,087	1,349,706	1,405,991	1,463,988	1,523,743

Table 5-3 shows the tax supported expenditure forecast for maintenance, renewal/ rehabilitation, replacement/disposal and expansion for the first 10 years of the amended forecast. While this summary only shows required investment, further detail (including the full 19 remaining years of the 20-year forecast) can be found in Appendix C.

In order to fund the recommended asset requirements over the forecast period using the Township's own available funding sources (i.e., using taxation, Gas Tax funding, OCIF funding, reserves/reserve funds, and internal and external debentures), an increase in the Township's taxation levy (which includes inflationary operating adjustments, assumed to be 2.0%).

Amended Scenario 2a and 2b have a starting point at \$1,000,000 in year 2017, and increasing at a lower rate than Amended Scenario 2b, increasing at a higher annual rate. The objective of these two amended scenarios was to ensure that the total funding required was in place to complete the capital works over the 20-year asset management forecast period.

Amended Scenario 2 may require some debt or initial draining of reserve funds or capital project deferral. It is important to point out that debt would be a short term need as the tax levies catch up with the capital requirements of the Township in the second half of the 20-year forecast period. However, if other funding sources become available (i.e., grant funding) or if maintenance and rehabilitation practices allow for the deferral of capital works, then the impact on the Township's taxation levy would decrease.

5.2.3 Financing Strategies Summary

The main differences between the scenarios:

- The deferral of capital within the 20-year forecast period in Amended Scenarios 2a, and 2b;
- The use of external debentures to help finance capital in the early years of the forecast period; and
- The year-over-year increases to the taxation rate.

Assuming the Township receives the OCIF funding for 20th Sideroad reconstruction and maintains adequate capital reserve funds, both financing strategies will fully fund all capital identified for replacement via their expected levels of service. While the annual funding requirement may fluctuate, it is important for the Township to implement a consistent, yet increasing annual investment in capital so that the excess annual funds can accrue in capital reserve funds.

If the Township does not receive the OCIF funding for 20th Sideroad reconstruction then Amended Scenario 2a will not be sufficient to fund all the identified capital and maintenance requirements further expanding the infrastructure gap. Not to mention the additional capital needs that will be required beyond the 20-year forecast period. Table 5-4 shows this shortfall. Amended Scenario 2b will still be able to complete the necessary projects, however it will not leave much in capital reserves for beyond the forecast period. The Township really needs to receive the OCIF funding to take some of the pressure off the Township's infrastructure gap.

Table 5-4: Tax Supported Financing Strategy Scenarios – without 2018 OCIF Funding

Capital	Over 5 Years	Total Potential Added to Reserves	Over 10 Years	Total Potential Added to Reserves	Over 19 Years	Total Potential Added to Reserves
Non-Inflated						
Amended Scenario 1	\$9,090,521	\$0	\$13,695,776	\$0	\$22,796,722	\$0
Amended Scenario 2a	\$5,187,500	(\$3,903,021)	\$10,687,500	(\$3,008,276)	\$21,375,000	(\$1,421,722)
Amended Scenario 2b	\$5,375,000	(\$3,715,521)	\$11,375,000	(\$2,320,776)	\$23,750,000	\$953,278
Inflated						
Amended Scenario 1	\$9,457,020	\$0	\$14,707,501	\$0	\$26,874,918	\$0
Amended Scenario 2a	\$5,509,803	(\$3,947,217)	\$11,959,358	(\$2,748,144)	\$26,382,139	(\$492,779)
Amended Scenario 2b	\$5,711,485	(\$3,745,535)	\$12,750,000	(\$1,957,501)	\$29,466,908	\$2,591,990

5.2.4 Tax Supported Services

Capital investment is hereto referred as the sum of annual contributions to fund capital asset rehabilitation, replacement, and/or expansion. For the purposes of the Township, this can take the form of contributions to capital reserves/reserve funds, internal and external debt payments and consistent capital grant funding. This differs from the Township's annual budget and forecast, which includes asset maintenance from an operating perspective and one-time funding for capital projects. The annual capital investment represents ongoing and constant investments in capital over the forecast period. From a tax supported asset base perspective, the estimated amended optimal annual capital investment is approximately \$1.4 million, from the \$1.1 million stated in the 2016 Asset Management Plan. Based on the Township's 2017 budget, current annual capital investment of approximately \$1,000,000. This would provide a high-level estimate of the Township's annual tax supported infrastructure funding gap at \$400,000, which is \$300,000 higher than previously stated.

5.2.5 Improving the Annual Funding Deficit

Under the recommended amended financing strategy 2b, the Township would be making proactive attempts to mitigate these funding gaps over the forecast period.

2016 Asset Management Plan July 25, 2018

To further mitigate the potential infrastructure funding deficit, the Township could consider:

- Decreasing expected levels of service to make available capital funding;
- Issuing more debt for significant and/or unforeseen capital projects, in addition to the
 debt recommended within this report, while staying within the Township's debt
 capacity limits (this would have the impact of spreading out the capital repayment
 over a defined term);
- Actively seeking out and applying for grants;
- Consider approaching the community for funding assistance with respect to growth/ expansion related projects;
- Rate increases, where needed (i.e., taxation); and/or
- Implementing net operating reductions or efficiencies. For example:
 - Reduced operating costs to allow for more capital investment.

2016 Asset Management Plan July 25, 2018

6.0 Recommendations

The following recommendations have been provided for the Township of Amaranth consideration:

- That this 2018 Amendment to the Amaranth Asset Management Plan be received and approved by the Township of Amaranth Council; and
- That consideration of this 2018 Amendment to the Amaranth Asset Management Plan be given as part of the annual budgeting process to ensure sufficient capital funds are available to fund capital requirements over the long-term.

The current level of funding for asset replacement and renewal at the Township will not sufficiently fund required capital needs or close the infrastructure funding gap. As such, it is recommended that the following be considered:

- That Council approve the recommended financing strategy amended scenario 2b, for Township staff to implement moving forward;
- That the "levels of service" strategies discussed in 2016 Asset Management Plan be implemented;
- That the Township use "reserve funds" for asset management planning purposes;
- That this Asset Management Plan be updated and improved as needed over time to reflect the current priorities of the Township; and
- That the Township consider the capital priorities identified within this report when applying for future grants or deciding on how to utilize Gas Tax, OCIF funding and/or other funding that becomes available.

Substantial investment in asset capital needs will be required over the 20-year forecast period and beyond. Through the recommendations provided above, proactive steps will be made to increase capital investment, as well as, reduce the annual infrastructure funding gap for Township assets. Enhanced maintenance plans will assist in maintaining adequate asset conditions, mitigate asset risk as well as potentially defer capital needs within the forecast period. In addition, the Township of Amaranth is recommended to pursue all available capital grants wherever possible to further reduce the infrastructure funding gap.

Through the creation of this plan, the Township has been provided with Excel spreadsheets in which amendments and revisions can be made as needed by the Township. It is anticipated that this plan adopted by Township Council will be monitored and updated frequently as part of the budget process, with refinements and specific recommendations being provided with respect to the priority of each individual project.



Appendix A

Township Roads and Bridge Asset Inventory & Asset Management Plan Assumptions

maranth
Current Leveles of Service

Current Leveles of Service

Expected Levels of Service + Town Input
Replacement/Improvement Year Based on Current Levels Service + Replacement/Improvement Year Based on Expected Levels Service

Roads - Road Section Invent	itory																								Cu Replacement/Improve	rent Leveles o nent Year Base		ervice					Replaceme	Expected Levels of Servent/Improvement Year Base		s Service
					Surface		Longth	Width Causes		Hooful E	Remaining		2015 Accumulated	2015 Not Book	eplacement Condition Based	On Condition from	n Condition Used	Asset Condition	Probability of Failure	Concomiones of	Dick of	Numerical Value	Year Replacement due	Current Louele of					roposed		Extended Life	Expected Levels of Service	Revised Levels	Year Replacement		
Fixed Asset # Map Link	Subtype Asset Name - Ros	ds Fron	п То	Classification	Surface Material	Туре	Length (m)	Width Square (m) meters (m	n) Install Year	r Life U	Useful Life Age	Historic Cost	2015 Accumulated Amortization System	Value System C	eplacement ost/Section Condition Based Useful Life		for Analysis	(As per Priority Rating)	(Based on Condition or Expected	Consequence of Failure	Failure	of Risk of Failure	to minimmal maintenance practices	Service % benefit	Revised Levels ervice Replacement Year Applyi	g Risk Score	Replacement Year	emaining Rehab		Year for Rehabilitation	(Years) due to Betterment	% benefit over Current + Condition better then expected for age	Service Replacement Year2	Applying Risk Score - or Staff Override	Subsequent F Replacement Year3	Useful Life5
							229,094				6 10	\$2,524,522	\$799,394	\$687,541	\$5,229,032		6.5	Rating)	Expected Condition)			2							\$4,000			expected for age				
3512	Roads - Road 10TH LINE from Henry S Section 5th Line	T to HENRY STR	EET STH LINE	Rural	Asphalt		1865.85	6 11195.1	20:	11 15	10 5	\$ 55,118		36745.34	\$186,585	7 8	8	Good	Unlikely	Moderate	м	2	2022	10	2024	2024	2039	8				0	2024	202	4 2039	8
4268 2370	20TH SIDEROAD from 1 Line to 9th Line	Oth	ROAD 9TH SIDER	DAD Rural	Asphalt		1382.09	7 9674.63	2016	15	15 0	97,845.60	6,523.04	\$91,323	\$138,209	10 10	0 10	Very Good	Rare	Moderate	L	1	2027	10	2029	2029	2044	13				0	2029	2021	2044	13
	Roads - Road 20TH SIDEROAD from 2	nd Line	MONO - AMARANTI																								2033									
2377	Section to Amaranth/Mono TL Roads - Road 20TH SIDEROAD from 4	2ND LINE	TOWNLINE COUNTY RO		Asphalt		1398.67	6 8392.02	201	05 15	4 11	\$ 86,304	63289.73	23014.46	\$139,867	3 7	7	Good	Unlikely	Moderate	М	2	2016	10	2018	2018		2				10	2020	2020	2035	4
2375	Section to County Rd 11 Roads - Road 20TH SIDEROAD from 5	4TH LINE	11	Rural	Asphalt		1519.09	6 9114.54		96 15	0 20	\$ 77,255	\$ 77,255	\$0	\$151,909	0 5	5	Average	Possible	Moderate	М	2	2007	10	2009	2017	2038	1				20	2019	2019	2034	3
2374	Section to 4th Line	5TH LINE	4TH LINE 5TH LINE	Rural	Asphalt		1301.22	6 7807.32	199	96 15	0 20	\$ 66,175	\$ 66,175	\$0	\$130,122	0 5	5	Average	Possible	Moderate	М	2	2007	10	2009	2017	2038	1				20	2019	2019	2034	3
2373	Roads - Road 20TH SIDEROAD from 6 Section to 5th Line (County Rd	h Line 2) 6TH LINE	(COUNTY R	IOAD Rural	Asphalt		1259.39	7 8815.73	201	08 15	7 8	\$ 81.860	43658.8	38201.44	\$176,629	5 4	4	Poor	Likely	Moderate	н	3	2019	10	2021	2022	2037	6				0	2021		2034	. 3
2372	Roads - Road 20TH SIDEROAD from 7	h Line 7TH LINE	6TH LINE	Rural	Asphalt		1697.08	7 11879.56	3 201	08 15	7 8	\$ 111.035	59218.81	51816.48	\$238,015	5 4	4	Poor	Likely	Moderate	н	3	2019	10	2021	2022	2037	6				0	2021		2034	3
2371	Section to 6th Line Roads - Road 20TH SIDEROAD from 8 Section to 7th Line	h Line 8TH LINE	7TH LINE	Rural	Asphalt		1336.05	7 9352.35	201	06 15	5 10	\$ 83,769 5	55846.04	27923.02	\$187,381	3 4	4	Poor	Likely	Moderate	н	3	2017	10	2019	2020	2035	4				0	2019		2034	3
	20TH SIDEROAD from Amaranth/East Luther 1	AMARANTI	H - FR																,								2044									
4267 2369	79 10th Line Roads - Road 20TH SIDEROAD from C	TOWNLINE	10TH LINE	Rural	Asphalt		1318.25	7 9227.75	2010	15	15 0	93,314.40	6,220.96	\$87,093	\$105,460	10 10	0 10	Very Good	Rare	Moderate	L	1	2027	10	2029	2029		13				0	2029	2029	2044	13
2376	Section Rd 11 to 2th Line Roads - Road 20th SR from .6km E. of	COUNTY RO	OAD 11 2ND LINE	Rural	Asphalt		1254.01	6 7524.06	201	05 15	4 11	\$ 77,378	56744.14	20634.23	\$125,401	3 7	7	Good	Unlikely	Moderate	М	2	2016	10	2018	2018	2033	2				10	2020	2020	2035	4
2402	Section Line to 8th Line Roads - Road 20th SR from 9th Line t	LINE	8TH LINE 0.6 km E. o	Rural	Asphalt		741.74		201	08 15	7 8	\$ 48,213	25713.53	22499.34	\$104,029	5 4	4	Poor	Likely	Moderate	н	3	2019	10	2021	2022	2037	6				0	2021	2019	2034	3
2392	Section E. of 9th Line	9TH LINE	LINE 0.6 km N. c	Rural	Asphalt		626.35	7 4384.45	20:	16 15	15 0	\$ 79,653	\$24,347	\$55,306	\$62,635	10 10	10	Very Good	Rare	Moderate	L	1	2027	10	2029	2029	2044	13				0	2029	2031	2046	15
2454	Roads - Road 2nd Line from County R	109 COUNTY RO	DAD COUNTY RO		Acabalt		626.52	6 3759.18	201	01 15	0 15	\$ 35.508	25507.04	0	\$62.653			Augraga	Possible	Moderate		2	2012	10	2014	2017	2033				ļ	20	2021	202	2026	_
2404	Section to .6km N of County Rd 30TH SIDEROAD from 2 Roads - Road (County Rd 11) to .7km	nd Line 2ND LINE	040 071	Kurai 4 ZND	Aspnait		620.53	6 3/59.10	201	01 15	0 15	\$ 35,506	35507.91	0	\$62,653			Average	Possible	Moderate	M	2	2012	10	2014	2017	2032	-				30	2021	2021	2036	
2431	Section 2nd Line	11)	LINE	Rural	Asphalt		700.22	6 4201.32	201	02 15	1 14	\$ 40,512	37811.22	2700.8	\$70,022	1 7	7	Good	Unlikely	Moderate	м	2	2013	10	2015	2017	2032	1				30	2021	2020	2035	4
2405	Roads - Road 30th SR from .7km E. of Section Line to Amaranth / Mor	2nd 0.7 KM E. c	MONO _ If 2ND AMARANTI TOWNLINE		A b - Ib		691.97	6 4151.82	201	45		\$ 40.035	27005.05	2668.99	\$69,197			Poor	Likely	Moderate			2013	40	2045	2047	2032					-	2047	200		
2406	Roads - Road 5th Sideroad from 10th		H -	Kurai	Aspnait		691.97	6 4151.02	201	02 15	1 14	\$ 40,035	37300.90	2000.99	\$69,197	1 4	4	POOR	Likely	Moderate	п	3	2013	10	2015	2017	2042	'				•	2017	2020	2035	-
4120	Section GV / Amaranth Townlin			Rural	Asphalt		1315.9	6 7895.4	20:	14 15	13 2	11235.63	\$1,498	\$9,738	\$131,590	9 9	9	Very Good	Rare	Moderate	L	1	2025	10	2027	2027	2042	11				0	2027	2027	2042	11
			MONO - AMARANTI																																	1
	Roads - Road 5th SR from .7km E. of .	nd lin 0.7 km E. o	TOWNLINE f 2ND (COUNTY R					6 4127.76							\$68.796								2014				2032									1
2403	Section to Amaranth / Mono TL Roads - Road 5th SR from 2nd Line to		0.7 km E. o	f 2ND	Asphalt		687.96	6 4226.52		03 15	2 13	\$ 41,015		5468.66	*****	1 8	8	Good	Unlikely	Moderate	M	2		10	2016	2017	2032	1				40	2022	2022	2037	6
2393	Section E. of 2nd Line Roads - Road Sth SR from 2nd Line to	2ND LINE	LINE	Rural	Asphalt		704.42			03 15	2 13	\$ 41,996		5599.45	\$70,442	1 8	8	Good	Unlikely	Moderate	М	2	2014	10	2016	2017	2034	1				40	2022	2022	2037	6
2439	Section County Rd 11	2nd Line	0.4 km N. c	11 Rural	Asphalt		1262	6 /5/2	201	06 15	5 10	\$ 79,790	53193.18	26596.58	\$126,200	3 4	4	Poor	Likely	Minor	М	2	2017	10	2019	2019		3				0	2019	2020	2035	4
2461	Roads - Road 6th Line from County Ro Section .4km N. of County Rd 1	COUNTY RO	COUNTY RO DAD 10 10	DAD Rural	Asphalt		443.61	6 2661.66	199	91 15	0 25	\$ 21,104	\$ 21,104	\$0	\$44,361	0 8	8	Good	Unlikely	Moderate	м	2	2002	10	2004	2017	2043	1				50	2024	202/	2039	8
3510				DAD Rural	Asphalt		456.15	7 3193.05	20:	11 15	10 5	\$ 31,206	\$11,493	\$19,713	\$45,615	7 7	7	Good	Unlikely	Moderate	м	2	2022	10	2024	2024	2039	8				0	2024	202/	2039	8
4167	Section to 5th SR Roads - Road 9th Line from Box Culve Section Station Str 9TH LINE from County F	rt to COUNTY RO	DAD STATION ST	TREET Rural	Asphalt		1047	6 6282	20:	14 15	13 2	9227.45	\$1,230	\$7,997	\$104,700	9 9	g	Very Good	Rare	Moderate	L	1	2025	10	2027	2027	2042	11				0	2027	2027	2042	11
	Roads - Road to 128 m North of Cour	d 109 ty COUNTY RO	DAD																								2039				ļ					1
3514	Section Road 109 AMARANTH - EAST LUT	109 IER	STATION ST	TREET Rural	Asphalt		165.13	6 990.78	20:	11 15	10 5	\$ 10,105	3368.34	6736.66	\$16,513	7 9	9	Very Good	Rare	Moderate	L	1	2022	10	2024	2024		8				0	2024	2024	2039	8
2471	Roads - Road TOWNLINE from 1.6km Section 15th SR to 20th SR	SIDEROAD		ROAD Rural	Asphalt		1299.38	6 7796.28	201	05 15	4 11	\$ 2,467	\$ 2,467		\$129,938	3 6	6	Average	Possible	Moderate	м	2	2016	10	2018	2018	2033	2				5	2019	201	2034	3
	AMARANTH / EAST LUT Roads - Road from 0.6km N of 20th S	HER TL t to 0.6 km N. c	of 20TH 1.4 km N. c	of 20TH																																
2380	Section 1.4km N. of 20th SR AMARANTH / EAST LUT	SIDEROAD HER TL			Asphalt			6 0	201	06 15	5 10			Dis	posed																					
2385	AMARANTH / EAST LUT Roads - Road from 20th SR to 1.4km Section 20th SR SR	I. of 20TH SIDER	1.4 km N. o ROAD SIDEROAD	of 20TH Rural	Asphalt			6 0	201	05 15	4 11			Dis	posed																					
	AMARANTH / Grand Va Roads - Road TOWNLINE from 20th S	ley	1.8 km N. c	of 20TH																							2038									
3258	Section 1.8km N of 20th SR	20th SR	SIDEROAD		Asphalt		1800	6 10800	20:	10 15	9 6	\$ 42,799	17119.68	25679.53	\$180,000	6 6	6	Average	Possible	Moderate	М	2	2021	10	2023	2023		7				0	2023	2018	2033	2
3152	Roads - Road Amaranth / Mono TL fro Section 15th SR to .25km S of 2	m Oth SR 15th Sidero	0.25 I, S. of oad Sideroad		Asphalt		488.31	6 2929.86	201	07 15	6 9	\$ 31,204	18722.26	12481.51	\$48,831	4 6	6	Average	Possible	Moderate	м	2	2018	10	2020	2020	2035	4				0	2020	202	2035	4
2475	Roads - Road Amaranth / Mono TL fr	m	0.6 km N. c ROAD SIDEROAD	of 30TH	Asphalt		598.64	6 3591.84	201	02 15	1 14	\$ 34,635		2309.01	\$59,864	1 7	7	Good	Unlikely	Moderate	м	2	2013	10	2015	2017	2032	1				30	2021	202	1 2036	5
	Section 30th SR to .6km N of 30 AMARANTH / MONO Roads - Road TOWNLINE from .3km S	of 0.3 km S. o																									2037			7						
3201	Section 20th SR to 20th SR AMARANTH / MONO	SIDEROAD		ROAD Rural	Asphalt		274.06	6 1644.36	201	09 15	8 7	\$ 17,583	8205.59	9377.8	\$27,406	5 6	6	Average	Possible	Moderate	М	2	2020	10	2022	2022		6				0	2022	2022	2037	6
3202	Roads - Road TOWNLINE from 20th S Section 25th SR	t to	ROAD 25TH SIDER	ROAD Rural	Asphalt			6 0	201	09 15	8 7	\$ 39,155	18272.12	20882.43 Not	to be replaced as rolled into ID 32	59																				1
	AMARANTH / MONO Roads - Road TOWNLINE from 20th S	t to																									2038									
3259	Section 25th SR	20TH SIDER	ROAD 25TH SIDER	ROAD Rural	Asphalt		3065	6 18390	20:	10 15	9 6	\$ 215,681	\$88,882	\$126,797	\$306,500	6 5	5	Average	Possible	Moderate	М	2	2021	10	2023	2023		7				0	2023	2023	2038	7
3200	AMARANTH / MONO Roads - Road TOWNLINE from 25th S Section 30th SR	t to	ROAD 30TH SIDER	ROAD Rural	∆snhalt		3046	7 21322	201	09 15	8 7	\$ 200.038	\$90,497	\$109,541	\$304,600	5 7	7	Good	Unlikely	Moderate	м	2	2020	10	2022	2022	2037	6				0	2022	202	2037	6
	CEDAR PLACE from Roads - Road MAPLEWOOD DRIVE to						00.0						000,100	4.00,000								_					2036	_	7							
2308	Section OF CEDAR PLACE CHERRYWOOD PLACE for	DRIVE	PLACE END OF	Semi-Urban	Asphalt		295.9	6 1775.4	199	98 15	0 18	\$ 15,481	\$ 15,481		\$29,590	0 6	6	Average	Possible	Moderate	М	2	2009	10	2011	2017	2000	1				30	2021	2021	2036	5
2207	Roads - Road MAPI FWOOD DRIVE to	END MAPLEWO	OD CHERRYWO	OOD Semi-Urban	Asphalt		300.24	6 1801.44	191	98 15	0 18	\$ 15.708	\$ 15.708		\$30,024	0 6		Average	Possible	Moderate	M	2	2009	10	2011	2017	2036	1				30	2021	202	2036	
2449	Section OF CHERRYWOOD Place Roads - Road CHURCH STREET from 1 Section Line to Mill St	0th 10TH LINE	MILL STREE	T Semi-Urban	Asphalt		362.04			04 15	3 12	\$ 21,928	\$ 21,928		\$36,204	2 9		Very Good	Rare	Moderate		1	2015	10	2017	2017	2032					40	2022	2021	2000	7
4257		loroad			Asphalt		584.26			15 15	14 1	37699.34	\$ 21,928	\$35,186	\$58,426	9 9		Very Good	Rare	Moderate	1	1	2015	10	2078	2017	2043	12				0	2023	2023	3 2042	12
2458	Section to end of culdesac Roads - Road David St from Mill St to Section Roads - Road DEVONLEIGH DRIVE fro	Main MILL STREE			Asphalt		90.83			85 15	0 31	\$ 3,208	\$ 3,208	900,100	\$9,083	0 7	7	Good	Unlikely	Moderate	М	2	1996	10	1998	2020	2049	1				40	2028	2020	2043	6
2450	Roads - Road DEVONLEIGH DRIVE fro	n 30th 30TH SIDER			Asphalt		640.96			01 15	0 15	\$ 36,325		0	\$64,096	0 5		Average	Possible	Moderate	M	2	2012	10	2014	2017	2033	1				20	2022	2022	2007	4
7476	Section SR to 30th SR Roads - Road Section end Roads - Road Evans Ave from James S Section end Roads - Road Evans Ave from James S Section Henry St Roads - Road HENRY STREET from Evi	to JAMES STR		Urhan	Asphalt		29.65			85 15	0 31	\$ 1047	\$ 1.047		\$2,965	0 7		Good	Unlikely	Moderate	M	2	1996	10	1998	2017	2049	1				40	2019	2020	2005	6
7477	Roads - Road Evans Ave from James S Section Henry St	to JAMES STR		EET Urban	Asphalt		72.35			85 15	0 31	\$ 2,555	\$ 2555		\$7,235	0 7	,	Good	Unlikely	Moderate	M	2	1996	10	1998	2017	2049	1				40	2022	2022	2 2037	6
2412	Roads - Road HENRY STREET from Ever Section to End	ns St EVANS STR		Urhan	Asphalt		66.27	6 397.62		85 15	0 31	\$ 2,340	\$ 2340		\$6,627	0 7	,	Good	Unlikely	Moderate	M	2	1996	10	1008	2017	2049	1				an .	2022	2022	2007	6
2412	Roads - Road HENRY STREET from Ma	in St to		FFT Urban	Asphalt		1/17 50	6 885.3		85 15	0 31	\$ 2,340	\$ 2,340		\$14,755	0 7	,	Good	Unlikely	Moderate	M	2	1996	10	1008	2017	2049	1				4n	2022	2022	2037	6
2415	Section Evans St Roads - Road HENRY STREET from Mi Section Main St	I St to MILL STREE			Asphalt		91.81			95 45	0 31	\$ 5,211	\$ 5,211 \$ 3,242		\$14,755	0 7		Good	Unlikely	Moderate	M	2	1996	10	1990	2017	2049	1				40	2022	2022	2037	6
2414	Roads - Road HORNETT LANE from M		COUNTY RO		ropnat		91.81	550.86	191	-5 15	31	- 3,242	- 3,242		40,101	,	/	Suud	on an early	mouerate	w	2	1000	10	1330	2017	2045	-				40	2022	2022	2037	
2408	Section Drive to County Rd 10	MENARY D		Semi-Urban	Asphalt		79.03	6 474.18	191	89 15	0 27	\$ 3,448	\$ 3,448		\$7,903	0 6	6	Average	Possible	Moderate	М	2	2000	10	2002	2017	2040	1				30	2021	2021	2036	5
4350	Roads - Road Hughson St - Amaranth	Mono	Amaranth/		Acob-1		651.69	6 3910.14		15	14 1	40222.04	\$2,689	\$37,645	\$65,169	9 9		Von Card	Rare	Moderate			2026	10	2020	005	2043	12					2			12
9428	Section Townline to Crago Rd Roads - Road James St from Evans Av Section End of James St	to EVANS AVE	AD Townline END OF JAI NUE STREET	MES	Asphalt		267.88			15 15	0 31	\$ 9.460		\$37,645	\$65,169 \$26.788	9 9	9	Very Good	Rare	Moderate Moderate	L M	2	2026 1996	10	2028	2028	2049	12	\$4,000	2010		40	2028	2028	2043	-
2447	Roads - Road John St from Church St	o Mill			Asphait		267.88 308.11			os 15	U 31	5,400				0 7	7				м	2	1996	10	1998	2017	2049		\$4,000	2018		40	2022	2022	2037	6
2424	Section St Roads - Road MAIN STREET from Day	d St to	REET CHURCH ST		Asphalt		308.11 197.84			85 15	0 31	\$ 10,881	\$ 10,881		\$30,811	0 7	7	Good	Unlikely	Moderate	M	2		10	1998	2017	2049	1	-			40	2022	2022	2037	6
2451	Section Henry St Maplewood Dr from Roads - Road Cherrywood Place to	DAVID STRI			Aspnalt		197.84	ь 1187.04	191	85 15	υ 31	\$ 6,987	\$ 6,987		\$19,784	u 7	7	Good	Unlikely	Moderate	М	2	1996	10	1998	2017		1				40	2022	2022	2037	6
2401	Section Woodland Rd	CHERRYWO PLACE	ROAD	Semi-Urban	Asphalt		278.92	6 1673.52	199	98 15	0 18	\$ 14,593	\$ 14,593		\$27,892	0 6	6	Average	Possible	Moderate	М	2	2009	10	2011	2017	2036	1				30	2021	202	2036	5
	Maplewood Dr from Roads - Road Woodland Rd to End of	WOODLAN	END OF MAPLEWO	OD	1.																						2036				ļ					
2400	Section Maplewood Dr MAPLEWOOD DRIVE fro Roads - Road Amaranth / Mono TL to	ROAD m MONO -	DRIVE	Semi-Urban	Asphalt		132.38	6 794.28	199	98 15	0 18	\$ 6,926	\$ 6,926		\$13,238	0 6	6	Average	Possible	Moderate	M	2	2009	10	2011	2017		1				30	2021	2021	2036	5
2430	Roads - Road Amaranth / Mono TL to Section Place	Cedar AMARANTI TOWNLINE	H CEDAR PLA	CE Semi-Urban	Asphalt		373.41	6 2240.46	199	98 15	0 18	\$ 19,536	\$ 19,536		\$37,341	0 6	6	Average	Possible	Moderate	М	2	2009	10	2011	2017	2036	1				30	2021	202	2036	5
	Roads - Road MAPLEWOOD DRIVE fro	m	SYLVANWO	00D						1 T																	2036									
2429	Section Cedar Place to Sylvansvi MAPLEWOOD DRIVE fro Roads - Road Sylanwood Rd to Cherry	od Rd CEDAR PLA m	CE ROADE	Semi-Urban	Asphalt		197.73	6 1186.38	199	98 15	0 18	\$ 10,345	\$ 10,345		\$19,773	0 6	6	Average	Possible	Moderate	М	2	2009	10	2011	2017		1	\rightarrow			30	2021	2021	2036	5
2428	Section Place	ROAD	PLACE	Semi-Urban	Asphalt		88.87	6 533.22	199	98 15	0 18	\$ 4,649	\$ 4,649		\$8,887	0 6	6	Average	Possible	Moderate	М	2	2009	10	2011	2017	2036	1				30	2021	202	1 2036	5
4259	Roads - Road Mckibbon Ave from Cra Section Road to Hughson Street	to o	HUGHSON AD STREET	Semi-Urban	Asphalt		652.58	6 3915.48		15 15	14 1	40961.19	\$2,731	\$38,230	\$65,258	9 9	9	Very Good	Rare	Moderate	L	1	2026	10	2028	2028	2043	12				0	2028	2021	2043	12

Fixed Asset # Map Lin	C Subtype Asset Name - R	ads From	То	Classification	Surface Material	Туре Сег	ngth Width	h Square meters (m)	Install Year	Useful Remai	ining Age H		2015 Accumulated	2015 Net Book	Replacement	Condition Based		Condition Use	Condition	Probability of Failure (Based on	Consequence of Failure	Risk of	Numerical Value	Year Replacement due to minimmal maintenance practices	Current Levels of	Revised Levels Service Replacement	Year Replacement Subsequer		Proposed Rehabilitation Cost	Year for	Extended Life (Years) due to	Expected Levels of Service % benefit over Current +	Revised Levels Service Replacement	Year Replacement Applying Risk Score - or	Subsequent Revised Remaining
	Roads - Road MENARY DRIVE from				Material		m) (m)			Life Usefu	Life	A	mortization System	Value System	Cost/Section		Town	for Analysis	(As per Priority Rating)	Condition or Expected Condition)	Failure	Failure	of Risk of Failure	maintenance practices	Service % benef	t Year		Useful Life	(2016 \$)	Rehabilitation	Betterment	Condition better then expected for age	Year2	Staff Override R	eplacement Year3 Useful Life5
2407	Section Rd 12 to Hornett Lan- Roads - Road Mill St from Church S Section St	to David	ORNETT LANE S	Semi-Urban Urban	Asphalt Asphalt		209.22 6	1255.32 1484.52	1989	15 0 15 0	27 \$	9,126 \$ 8,738 \$	9,126 8.738		\$20,92 \$24,74		0 6		6 Average 7 Good	Possible Unlikely	Moderate Moderate	M M	2	2000 1996	10	2002	2017 2045 2017 2049	1				30 40	2021	2021	2036 5
2399	Section St Roads - Road Mill St from David St Section St Roads - Road MILL STREET from Sta	Station	TATION STREET	Urban	Asphalt	:	142.24 6	853.44	1985	15 0	31 \$	5,023 \$	5,023		\$14,22		0 7		7 Good	Unlikely	Moderate	М	2	1996	10	1998	2017 2049	1				40	2022	2022	2037 6
2422	Section Henry St MONO-AMARANTH Roads - Road TOWNLINE from .6kn	STATION STREET H N of 0.6 km N. of 30TH	ENRY STREET L	Urban	Asphalt		66.22 6	397.32	1985	15 0	31 \$	2,339 \$	2,339		\$6,62	22	0 7		7 Good	Unlikely	Moderate	М	2	1996	10	1998	2017 2032	1				40	2022	2022	2037 6
2432	Section 30th SR to Highway 8 Roads - Road Peter Court from Peter	SIDEROAD H	IGHWAY 89 F ND OF PETER DURT L	Rural	Asphalt		594.02 6 168.43 7	3564.12 1179.01	2002	15 1	14 \$	34,368 32 10,560 70	2076.98	2291.21 3520.12	\$59,40 \$16,84		1 7		7 Good 8 Good	Unlikely Unlikely	Moderate	M	2	2013	10	2015	2017	1				30	2021	2021	2036 5
3044	Section end of Peter Court Roads - Road PETER STREET from R	ssel Hill RUSSEL HILL PI	ETER STREET /	Urban	Aspnait		168.43 /		2006	15 5	10 \$	10,560 70	140.24				3 8		8 G000	Unlikely	Moderate	м	2		10	2019	2019	3				20	2022	2022	2037 6
2420	Section Rd to Peter St / Peter Roads - Road PETER STREET from S Section to Russel Hill Rd	John St ROAD PI ST. JOHN STREET RO	ETER COURT L USSEL HILL DAD L	Urban Urban	Asphalt Asphalt		340.72 7 125.91 7	2385.04 881.37	2006	15 5	10 \$	7,894 52	262.91	7120.95 2631.46	\$34,07 \$12,59		3 8		8 Good 8 Good	Unlikely	Moderate Moderate	M M	2	2017	10	2019	2019 2019 2034	3				20	2022	2022	2037 6
2418	Roads - Road RUSSEL HILL ROAD fro Section St / Peter Court to Pe	er St PETER COURT PI	ETER STREET L	Urban	Asphalt		155.02 7	3185.14	2006	15 5	10 \$	28,529 19	9019.46	9509.72	\$45,50	02	3 8		8 Good	Unlikely	Moderate	М	2	2017	10	2019	2034 2019	3				20	2022	2022	2037 6
2419	Roads - Road RUSSEL HILL ROAD fro Section John St to Peter St	ST. JOHN STREET PI	ND OF	Urban	Asphalt		283.27 7	1982.89	2006	15 5	10 \$	17,761 11	840.69	5920.34	\$28,32	27	3 8		8 Good	Unlikely	Moderate	М	2	2017	10	2019	2019 2034	3				20	2022	2022	2037 6
2409	Roads - Road SHANNON COURT fro Section Line to end of Shanno Roads - Road ST. JOHN STREET from	Court 3RD LINE CI	HANNON DURT F	Rural	Asphalt		556.96 6	3941.76	1992	15 0	24 \$	31,536 \$	31,536		\$65,69	96	0 6		6 Average	Possible	Moderate	М	2	2003	10	2005	2042 2017 2034	1				30	2021	2021	2036 5
2417 2416	Section Hill Rd to Peter St Roads - Road ST. JOHN STREET from Section St to Russel Hill Rd	ROAD PI Station RI STATION STREET RI	USSEL HILL DAD	Urban Urban	Asphalt Asphalt		179.88 7 190.86 7	3359.16 1336.02	2006	15 5 15 5	10 \$	30,088 20 11,967 79	0058.49	10029.24 3988.97	\$47,98 \$19,08		3 8		8 Good 8 Good	Unlikely	Moderate Moderate	M M	2	2017	10	2019	2019 2034 2019 2034	3				20	2022	2022	2037 6
2397	Roads - Road Station St from 10th Section St to St. John Street Roads - Road Station St from St. Joi	ne/Mill 10TH LINE ST	T. JOHN STREET S	Semi-Urban	Asphalt		369.24 7	2584.68	2004	15 3	12 \$	22,364 17	7890.8	4472.7	\$36,92		2 5		5 Average	Possible	Moderate	М	2	2015	10	2017	2017 2032	1				5	2018	2020	2035 4
2398	Section Peter St Roads - Road Station Str from 9th L Section East Boundary Line	ST. JOHN STREET PI	TH LINE F	Semi-Urban Rural	Asphalt Asphalt		280.99 7	1966.93 3753.89	2004	15 3 15 13	12 \$	17,019 13	\$615.05 \$522	3403.76 \$3.393	\$28,09 \$53.62	99	2 5		5 Average 8 Good	Possible Unlikely	Moderate Moderate	M M	2	2015	10	2017	2017 2032	11				5	2018	2020	2035 4
2304	SYLVANWOOD ROAD	from EWOOD	IAPLEWOOD RIVE	Semi-Urhan	Asnhalt		259.54 6	1557.24	1998	15 0	18 \$	13.578 \$	13 578		\$25,95	54	0 6		6 Average	Possible	Moderate	м	2	2009	10	2011	2036	1				30	2021	2021	2036 5
2452	Section DRIVE WOODLAND ROAD fr Roads - Road Maplewood Dr to end	of MAPLEWOOD W	ND OF OODLAND	Sami-Urhan	Asphalt		440.9 6	2645.4	1998	15 0	18 \$	23,067 \$	23.067		\$44,09		0 6		6 Average	Possible	Moderate	м	2	2009	10	2011	2036	,				30	2021	2021	2036 5
4270 33	Section Woodland Dr 10th Line from 15th 5 SR Roads - Road 10th Line From 20th	15TH SIDEROAD 20	OTH SIDEROAD F	Rural	Gravel	31	082.18 7	21575.26	2016	3 3	0	4,489.45	2,244.73	\$2,245	\$4,48		10		10 Very Good	Rare	Minor	L	1	2018	10	2018	2018 2021	2				0	2018	2018	2021 2
4198	Section To 25th Sideroad Roads - Road 10th Line From 25th:	20TH SIDEROAD 25 deroad	STH SIDEROAD	Rural	Gravel		3082 7	21574 21664.02	2014	3 1	2 910	09.27 91	109.28	0	\$9,10 \$9,14		3 5		5 Average	Possible	Minor	M	2	2016	10	2016	2017 2020	1				0	2016	2017	2020 1
4197	Section To 30th Sideroad Roads - Road 10th Line From 30th Section Section To Highway 89 10th Line from 5th SF	25TH SIDEROAD 31 deroad 30TH SIDEROAD H	IGHWAY 89 F	Rural	Gravel	1:	110.34 7	7772.38	2014	3 1	2 328	81.77 32	281.78	0	\$3,28		3 5		5 Average 5 Average	Possible Possible	Minor	М	2	2016	10	2016	2017 2020	1				0	2016	2017	2020 1
4272 33	99 County Rd 10 10th Line from Count	STH SIDEROAD 10 Rd 10) F	Rural	Gravel	30	069.26 6	18415.56	2016	3 3	0	4,945.54	2,472.77	\$2,473	\$4,94	46	10		10 Very Good	Rare	Minor	L	1	2018	10	2018	2018 2021	2				0	2018	2018	2021 2
4271 3:	Roads - Road 15th Sideroad From 1 Section To 9th Line	th Line	TH LINE F	Rural	Gravel Gravel	1	3090.3 7 372.14 7	21632.1 9604.98	2016 2014	3 3	2 405	4,533.41 55.54 40	2,266.71 055.55	\$2,267 0	\$4,53 \$4,05	56	3 5		10 Very Good 5 Average	Rare Possible	Minor	L M	2	2018	10	2018	2018 2020	1				0	2018	2018	2021 2
4211	Roads - Road 15th Sideroad From 2 Section To Amaranth/Mono 1	d Line Al	IONO - MARANTH DWNLINE F	Rural	Gravel	1	399.47 7	9796.29	2014	3 1	2 413	36.33 41	36.34	0	\$4,13	36	3 5		5 Average	Possible	Minor	М	2	2016	10	2016	2020 2017	1				0	2016	2017	2020 1
4209	Section To Amaranth/Mono T Roads - Road 15th Sideroad From 4 Section To County Rd 11		DUNTY ROAD L F TH LINE	Rural	Gravel	1	527.92 7	10695.44	2014	3 1	2 451	15.97 45	15.98	0	\$4,51	16	3 5		5 Average	Possible	Minor	М	2	2016	10	2016	2017 2020	1				0	2016	2017	2020 1
4180	Roads - Road 15th Sideroad From 6 Section To County Rd 12 Roads - Road 15th Sideroad From 7	h Line	OUNTY ROAD 2) F	Rural	Gravel	13	345.65 7	9419.55	2014	3 1	2 397	77.26 39	977.27	0	\$3,97		3 5		5 Average	Possible	Minor	М	2	2016	10	2016	2020	1				0	2016	2017	2020 1
4179 4178	Section To 6th Line Roads - Road 15th Sideroad From 8 Section To 7th Line Roads - Road 15th Sideroad From 9	h Line 8TH LINE 7	TH LINE F	Rural	Gravel Gravel	1	788.93 7 320.49 7	12522.51 9243.43	2014	3 1	2 020	37.42 52 02.87 39	287.43 902.88	0	\$5,28 \$3,90		3 5		5 Average 5 Average	Possible Possible	Minor	M M	2	2016	10	2016	2017 2020 2017 2020	1				0	2016	2017	2020 1
4177	Roads - Road 15th Sideroad From 9 Section To 8th Line 15th Sideroad From	9TH LINE 81 AMARANTH -	TH LINE F	Rural	Gravel	1	140.56 7	10083.92	2014	3 1	2 425	57.76 42	257.77	0	\$4,25	58	3 5		5 Average	Possible	Minor	М	2	2016	10	2016	2017 2020	1				0	2016	2017	2020 1
4175	Roads - Road Amaranth/Grand Vall Section 10th Line Roads - Road 15th Sideroad From C	TOWNLINE 10	OTH LINE F	Rural	Gravel		308.57 7	9159.99	2014	3 1	2 386		867.67	0	\$3,86	68	3 5		5 Average	Possible	Minor	М	2	2016	10	2016	2020	1				0	2016	2017	2020 1
4210	Section 11 To 2nd Line Roads - Road 15th Sideroad From C	COUNTY ROAD 11 21 STH LINE Junty Rd (COUNTY ROAD	ND LINE F	Rural	Gravel	1:	262.67 7		2014	3 1	2 373	31.98 37	731.99	0	\$3,73	32	3 5		5 Average	Possible	Minor	М	2	2016	10	2016	2017 2020	1				0	2016	2017	2020 1
4181	Section 12 To 4th Line Roads - Road 15th SR from 7th Line Section Line	12) 4 ⁻ to 6th	TH LINE F	Rural	Gravel	1	1700 6	9255.61	2014	3 1	2 390	3.052	908.05	\$2.442	\$3,90	08	3 5		5 Average 5 Average	Possible Possible	Minor	M M	2	2016	10	2016	2017 2022	1				0 20	2016	2017	2020 1
4287 31	25 SIDEROAD FROM : TO MONO-AMARANT TOWNLINE	ND LINE M	IONO - MARANTH DWNLINE F	Rural	Gravel	10	103.23 7	9822.61	2016	3 3	0	1,373.76	686 88	\$687	\$1,37	74	10		10 Very Good	Rare	Minor	-	1	2018	10	2018	2021	2				0	2018	2018	2021 2
4284 31	25 SIDEROAD FROM 1 TO COUNTY RD 12	TH LINE	TH LINE F	Rural	Gravel	1	294.48 7	9061.36		3 3	0	1,785.89	892.95	\$893	\$1,78	86	10		10 Very Good	Rare	Minor	L	1	2018	10	2018	2018 2021	2				0	2018	2018	2021 2
4286 31	25 SIDEROAD FROM (RD 11 AND 2ND LINE 25 SIDEROAD FROM (COUNTY ROAD 11 21	ND LINE F	Rural	Gravel	1:	251.56 7	8760.92	2016	3 3	0	1,373.76	686.88	\$687	\$1,37	74	10		10 Very Good	Rare	Minor	L	1	2018	10	2018	2021 2018	2				0	2018	2018	2021 2
4285 31	RD 11 TO 4TH LINE Roads - Road 25th Sideroad From 1 Section To 9th Line	4TH LINE 1:	TH LINE F	Rural	Gravel	11	516.44 7 387.49 7	10615.08 9712.43		3 3	2 410	1,785.89	892.95	\$893	\$1,78 \$4,10	86	10		10 Very Good 5 Average	Rare Possible	Minor	L M	1	2018	10	2018	2018 2021					0	2018	2018	2021 2
4204	Roads - Road 25th Sideroad From 6	h Line (C	TH LINE COUNTY ROAD	Rural	Gravei					3 1	2 7.0		100.93	0			3 5					М.	2		10	2016	2017					0	2016	2017	2020
4187	Section To County Rd 12 Roads - Road 25th Sideroad From 7 Section To 6th Line Roads - Road 25th Sideroad From 8	6TH LINE 1: h Line 7TH LINE 6	TH LINE F	Rural	Gravel		273.67 7 726.76 7	8915.69 12087.32	2014	3 1		03.68 51	03.69	0	\$3,76 \$5,10		3 5		5 Average	Possible Possible	Minor	М	2	2016 2016	10	2016	2017 2020	1				0	2016	2017	2020 1
4206	Section To 7th Line	8TH LINE 7	TH LINE F	Rural	Gravel		322.27 7 395.85 7		2014	3 1			908.16	0	\$3,90		3 5			Possible	Minor	М	2	2016	10	2016	2017 2020					0	2016	2017	2020 1
4205	Roads - Road 25th Sideroad From 9 Section To 8th Line 25th Sideroad From Roads - Road Amaranth/Grand Vall	9 IH LINE 8' AMARANTH - y TL To EAST LUTHER	TH LINE F	kurāl	Gravel			3110.00	2014	3 1			25.64	0	\$4,12		3 5		5 Average	Possible	Minor	М	2	2016	10	2016	2017 2020					U	2016	2017	2020 1
4203 4212	Section 10th Line Roads - Road 2nd Line From 15th S Section to 20th Sideroad	TOWNLINE 16 leroad 15TH SIDEROAD 26	OTH LINE F	Rural	Gravel Gravel		319.02 7 063.06 7	9233.14	2014	3 1	2 389		\$1,789	\$1,790	\$3,89 \$7,15		3 5 7		5 Average 7 Good	Possible Unlikely	Minor	L	1	2016	10	2016	2017 2017 2017					0	2016	2017	2020 1
4213	Roads - Road Section to 25th Sideroad Roads - Road Section to 30th Sideroad	20TH SIDEROAD 25		Rural	Gravel	31	061.32 7		2015		1 357		\$1,789	\$1,788	\$7,15		7		7 Good	Unlikely	Minor	L	1	2017	10	2017	2017 2020					Ō	2017	2017	2020 1
4214	2nd Line from 5th SR County Rd 10	O STH SIDEROAD 11	OTH SIDEROAD FOUNTY ROAD	Rural	Gravel Gravel	31	3077.4 7 051.27 7	21541.8 21358.89	2015 2016	3 2	1 359	6,594.05	\$1,798 3,297.03	\$1,798 \$3,297	\$7,19 \$6,59		10		7 Good 10 Very Good	Unlikely	Minor	L	1	2017	10	2017	2017	2				0	2017	2017	2020 1 2
4283 3250 235	2ND LINE FROM COU 10 TO 15 SIDEROAD Roads - Road 2nd Line from North	0.6 km N. of	15th SR F	Rural	Gravel		3049 7	21040	2016	3 3	0	6,044.54	3,022.27	\$3,022	\$6,04		10		10 Very Good	Rare	Minor	L	1	2018	10	2018	2018 2021	2				0	2018	2018	2021 2
3193 4174	Roads - Road 2nd Line from North Section school to 5th SR Roads - Road 30th Sideroad From 1 Section To 9th Line Roads - Road 30th Sideroad From 4		TH SIDEROAD F	Rural	Gravel Gravel		147.55 7 387.38 6	17132.85 8324.28		3 0		10,219 \$	10,219	0	\$10,21 \$4,10		3 5		5 Average 5 Average	Possible Possible	Minor	M M	2	2015 2016	10	2015 2016	2017 2017 2017	1				20 0	2017 2016	2017 2017	2020 1 2020 1
4191	Section To County Rd 11	4TH LINE 1:	DUNTY ROAD L F TH LINE	Rural	Gravel	14	184.46 7	10391.22	2014	3 1	2 438	87.53 43	887.54	0	\$4,38	88	3 5		5 Average	Possible	Minor	М	2	2016	10	2016	2017 2020	1				0	2016	2017	2020 1
4186	Roads - Road 30th Sideroad From 6 Section To County Rd 12 Roads - Road 30th Sideroad From 7	6TH LINE 13	OUNTY ROAD TH LINE F	Rural	Gravel	11	221.97 6	7331.82	2014	3 1	2 361 2 496	11.70 36	311.71	0	\$3,61		3 5		5 Average	Possible Possible	Minor	M M	2	2016 2016	10	2016	2020 2017 2017 2020	1				ō	2016	2017	2020 1
4207	Section To 6th Line Roads - Road 30th Sideroad From 8 Section To 7th Line Roads - Road 30th Sideroad From 9	h Line 8TH LINE 7	TH LINE F	Rural	Gravel	1:	579.74 6 347.99 6	8087.94	2014	3 1	2 398	84.17 39	984.18	0	\$4,96 \$3,98		3 5		5 Average		Minor	M	2	2016	10	2016	2017 2020					0	2016	2017	2020 1
4172	Roads - Road 30th Sideroad From S Section To 8th Line 30th Sideroad From Roads - Road Amranth/Grand Valle	9 I II LINE 8	TH LINE F	Rural	Gravel	14	103.59 6	8421.54	2014	3 1	2 414	48.50 41	148.51	0	\$4,14	49	3 5		5 Average	Possible	Minor	М	2	2016	10	2016	2017 2020					0	2016	2017	2020 1
4173	Roads - Road Amranth/Grand Valle Section 10th Line Roads - Road 30th Sideroad From C	TOWNLINE 10	OTH LINE F	Rural	Gravel	1	344.98 6	8069.88	2014	3 1	2 397	75.27 39	975.28	0	\$3,97	75	3 5		5 Average	Possible	Minor	М	2	2016	10	2016	2017	1				0	2016	2017	2020 1
4185	Roads - Road 4th Line - 5th Sideroa	to CO	TH LINE FOUNTY ROAD	Rural	Gravel		272.19 7	8905.33 21387.17	2014	3 1	2 376		*60.14 \$1.786	0 \$1.785	\$3,76 \$7,14		3 5		5 Average 7 Good	Possible Unlikely	Minor	M	2	2016	10	2016	2020 2017 2017 2020	1				0	2016	2017	2020 1
4217	Roads - Road 4th Line - County Rd 10 Section 15th Sideroad 4TH LINE FROM 15 SI	10TH SIDEROAD 15		rui ui	Gravel	31	056.79 7	21397.53		3 2	1 357		\$1,786	\$1,785	\$7,14		7		7 Good 7	Unlikely	Minor	L	1	2017	10	2017	2017 2020	1				0	2017	2017	2020 1
4282 2386 238	7 TO 20 SIDEROAD 4th Line from 20th SF SR	to 25th 20TH SIDEROAD 25	20th SR F	Rural	Gravel		3056 7	21392 21282.17	2016 2016		0	6,319.30 7,693.06	3,159.65 3,846.53		\$6,31 \$7,69		10		10 Very Good 10 Very Good	Rare	Minor	L	1	2018	10	2018	2018 2021 2018 2021					0	2018	2018	2021 2
30	lan)	EUTT SIDEROAD 2:	SIDENORD	М	-10161	31		£1202.17	2010	3	Ü	,,055.00	3,040.53	93,047	91,10				rory Guou	- ruit				2010	10	2010	2010					J	2018	2010	2021

Fixed Asset # Map Link Subtype	Extended Life Extended Life Extended Life Extended Life Extended Life Betterment Extended Life Extended Life Extended Life Condition better then expected for age Expected Levels of Service Replacement Service Replacement Applying Risk Score - Staff Override Replacement Year3 Staff Override Revised Remaining Useful LifeS
4281 34373449 20TH SIR FROM 25TH SIR FROM 25	0 2019 2019 2021 2
4278 3345 fightwy 89 3174 50EROAD HIGHWAY 89 Rural Gravel 1144.78 7 8013.46 2016 3 3 0 2,247.52 1,373.75 \$1,374 \$2,749 10 10 Very Good Rare Minor L 1 2016 10 2016 2016 2016 2016	0 2018 2018 2021 2
Roads - Road 4th Line From County 8d 159 COUNTY ROAD 199 STH SIDEROAD Rural Gravel 3086.17 7 21603.19 2015 3 2 1 3608.06 \$1,804 \$1,804 \$7.216 7 7 Good Unlikely Minor L 1 2017 10 2017 2070 1	0 2017 2017 2020 1
Roads-Roads-Road-Shi-Sderoad From 10th Line STH LINE Rural Grave 1359;1 7 9519-37 2014 3 1 2 4019-40 4019-41 0 \$4,019 3 5 5 Average Possible Minor M 2 2016 10 2016 2017 2020 1	0 2016 2017 2020 1
Roads - Road 5th Siderood From 4th Line To COUNTY ROAD 4190 Section Country Rd 11 4TH LINE 11 Rural Gravel 1533.36 7 10733.52 2014 3 1 2 4532.04 4532.05 0 \$4.532 3 5 5 Average Possible Minor M 2 2016 10 2016 2017	0 2016 2017 2020 1
Roads - Road Sth Sidemad from filh Line To COUNTY ROAD	0 2016 2017 2020 1
4189 Section Country Rd 12 Strtl uNE 12 Rural Gravel 1279.24 7 8954.68 2014 3 1 2 3780.96 3780.97 0 \$3.781 3 5 5 Average Possible Minor M 2 2016 10 2016 2017 2020 1 4202 Section 6th Line TTH LINE STRILLINE	0 2016 2017 2020 1
Roads - Road (5th Sideroad From 8th Line To	0 2010 2017 2020
400 Reduction from the first from th	0 2010 2017 2020 1
4200 Section for the part of t	0 2016 2017 2020 1
4369 35CU0121 VI	0 2016 2017 2020 1
**220 SECURIOUS SELECTION OF THE STATE OF TH	0 2017 2017 2020 1
4218 Section County 90 20 SH SUBSICION 120 Rural Grisvet 3050,44 / 41353,00 2013 2 2 1 2292,24 \$1,147 \$1,148 \$4,587 / (GGOd University Minror L 1 2017 10 2017) 11	0 2017 2017 2020 1
Roads-Road Shi Line-North of Township 0.4 km k. of 2020 2020 2020 2020 2020 2020 2020 2	0 2017 2017 2020 1
Roads-Roads (Roads (Roa	20 2017 2017 2020 1
Roads - Road (6h Line from 35h St to 30th Section SR 25TH SIDEROAD 30TH	20 2017 2017 2020 1
80.65 - Rodol 69h Line from 30.09 54 10 1 193.4 7 8353.36 2012 3 0 4 \$ 4,045 \$ 4,045 \$ 54,045 0 5 5 Average Possible Minor M 2 2014 10 2014 2017 2002	20 2017 2017 2020 1
Roads-Road 7th Line - SSh Sideroad to	0 2017 2017 2020 1
Donds Bond This Los 90th Citizand to	0 2017 2017 2020 1
4225 Section [250	0 2017 2017 2020 1
Roads - Road 7th Line - 30th Sideroad to	0 2017 2017 2020 1
422) Section figuring 89 5011 SUCROUP (INSURING 89 WIRE) 1117.55 / 1022.00 2015 2 2 1 073.96 3437 34.77 1 / 9,000 Unitedly Military 1 / 9,000	0 2017 2017 2020 1
**************************************	0 2017 2017 2020 1
422 Section[2517 Supersolar 1,011	0 2017 2017 2020 1
4221 Section (34) (35) (36) (36) (37) (37) (37) (37) (37) (37) (37) (37	0 2017 2017 2020 1
Roads - Road 7th Line from 25TH SIDEROAD Section to 20TH SIDEROAD Section to 20TH SIDEROAD SECTION to 20TH SIDEROAD SECTION SIDEROAD	
4231 Section 20th Sideroad 15TH SIDEROAD 20TH SIDEROAD 20TH SIDEROAD Rural Gravel 3054.04 7 21378.28 2015 3 2 1 2844.66 \$1,422 \$1,423 \$5,689 7 7 Good Unlikely Minor L 1 2017 10 2017 2017	0 2017 2017 2020 1
Roads-Road Station Country RO.0 COUNTROAD COUNTROA	0 2017 2017 2020 1
Roads-Road 8th Line - Country Rd 30 to 4230 Section Lists	0 2017 2017 2020 1
Roads - Road 3th Line - County Rd 109 to COUNTY ROAD 109 STH SIDEROAD Rural Gravel 3137.85 7 21964.95 2015 3 2 1 2923.00 \$1,461 \$5,846 7 7 Good Unlikely Minor L 1 2017 10 2017 2017 2017	0 2017 2017 2020 1
Roads - Road 8th Line From 20th Sideroad	0 2016 2017 2020 1
4184 Section To 25th Sideroad 20TH SIDEROAD 25TH SIDEROAD Rural Gravel 3075.76 7 21530.32 2014 3 1 2 9090.82 9090.83 0 \$9,091 3 5 5 Average Possible Minor M 2 2016 10 2016 2017 2020 1 483 Section To 30th Sideroad 25TH SIDEROAD 80TH SIDEROAD	0 2016 2017 2020 1
Roads - Road 8th Line From 30th Sideroad Section 17 to Highway 89 30TH SIDEROAD HIGHWAY 89 Rural Gravel 1108.62 7 7780.34 2014 3 1 2 3276.66 3276.67 0 \$3.277 3 5 5 Average Possible Minor M 2 2016 10 2016 2017 2020 1	0 2016 2017 2020 1
Roads - Road STH LIME Form STH SOCREGAD	
2323 Section for Curry PROAD 0 5th SR County Rd 10 Rural Gravel 6 0 2007 3 0 9 \$ 6,072 \$ 6,072 Dispose 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
Roads - Road 20TH SIDEROAD to 20TH 0.3 km s. of 20TH 2027	20 202 202
Roads - Road 9th Line from 20th SR to 25th	20 2017 2017 2020 1
252.1 Section [Pis 2011 Solder-Nature 2011 Sold	20 2017 2017 2020 1
5279 Section Pix (2) HISDER(DAD (30HIS) LER(DAD (30HIS) LIR (DAD (30HIS) L	20 2017 2017 2020 1
3319 Section figrieway in 50 m 351 Microsoft 11 10.5 9 8 0501.32 2014 10 2014 2017 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	20 2017 2017 2020 1
4/73 344/2 RG 3U 10 10 10 10 10 10 10 10 10 10 10 10 10	0 2018 2018 2021 2
4274 3405 15075K 100111 (JUDI 2010) 10 2010 20 3 3 0 3,955.04 2,747.52 \$2,746 \$35,855 10 10 10 2010 2010 2010 2010 2010 201	0 2018 2018 2021 2
4276 3401 SR STATION STREET STH SDEROAD Rural Grovel 1862.47 7 13037.29 2016 3 3 0 3,297.02 1,648.51 \$1,649 \$3.297 10 10 Very Good Rare Minor L 1 2018 10 2018 2018 2018 2018 2018 2018	0 2018 2018 2021 2
Roads - Roads From 1.4 Min Not 2019. 1.4 km Not 2019. 1	0 2016 2017 2020 1
Reads - Road From 15th Sylverout To 1 Skm 1 6 km N of 15TH 2020	0 2016 2017 2020 1
4192 Section North of 15th Sideroad 15Th Sid	
4194 See Manual Visual Service Seed and Control Seed And	0 2016 2017 2020 1
Reads - Road From With Syleroid To	2012 2017 2020
GRAND VIEW ROAD From	0 2010 2017 2020 1
Roads - Road (COUNTY ROAD 1:09 to END OF GRAND 2026 2010 2026 2010 2010 2010 2010 2010 2010 2010 2010 2011 2010 20	20 2017 2017 2020 1

Amaranth

Current Leveles of Service

Expected Levels of Service + Town input

Replacement/Improvement Year Based on Current Levels

Replacement/Improvement Year Based on Expected

Roads - Road Base Inventory																F	Replacement/Im	provement Ye		Current Levels					Replacemen	cted Levels of Sei int/Improvement \	Year Based o	n Expected
Fixed Asset # Subtype Link	Asset Name - Road Base	Classification Surfa Mater		ful Remaini g Usefu e Life	n I Age Historic Cost	2015 Accumulated Amortization System	2015 Net Book Value System	Replacement Cost/Section Condition Based Or Useful Life	Condition from Town Condition Used for Analysis	Asset Condition (As per Priority Rating)	Probability of Failure (Based on Condition or Expected Condition)	Consequence of Failure	Risk of Failure	Numerical Value of Risk of Failure	Year Replacement due to minimmal maintenance practices	Levels of Levels of Re	Revised evels Service R eplacement Ap	Year eplacement oplying Risk Score	Subsequent Replacement Year	Revised Remaining Useful Life	Proposed Rehabilitation Cost (2016 \$)	Year for Rehabilitation			Kepiacement		Subsequent Replacement Year	Revised Remaining Useful Life
Roads - Road				7	123 \$8,607,4	29 \$4,554,25	7 \$4,145,550	\$67,132,719	5.3					2							\$480,782			282				
Base	Oth Line - County Rd 109 - Church St. (2404 Surface)	Asphalt	1985	60 29	30 \$ 79,60	04 \$ 41,129	\$ 38,475	\$ 146,519	5 7	7 Good	Unlikely	Moderate	М	2	2027		2027	2027	2087	11				0	2027	2027	2087	11
Roads - Road Base																			2114									
3558 Valuation 10 Roads - Road	th Line Paving - south of Village to County Rd 109	Asphalt	2012	60 56	3 \$ 40,16	\$ 2,678	\$ 37,489	\$ 40,167	9 7	7 Good	Unlikely	Moderate	М	2	2054		2054	2054	2114	38				0	2054	2054	2114	38
4081 Valuation 10 Roads - Road	Oth Line Paving - north of Station St north of the Village	Asphalt	2012	60 56	3 \$ 28,29	94 \$ 1,886	\$ 26,408	\$ 28,294	9 7	7 Good	Unlikely	Moderate	М	2	2054		2054	2054		38				0	2054	2054	2114	38
2569 2392 Valuation 20	D SR from 9th Line to .6km E of 9th Line (2392 Surface)	Asphalt	t 1969	60 13	46 \$ 31,75	66 \$ 24,875	\$ 6,880	\$ 187,904	2 7	7 Good	Unlikely	Moderate	М	2	2011		2011	2017	2077	1				20	2028	2028	2088	12
Base 2579 2402 Valuation 20	oth SR from .6km E. of 9th Line to 8th Line (2402 Surface)	Asphalt	t 1969	60 13	46 \$ 37,60	06 \$ 29,458	8 \$ 8,148	\$ 222,521	2 6	6 Average	Possible	Moderate	М	2	2011		2011	2017	2077	1	\$44,335	2019	40	10	2059	2059	2119	43
Roads - Road Base																			2077									
2650 2370 Valuation 20 Roads - Road	tth SR from 10th Line to 9th Line (2370 Surface)	Asphalt	1969	60 13	46 \$ 70,07	2 \$ 54,890	\$ 15,182	\$ 414,628	2 7	7 Good	Unlikely	Moderate	M	2	2011		2011	2017	2091	1				20	2028	2028	2088	12
	Oth SR from 2nd Line to Amaranth / Mono TL (2377 Surface)	Asphalt	1989	60 33	26 \$ 281,59	94 \$ 126,717	\$ 154,877	\$ 419,601	6 8	8 Good	Unlikely	Moderate	M	2	2031		2031	2031	2031	15				0	2031	2031	2091	15
2593 2375 Valuation 20 Roads - Road	Oth SR from 4th Line to County Rd 11 (2375 Surface)	Asphalt	1963	60 7	52 \$ 63,07	3 \$ 55,714	\$ 7,358	\$ 455,728	1 8	8 Good	Unlikely	Moderate	М	2	2005		2005	2017	2077	1				40	2040	2040	2100	24
Base	Oth SR from 5th Line to 4th Line (2374 Surface)	Asphalt	1963	60 7	52 \$ 54,02	27 \$ 47,724	\$ 6,303	\$ 390,367	1 8	8 Good	Unlikely	Moderate	М	2	2005		2005	2017	2077	1				40	2040	2040	2100	24
Roads - Road Base																			2077									
2675 2373 Valuation 20 Roads - Road	tth SR from 6th Line to County Rd 12 (5th Line) (2372 Surface)	Asphalt	t 1969	60 13	46 \$ 63,85	51 \$ 50,017	\$ 13,834	\$ 377,817	2 6	6 Average	Possible	Moderate	M	2	2011		2011	2017	2077	1	\$75,225	2019	40	10	2059	2059	2119	43
2674 2372 Valuation 20 Roads - Road	Oth SR from 7th Line to 6th Line (2372 Surface)	Asphalt	t 1969	60 13	46 \$ 86,60	08 \$ 67,843	\$ 18,765	\$ 512,471	2 6	6 Average	Possible	Moderate	М	2	2011		2011	2017	2077	1	\$101,396	2019	40	10	2059	2059	2119	43
Base 2651 2371 Valuation 20	Oth SR from 8th Line to 7th Line (2371 Surface)	Asphalt	t 1969	60 13	46 \$ 67,73	88 \$ 53,061	\$ 14,677	\$ 400,815	2 6	6 Average	Possible	Moderate	М	2	2011		2011	2017	2077	1	\$79,826	2019	40	10	2059	2059	2119	43
Roads - Road Base 2649 2369 Valuation 20	Oth SR from Amaranth / East Luther TL to 10th Line (2369 Surface)	Asphalt	1969	60 13	46 \$ 66,83	85 \$ 52.354	\$ 14,481	\$ 395 474	2 7	7 Good	Unlikely	Moderate	М	2	2011		2011	2017	2077	1				20	2028	2028	2088	12
Roads - Road Base																			2091									
2594 2376 Valuation 20 Roads - Road	hth SR from County Rd 11 to 2nd Line (2376 Surface)	Asphalt	t 1989	60 33	26 \$ 252,47	1 \$ 113,612	\$ 138,859	\$ 376,204	6 8	8 Good	Unlikely	Moderate	M	2	2031		2031	2031	2002	15				0	2031	2031	2091	15
	nd Line from County Rd 109 to .6km N of County Rd 109 (2464 Surface)	Asphalt	t 1980	60 24	35 \$ 70,63	86 \$ 42,381	\$ 28,254	\$ 187,960	4 8	8 Good	Unlikely	Moderate	М	2	2022		2022	2022	2082	6				10	2028	2028	2088	12
	Oth SR - 500m of Base reconstruction west of County Rd 11	Asphalt	t 2012	60 56	3 \$ 29,87	9 \$ 1,992	\$ 27,887	\$ 29,879	9	9 Very Good	Rare	Moderate	L	1	2054		2054	2054	2114	38				0	2054	2054	2114	38
Roads - Road Base 2685 2406 Valuation 30	Oth SR from .7km E of 2nd Line to Amaranth / Mono TL (2406 Surface)	Asphalt	2001	60 45	14 \$ 180,99	9 \$ 45.250	\$ 135,749	\$ 207.591	8 4	4 Poor	Likely	Moderate	н	3	2043		2043	2058	2118	42	\$80,000	2020	45	0	2065	2055	2115	i 39
Roads - Road Base			333																2103		\$40,000	2020	-10					
2712 2431 Valuation 30 Roads - Road	hth SR from 2nd Line to .7km E of 2nd Line (2431 Surface)	Asphalt	t 2001	60 45	14 \$ 183,15	55 \$ 45,789	\$ 137,367	\$ 210,065	8 8	8 Good	Unlikely	Moderate	M	2	2043		2043	2043	2000	27				0	2043	2043	2103	27
	h SR1km east of Amaranth / Grand Valley TL - 10th Line (4120 Surface)	Asphalt	t 1987	60 31	28 \$ 207,97	1 \$ 100,520	\$ 107,452	\$ 346,042	5 7	7 Good	Unlikely	Moderate	М	2	2029		2029	2029	2089	13				0	2029	2029	2089	13
Base 2580 Valuation 5tl	h SR7km East oif 2nd Line - Amaranth / Mono TL	Asphalt	t 1985	60 29	30 \$ 112,13	31 \$ 57,934	\$ 54,197	\$ 206,389	5 7	7 Good	Unlikely	Moderate	М	2	2027		2027	2027	2087	11				0	2027	2027	2087	11
Roads - Road Base 2570 Valuation 5tl	h SR - 2nd Line7km East oif 2nd Line	Asphalt	1985	60 29	30 \$ 114,8	3 \$ 59.320	\$ 55.403	\$ 211,325	5 7	7 Good	Unlikely	Moderate	М	2	2027		2027	2027	2087	11				0	2027	2027	2087	11
Roads - Road Base		ropriate	1303	-								Wodorato					2027	2027	2089					Ü	2021		2001	
2627 4120 Valuation 5th Roads - Road	h SR - Amaranth / Grand Valley TL1km east of Amaranth / Grand Valley TL (4120 Surface)	Asphalt	t 1987	60 31	28 \$ 29,28	85 \$ 14,155	\$ 15,131	\$ 48,728	5 7	7 Good	Unlikely	Moderate	M	2	2029		2029	2029	0407	13				0	2029	2029	2089	13
2720 2439 Valuation 5tl Roads - Road	h SR - County Rd 11 - 2nd Line (2439 Surface)	Asphalt	t 1990	60 34	25 \$ 268,23	85 \$ 116,235	\$ 152,000	\$ 381,775	6 4	4 Poor	Likely	Moderate	Н	3	2032		2032	2047	2107	31	\$100,000	2020	45	0	2065	2044	2104	28
Base 2692 2461 Valuation 6tl	h Line - County Rd 104km North of County RD 10 (2461 Surface)	Asphalt	t 1991	60 35	24			combined into betterment of	ompleted in 2012																			
Roads - Road Base Valuation 6tl	h Line Paving - County Rd 10 - north of Township Office	Asphalt	2012	60 56	3 \$ 105,7	8 \$ 41 130	\$ 64,578	\$ 141 307	9 5	5 Average	Possible	Moderate	М	2	2054		2054	2054	2114	38				0	2054	2054	2114	38
Roads - Road Base	in Line Faving - County No. 10 - North Of Fownship Office	ropriate	2012	00 30	3 \$ 103,7	41,133	ψ 04,570	φ 141,337	3	5 Average	1 Gasible	Woderate			2004		2004	2004	2095	30				Ü	2034	2004	2114	30
2673 3514 Valuation 9th Roads - Road	h Line from County Rd 109 to Station St (3514 Surface)	Asphalt	1993	60 37	22 \$ 272,83	\$9 \$ 104,588	\$ 168,251	\$ 363,639	6 7	7 Good	Unlikely	Moderate	M	2	2035		2035	2035		19				0	2035	2035	2095	19
2664 2380 Valuation An Roads - Road	maranth / Grand Valley TL6km North of 20th SR - 1.4km North of 20th SR (2380 Surface)	Asphalt	2006	60 50	9 \$ 201,58	33,597	\$ 167,983	\$ 208,978	8 5	5 Average	Possible	Moderate	М	2	2048		2048	2048	2108	32				0	2048	2048	2108	32
Base	maranth / Grand Valley TL - 1.6km North of 15th SR - 20th SR (2471 Surface)	Asphalt	2004	60 48	11 \$ 363,22	29 \$ 72,646	\$ 290,583	\$ 389,815	8 5	5 Average	Possible	Moderate	М	2	2046		2046	2046	2106	30				0	2046	2046	2106	30
Roads - Road Base		Asphalt	2004	60 48	11 \$ 189,98				8 5				м	2			2046	2046	2106	30				_		20.40	245	30
2679 2385 Valuation An Roads - Road Base	maranth / Grand Valley TL - 20th SR7km North of 20th SR (2385 Surface)	Aspnait	t 2004	60 48	11 \$ 189,98	ου ఫ 37,997	\$ 151,988	φ 203,690	0 0	5 Average	Possible	Moderate	IVI		2046		2046	2046	2111	30				U	2046	2046	2106	30
Roads - Road	maranth / Mono TL3km South of 20th SR - 20th SR (2476 Surface)	Asphalt	2009	60 53	6 \$ 9,18	31 \$ 1,071	\$ 8,110	\$ 9,181	9 7	7 Good	Unlikely	Moderate	М	2	2051		2051	2051		35				0	2051	2051	2111	35
4026 2468 Valuation An Roads - Road	maranth / Mono TL6km North of 25th SR - 30th SR (2468 Surface)	Asphalt	2009	60 53	6 \$ 82,10	9,578	\$ 72,522	\$ 82,101	9 7	7 Good	Unlikely	Moderate	М	2	2051		2051	2051	2111	35				0	2051	2051	2111	35
Base 2713 2432 Valuation An	maranth / Mono TL6km North of 30th SR - Highway 89 (2432 Surface)	Asphalt	1971	60 15	44 \$ 32,06	60 \$ 24,045	\$ 8,015	\$ 178,207	3 7	7 Good	Unlikely	Moderate	М	2	2013		2013	2017	2077	1				10	2022	2022	2082	6
Roads - Road Base				60 50					0 5					_			2051	2051	2111	35					205	205		25
Roads - Road Base	maranth / Mono TL - 20th SR - 25th SR (3259 Surface)	Asphalt	t 2009	60 53	6 \$ 20,44	→ ⇒ 2,385	\$ 18,059	φ 20,444	9 5	5 Average	Possible	Moderate	IVI		2051		2051	2051	2180	35				U	2051	2051	2111	35
2625 3258 Valuation An	maranth / Mono TL - 25th SR6km North of 25th SR (3258 Surface)	Asphalt	1854	60 0	161 \$ 2,84	10 \$ 2,840	NULL	\$ 178,603	0 7	7 Good	Unlikely	Moderate	М	2	1896		1896	2017		1				40	2040	2040	2100	24

Fixed Asset Link	Subtype	Asset Name - Road Base	Classification	Surface Material		Remai	nin iul Age	Historic Cost	2015 Accumulated Amortization	2015 Net Book Value System	Replacement	Condition Based On Useful Life	Asset Condition Used for Analysis Priority		Consequence of Failure	Risk of Failure	Risk of	minimmal	Service Replacement	Applying Risk R	Subsequent eplacement Year	Revised Remaining Useful Life	Proposed Rehabilitation Cost (2016 \$)	Year for Rehabilitation	Life (Years) benefit due to Curr	els of ice % it over Lev ent + Re	placement	ement Sul	lacement	Revised Remaining Useful Life
									System				Analysis Priority Rating)	Expected Condition)			Failure	maintenance practices	% benefit Year	Score			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Betterment Condition then experience for	pected	Year Staff O	verride		
2633 247	Roads - Roa Ba: Valuatio			Asphalt	2001	60 45	14	\$ 156,586	\$ 39,147	\$ 117,44	0 \$ 179,592	8 7	7 Good	Unlikely	Moderate	М	2	2043	2043	2043	2103	27				0	2043	2043	2103	27
2550	Roads - Roa Ba: Valuatio			Asphalt	1971	60 15	44	\$ 15,970	\$ 11,977	\$ 3,99	2 \$ 88,771	3 8	8 Good	Unlikely	Moderate	М	2	2013	2013	2017	2077	1			2	20	2028	2028	2088	12
2549 230	Roads - Roa Ba: 7 Valuatio			Asphalt	1971	50 15	44	\$ 16,204	\$ 12,153	\$ 4,05	1 \$ 90,072	3 8	8 Good	Unlikely	Moderate	М	2	2013	2013	2017	2077	1			2	20	2028	2028	2088	12
2654 244	Roads - Roa Ba	d		Asphalt	2003	60 47	12	\$ 99,620		\$ 78.03	5 \$ 108.613	8 7	7 Good	Unlikely	Moderate	М	2	2045	2045	2045	2105	29				0	2045	2045	2105	29
2572 245	Roads - Roa Bas	d		Asphalt	1979	60 23		\$ 12,699		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			9 Very Goo		Moderate		1	2021	2021	2021	2081	5				20	2033	2033	2093	17
	Roads - Roa Ba	d ie									9 \$ 67,922						1	2021		2021	2081	5					2033	2033	2093	17
2666 245	Roads - Roa Ba	re		Asphalt	1979			23,188					9 Very Goo		Moderate				2021		2081	-				20				17
2698 245	Roads - Roa Ba	e		Asphalt				\$ 23,952			2 \$ 70,158		9 Very Goo		Moderate		1	2021	2021	2021	2086	5				20	2033	2033	2093	
2655 245	Roads - Roa Ba	e e		Asphalt				14,245			8 \$ 27,248		7 Good		Moderate		2	2026	2026	2026	2103	10				0	2026	2026	2086	10
2608 245	0 Valuatio Roads - Roa Ba:	n Devonleigh Drive - 30th SR - 30th SR (2450 Surface) d el		Asphalt	2001	60 45	14	167,655	\$ 41,914	\$ 125,74	2 \$ 192,287		8 Good	Unlikely	Moderate	M	2	2043	2043	2043	2087	27			(0	2043	2043	2103	27
2659 242	6 Valuatio Roads - Roa Ba	n Evans Avenue - James St - end (2426 Surface) d e		Asphalt	1985	50 29	30	4,833	\$ 2,497	\$ 2,33	6 \$ 8,896	5 7	7 Good	Unlikely	Moderate	М	2	2027	2027	2027	2087	11				0	2027	2027	2087	11
2660 242	7 Valuatio			Asphalt	1985	60 29	30	\$ 11,792	\$ 6,092	\$ 5,69	9 \$ 21,704	5 7	7 Good	Unlikely	Moderate	М	2	2027	2027	2027	2087	11			(0	2027	2027	2087	11
2700 241	50.	d Henry St Evans St end of Henry St. (2412 Surface)		Asphalt	1985	60 29	30	\$ 10,802	\$ 5,581	\$ 5,22	1 \$ 19,882	5 7	7 Good	Unlikely	Moderate	M	2	2027	2027	2027		11				0	2027	2027	2087	11
2701 241	3 Valuatio	n Henry St Main St Evans St. (2413 Surface)		Asphalt	1985	50 29	30	\$ 24,050	\$ 12,426	\$ 11,62	4 \$ 44,266	5 7	7 Good	Unlikely	Moderate	М	2	2027	2027	2027	2087	11			(0	2027	2027	2087	11
2702 241	Roads - Roa	n Henry St Mill St Main St. (2414 Surface) d		Asphalt	1985	60 29	30	14,964	\$ 7,732	\$ 7,23	3 \$ 27,543	5 7	7 Good	Unlikely	Moderate	М	2	2027	2027	2027	2087	11			(0	2027	2027	2087	11
2696 240	8 Valuatio	n Hornett Lane - Menary Drive - County Rd 10 (2408 Surface)		Asphalt	1988	60 32	27	\$ 14,970	\$ 6,986	\$ 7,98	4 \$ 23,710	5 6	6 Average	Possible	Moderate	М	2	2030	2030	2030	2090	14			(0	2030	2030	2090	14
2699 245	Ba: Valuation	n Hughson - McKibbon - Amaranth / Mono TL (4258 Surface)		Asphalt	1979	60 23	36	\$ 25,327	\$ 15,618	\$ 9,70	9 \$ 74,187	4 9	9 Very Goo	d Rare	Moderate	L	1	2021	2021	2021	2081	5			2	20	2033	2033	2093	17
2573 245	Ba	se n Hughson St - Cargo - McKibbon (4258 Surface)		Asphalt	1979	60 23	36	\$ 41,419	\$ 25,542	\$ 15,87	7 \$ 121,322	4 9	9 Very Goo	d Rare	Moderate	L	1	2021	2021	2021	2081	5			2	20	2033	2033	2093	17
2653 244	Ba	se n James St - Evans Avenue - end of James St (2447 Surface)		Asphalt	1985	60 29	30	\$ 43,661	\$ 22,558	\$ 21,10	3 \$ 80,363	5 7	7 Good	Unlikely	Moderate	M	2	2027	2027	2027	2087	11			(0	2027	2027	2087	11
2609 245	Ba: 1 Valuatio	e n MAIN STREET - David St - Henry St (2451 Surface)		Asphalt	1984	60 28	31	\$ 31,029	\$ 16,549	\$ 14,48	0 \$ 59,352	5 7	7 Good	Unlikely	Moderate	М	2	2026	2026	2026	2086	10			(0	2026	2026	2086	10
2663 243		e n Maplewood Drive - Amaranth / Mono TL - Cedar Place (2430 Surface)		Asphalt	1971	60 15	44	\$ 20,153	\$ 15,115	\$ 5,03	8 \$ 112,022	3 8	8 Good	Unlikely	Moderate	М	2	2013	2013	2017	2077	1			3	35	2037	2037	2097	21
2662 242	Roads - Roa Ba: 9 Valuatio			Asphalt	1971	60 15	44	\$ 10,671	\$ 8,003	\$ 2,66	8 \$ 59,318	3 8	8 Good	Unlikely	Moderate	М	2	2013	2013	2017	2077	1			3	35	2037	2037	2097	21
2578 240	Roads - Roa Ba: 1 Valuatio			Asphalt	1971	60 15	44	\$ 15,053	\$ 11,290	\$ 3,76	3 \$ 83,676	3 8	8 Good	Unlikely	Moderate	М	2	2013	2013	2017	2077	1			3	35	2037	2037	2097	21
2661 242	Roads - Roa Bas	d		Asphalt	1971	60 15	44	\$ 4,796	\$ 3,597	\$ 1.19	9 \$ 26,660	3 8	8 Good		Moderate	М	2	2013	2013	2017	2077	1			3	35	2037	2037	2097	21
2577 240	Roads - Roa Ba	d		Asphalt							6 \$ 39,714		8 Good				2	2013	2013	2017	2077	1				35	2037	2037	2097	21
2548 245	Roads - Roa Ba	d		Asphalt							1 \$ 195,773		9 Very Goo		Moderate		1	2021	2021	2021	2081	5				35	2042	2042	2102	26
	Roads - Roa Ba	d se									6 \$ 62.765					M	2				2090					0				
2695 240	Roads - Roa Ba	re		Asphalt	1988	50 32				,			6 Average		Moderate			2030	2030	2030	2087	14				0	2030	2030	2090	14
2658 242	Roads - Roa Ba	re		Asphalt	1985	50 29					2 \$ 74,227		7 Good	Unlikely	Moderate	M	2	2027	2027	2027	2077	11				0	2027	2027	2087	11
2576 239	9 Valuation Roads - Roa Ba	n Mill St - David St - Station St (2399 Surface) de e		Asphalt	1970	60 14	45	7,459	\$ 5,719	\$ 1,74	0 \$ 42,673	2 7	7 Good	Unlikely	Moderate	M	2	2012	2012	2017	2077	1			2	20	2028	2028	2088	12
2622 242	2 Valuation Roads - Roads - Roads			Asphalt	1970	60 14	45	3,473	\$ 2,662	\$ 81	0 \$ 19,867	2 7	7 Good	Unlikely	Moderate	M	2	2012	2012	2017	2077	1			2	20	2028	2028	2088	12
2624 242		n Mill St Church St - Church St (2424 Surface)		Asphalt	1970	60 14	45	16,157	\$ 12,387	\$ 3,77	92,433	2 7	7 Good	Unlikely	Moderate	М	2	2012	2012	2017	2108	1			2	20	2028	2028	2088	12
2607 304	4 Valuation	n Peter Court - Peter St - end of Peter Court (3044 Surface) d		Asphalt	2006	60 50	9	\$ 48,740	\$ 8,123	\$ 40,61	7 \$ 50,529	8 8	8 Good	Unlikely	Moderate	М	2	2048	2048	2048		32				0	2048	2048	2108	32
2611 242	Roads - Roa	n Peter St - Russel Hill Rd - Peter Court (2420 Surface) d		Asphalt	1994	60 38	21	76,775	\$ 28,151	\$ 48,62	4 \$ 102,216	6 8	8 Good	Unlikely	Moderate	М	2	2036	2036	2036	2096	20			(0	2036	2036	2096	20
2612 242	Roads - Roa	n Peter St - St. John St - Russel Hill Rd (2421 Surface) d		Asphalt	1994	60 38	21	\$ 28,371	\$ 10,403	\$ 17,96	8 \$ 37,773	6 8	8 Good	Unlikely	Moderate	М	2	2036	2036	2036	2096	20				0	2036	2036	2096	20
2706 241	Ba: Valuation Roads - Roa	n Russel Hill Rd - Peter St - Peter St (2418 Surface)		Asphalt	1994	60 38	21	\$ 102,529	\$ 37,594	\$ 64,93	5 \$ 136,505	6 8	8 Good	Unlikely	Moderate	М	2	2036	2036	2036	2096	20			(0	2036	2036	2096	20
2610 241	Ba			Asphalt	1994	50 38	21	63,830	\$ 23,404	\$ 40,42	6 \$ 84,982	6 8	8 Good	Unlikely	Moderate	М	2	2036	2036	2036	2096	20			(0	2036	2036	2096	20

Fixed Map Asset #	otype Asset Name - Road Base	Classificati	ion Surface Material	Install Usef Year Life	ul Remain g Usefi	in ul Age H	2015 storic Accumula Cost Amortizati System	on Book valu	ie Kepiacement	Condition Based On Useful Life	Condition Used for Analysis Asset Condition (As per Priority Rating)	Probability of Failure (Based on Condition or		Risk of Failure	Numerical Value of Risk of Failure	due to	Levels of Levels Service Re Service Replacement App	Year placement plying Risk Score	nent Remaining	Proposed Rehabilitation Cost (2016 \$)	Year for L Rehabilitation	Extended Levels of Service % benefit over due to Setterment Condition bett	Replacement A	oplying Risk I Score - or	Subsequent Replacement Year	Revised Remaining Useful Life
Ponds	s - Road						- Oyuum				Rating)	Expected Condition)			ranaro	practices	N BOILGIN TOOL					then expected for age		aff Override		
2697 2409 Va	Base Base aluation Shannon Court - 3rd Line - end of Shannon Court (2409 Surface) 5 - Road		Asphalt	1991	60 35	24 \$	144,249 \$ 60,	04 \$ 84,14	45 \$ 197,088	6 6	6 Average	Possible	Moderate	М	2	2033	2033	2093	17			0	2033	2033	2093	17
2705 2417 Va	Base aluation 5 - Road 5 - Road		Asphalt	1994	50 38	21 \$	108,130 \$ 39,6	48 \$ 68,4	83 \$ 143,963	6 8	8 Good	Unlikely	Moderate	М	2	2036	2036	2096 2036	20			0	2036	2036	2096	20
2704 2416 Va	Base aluation 5 - Road 5 - Road		Asphalt	1994	60 38	21 \$	43,007 \$ 15,7	69 \$ 27,2	38 \$ 57,259	6 8	8 Good	Unlikely	Moderate	М	2	2036	2036	2096 2036	20			0	2036	2036	2096	20
3559 Va	Base aluation Station St (86m) Paving - east of curve 5 - Road		Asphalt	2012	50 56	3 \$	7,079 \$ 4	72 \$ 6,6	07 \$ 7,079	9 7	7 Good	Unlikely	Moderate	М	2	2054	2054	2114 2054	38			0	2054	2054	2114	38
3182 Va	Base aluation Station Street (82m) base reconstruction - east of curve s - Road		Asphalt	2012	50 56	3 \$	4,454 \$ 2	97 \$ 4,15	57 \$ 4,454	9 7	7 Good	Unlikely	Moderate	М	2	2054	2054	2114 2054	38			0	2054	2054	2114	38
2684 4119 Va	Base Base aluation Station Street from .3km E of Peter St to 9th Line (4119 Surface) 5 - Road		Asphalt	2003	50 47	12 \$	147,561 \$ 31,9	72 \$ 115,5	89 \$ 160,882	8 7	7 Good	Unlikely	Moderate	М	2	2045	2045	2105 2045	29			0	2045	2045	2105	29
2574 Va	Base aluation Station Street from 10th Line/Mill St to St John St s - Road		Asphalt	1988	50 32	27 \$	69,941 \$ 32,6	39 \$ 37,30	02 \$ 110,771	5 7	7 Good	Unlikely	Moderate	М	2	2030	2030	2090	14			0	2030	2030	2090	14
	Base aluation Station Street from Peter St to .3km E of Peter St (2415 Surface) s - Road		Asphalt	2003	60 47	12 \$	63,691 \$ 13,8	00 \$ 49,89	91 \$ 93,839	8 7	7 Good	Unlikely	Moderate	М	2	2045	2045	2105 2045	29			0	2045	2045	2105	29
	Base aluation Station Street from St John St to Peter St s - Road		Asphalt	1988	50 32	27 \$	53,225 \$ 24,8	39 \$ 28,3	87 \$ 84,297	5 7	7 Good	Unlikely	Moderate	М	2	2030	2030	2090	14			0	2030	2030	2090	14
	Base aluation Sylvanwood Rd - Highway 89 - Maplewood Drive (2304 Surface) s - Road		Asphalt	1971	50 15	44 \$	14,007 \$ 10,5	05 \$ 3,50	02 \$ 77,861	3 8	8 Good	Unlikely	Moderate	М	2	2013	2013	2017	1			20	2028	2028	2088	12
2667 2452 Va	Base aluation s - Road	face)	Asphalt	1971	50 15	44 \$	23,795 \$ 17,8	46 \$ 5,94	49 \$ 132,269	3 5	5 Average	Possible	Moderate	М	2	2013	2013	2017	1			0	2016	2017	2077	1
	Base aluation 6th Line - County Rd 109 - 5th SR (3510 Surface) 5 - Road		Asphalt / Gravel	1854	50 0	161 \$	14,125 \$ 24,0	30 \$ 89,14	49 \$ 888,358	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
	Base aluation 10th Line - 15th SR - 20th SR (3397 Surface) 5 - Road		Gravel	1854	50 0	161 \$	14,702 \$ 14,7	02 NULL	\$ 924,654	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
	Base aluation 10th Line - 20th SR - 25th SR (4198 Surface) 5 - Road		Gravel	1854	50 0	161 \$	14,701 \$ 14,7	01 NULL	\$ 924,600	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
	Base aluation 10th Line - 25th SR - 30th SR (4197 Surface) 5 - Road		Gravel	1854	50 0	161 \$	14,762 \$ 14,7	62 NULL	\$ 928,459	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
2711 4196 Va	Base aluation 10th Line - 30th SR - Highway 89 (4196 Surface) s - Road		Gravel	1854	50 0	161 \$	5,296 \$ 5,2	96 NULL	\$ 333,103	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
	Base aluation 10th Line - 5th SR - County Rd 10 (3399 Surface) s - Road		Gravel	1854	50 0	161 \$	14,640 \$ 14,6	40 NULL	\$ 920,779	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
	Base aluation 10th Line - County Rd 10 - 15th SR (3398 Surface) s - Road		Gravel	1854	50 0	161 \$	14,741 \$ 14,7	41 NULL	\$ 927,089	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
	Base aluation 15th SR - 10th Line - 9th Line (4176 Surface) s - Road		Gravel	1854	50 0	161 \$	6,545 \$ 6,5	45 NULL	\$ 411,642	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
	Base aluation 15th SR - 2nd Line - Amaranth / Mono TL (4211 Surface) s - Road		Gravel	1854	50 0	161 \$	6,675 NULL	NULL	\$ 419,842	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 15th SR - 4th Line - County Rd 11 (4209 Surface) is - Road		Gravel	1854	50 0	161 \$	7,288 \$ 7,2	88 NULL	\$ 458,376	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 15th SR - 6th Line - County Rd 12 (4180 Surface) is - Road		Gravel	1854	50 0	161 \$	6,419 \$ 6,4	19 NULL	\$ 403,696	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 15th SR - 7th Line - 6th Line (2434 Surface) is - Road		Gravel	1854	50 0	161 \$	8,879 \$ 8,8	79 NULL	\$ 558,408	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 15th SR - 8th Line - 7th Line (4178 Surface) is - Road		Gravel	1854	50 0	161 \$	6,299 \$ 6,2	99 NULL	\$ 396,146	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
	Base aluation 15th SR - 9th Line - 8th Line (4177 Surface) is - Road		Gravel	1854	50 0	161 \$	6,871 \$ 6,8	71 NULL	\$ 432,167	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 15th SR - Amaranth / Grand Valley TL - 10th Line (4175 Surface) is - Road		Gravel	1854	50 0	161 \$	6,242 \$ 6,2	42 NULL	\$ 392,572	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 15th SR - County Rd 11 - 2nd Line (4210 Surface) s - Road		Gravel	1854	50 0	161 \$	6,023 \$ 6,0	23 NULL	\$ 378,800	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 15th SR - County Rd 12 - 4th Line (4181 Surface) is - Road		Gravel	1854	50 0	161 \$	6,307 \$ 6,3	07 NULL	\$ 396,670	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 25th SR1km east of County Rd 11 - 2nd Line (2478 Surface) s - Road		Gravel	1854	50 0	161 \$	5,208 \$ 5,2	08 NULL	\$ 327,564	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 25th SR - 10th Line - 9th Line (4204 Surface) s - Road		Gravel	1854	50 0	161 \$	6,618 \$ 6,6	18 NULL	\$ 416,248	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 25th SR - 2nd Line - Amaranth / Mono TL (2368 Surface) s - Road		Gravel	1854	50 0	161 \$	6,693 \$ 6,6	93 NULL	\$ 420,970	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 25th SR - 4th Line - County Rd 11 (2367 Surface) s - Road		Gravel	1854	50 0	161 \$	7,233 \$ 7,2	33 NULL	\$ 454,933	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	Base aluation 25th SR - 6th Line - County Rd 12 (4208 Surface) is - Road		Gravel	1854	50 0	161 \$	6,075 \$ 6,0	75 NULL	\$ 382,100	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
	Base aluation 25th SR - 7th Line - 6th Line (4187 Surface) is - Road		Gravel	1854	50 0	161 \$	8,237 \$ 8,2	37 NULL	\$ 518,029	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
2643 4206 Va	Base aluation 25th SR - 8th Line - 7th Line (4206 Surface)		Gravel	1854	50 0	161 \$	6,307 \$ 6,3	007 NULL	\$ 396,681	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180 2017	1			20	2028	2028	2088	12

Fixed Map Asset Link Subtyp	pe Asset Name - Road Base	Classification Surfa		seful Rer g U	mainin Jseful A Life	ge Historic Cost	Amortization		Replacement Cost/Section	Condition Based On Useful Life	Condition Used for Analysis Priority Rating)	Probability of Failure (Based on Condition or	Consequence of Failure	Risk of	Risk of	Year Replacement due to minimmal	Service Replacement A	Year Subsequ leplacement pplying Risk Year	ent Remaining	Proposed Rehabilitation Cost (2016 \$)	Rehabilitation	Expected Levels of Service % benefit over due to Current +	Levels Service Replacement	Year Replacement Applying Risk Score - or	Subsequent Replacement Year	Revised Remaining Useful Life
							System	J,			Rating)	Expected Condition)			Failure	maintenance practices	% benefit Year	Score		3331(233.4)		Betterment Condition betterment then expecte for age	er year	Staff Override		
2642 4205 Valua	Base ation 25th SR - 9th Line - 8th Line (4205 Surface)	Gravel	1854	60	0 1	61 \$ 6,65	8 \$ 6,65	8 NULL	\$ 418,756	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180 2017	1			20	2028	2028	2088	12
2640 4203 Valua	Base ation 25th SR - Amaranth / Grand Valley TL - 10th Line (4203 Surface)	Gravel	1854	60	0 1	61 \$ 6,29	2 \$ 6,29	2 NULL	\$ 395,705	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180 2017	1			20	2028	2028	2088	12
2646 2366 Valua	Base ation 25th SR - County Rd 12 - 4th Line (2366 Surface)	Gravel	1854	60	0 1	61 \$ 6,17	5 \$ 6,17	5 NULL	\$ 388,344	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180 2017	1			20	2028	2028	2088	12
2687 3193 Valua	Base ation 2nd line from .6km N of County rd 109 to 5th SR (3193 Surface)	Gravel	1980	60	24 3	35 \$ 275,93	7 \$ 165,56	2 \$ 110,375	5 \$ 734,265	4 5	5 Average	Possible	Moderate	М	2	2022	2022	2082 2022	6			0	2022	2022	2082	6
2682 3253 Valua	Base ation 2ND LINE from .8km N of 20th SR to 25th SR (3253 Surface)	Gravel	1971	60	15 4	14 \$ 119,57	4 \$ 89,68	0 \$ 29,893	\$ 664,666	3 5	5 Average	Possible	Moderate	М	2	2013	2013	2077 2017	1			0	2016	2017	2077	1
2631 3251 Valua Roads - F	Base ation 2nd Line from 1.9km N of County RD 10 to 15th SR (3251 Surface)	Gravel	1854	60	0 1	61 \$ 5,52	2 \$ 5,52	2 NULL	\$ 347,313	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180 2017	1			20	2028	2028	2088	12
	Base ation 2ND LINE from 15th SR to 20th SR (4212 Surface)	Gravel	1854	60	0 1	61 \$ 14,61	1 \$ 14,61	1 NULL	\$ 918,917	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180 2017	1			20	2028	2028	2088	12
	Base ation 2ND LINE from 20th SR to .8km N of 20th SR (3255 Surface) Road	Gravel	1854	60	0 1	61 \$ 4,03	4 \$ 4,03	4 NULL	\$ 253,731	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180 2017	1			20	2028	2028	2088	12
2559 4214 Valua Roads - F	Base ation 2nd Line from 25th SR to 30th SR (4214 Surface) Road	Gravel	1971	60	15 4	\$ 166,08	7 \$ 124,56	5 \$ 41,522	\$ 923,220	3 5	5 Average	Possible	Moderate	М	2	2013	2013	2077	1			0	2016	2017	2077	1
2557 3249 Valua Roads - F	Base ation 2ND LINE from 5th SR to County Rd 10 (3249 Surface) Road	Gravel	1854	60	0 1	61 \$ 14,55	5 \$ 14,55	5 NULL	\$ 915,382	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
2632 3250 Valua Roads - F	Base ation 2ND LINE from County Rd 10 to 1.9km N of County RD 10 (3250 Surface) Road	Gravel	1854	60	0 1	61 \$ 9,02	9,02	1 NULL	\$ 567,385	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
	Base ation 30th SR from 10th Line to 9th Line (4174 Surface) Road	Gravel	1854	60	0 1	61 \$ 6,61	8 \$ 6,61	8 NULL	\$ 416,215	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
Roads - F		Gravel	1854	60	0 1	61 \$ 4,69	5 \$ 4,69	5 NULL	\$ 445,339	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
2619 4186 Valua Roads - F		Gravel	1854	60	0 1	61 \$ 5,82	9 \$ 5,82	9 NULL	\$ 366,592	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
2553 4207 Valua Roads - F		Gravel	1854	60	0 1	61 \$ 6,06	8 \$ 6,06	8 NULL	\$ 381,657	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
2621 4171 Valua Roads - F		Gravel	1854	60	0 1	61 \$ 6,43	60 \$ 6,43	0 NULL	\$ 404,398	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
2637 4172 Valua Roads - F		Gravel	1854	60	0 1	61 \$ 6,69	5 \$ 6,69	5 NULL	\$ 421,078	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
2638 4173 Valua Roads - F	Base ation 30th SR from Amaranth / East Luther TL to 10th Line (4173 Surface) Road Rase	Gravel	1854	60	0 1	61 \$ 6,41	6 \$ 6,41	6 NULL	\$ 403,494	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
2620 4185 Valua Roads - F	ation 30th SR from County Rd 12 (5th Line) to 4th Line (4185 Surface)	Gravel	1854	60	0 1	61 \$ 8,01	2 \$ 8,01	2 NULL	\$ 503,922	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2180	1			20	2028	2028	2088	12
2680 2386 Valua Roads - F	ation 4th Line from 1.2km N. of 15th SR to 20thSR (2386 Surface)	Gravel	1972	60	16 4	\$ 100,06	0 \$ 73,37	8 \$ 26,683	\$ 529,700	3 5	5 Average	Possible	Moderate	М	2	2014	2014	2077	1			0	2016	2017	2077	1
2681 2387 Valua Roads - F	ation 4th Line from 15th SR to 1.2km N. of 15th SR (2387 Surface)	Gravel	1972	60	16 4	\$ 73,11	9 \$ 53,62	1 \$ 19,499	\$ 387,080	3 5	5 Average	Possible	Moderate	М	2	2014	2014	2017	1			0	2016	2017	2077	1
2554 3418 Valua Roads - F	ation 4th Line from 20th SR to 25th SR (3418 Surface)	Gravel	1978	60	22 3	\$ 284,84	7 \$ 180,40	3 \$ 104,444	\$ 912,093	4 5	5 Average	Possible	Moderate	М	2	2020	2020	2020	4			0	2020	2020	2080	4
2556 3417 Valua Roads - F	ation 4th Line from 25th SR to 30th SR (3417 Surface)	Gravel	1978	60	22 3	\$ 291,33	\$ 184,51	3 \$ 106,824	\$ 932,876	37 5	5 Average	Possible	Moderate	М	2	2020	2020	2020	4			0	2020	2020	2080	4
2555 3245 Valua Roads - F	ation 4th Line from 30th SR to Highway 89 (3245 Surface)	Gravel	1978	60	22 3	\$ 107,25	4 \$ 67,92	8 \$ 39,327	\$ 343,434	4 5	5 Average	Possible	Moderate	М	2	2020	2020	2020	4			0	2020	2020	2080	4
2614 4216 Valua Roads - F	ation 4TH LINE from 5th SR to County Rd 10 (4216 Surface) Road Base	Gravel	1972	60	16 4	13 \$ 173,14	4 \$ 126,97	3 \$ 46,172	\$ 916,593	3 5	5 Average	Possible	Moderate	М	2	2014	2014	2017	1			0	2016	2017	2077	1
2615 4217 Valua Roads - F	ation 4th Line from County Rd 10 to 15th SR (4217 Surface) Road Base	Gravel	1972	60	16 4	13 \$ 173,22	9 \$ 127,03	4 \$ 46,194	\$ 917,038	3 5	5 Average	Possible	Moderate	М	2	2014	2014	2017	1			0	2016	2017	2077	1
2613 4215 Valua Roads - F	ation 4TH LINE from County Rd 109 to 5th SR (4215 Surface) Road Base	Gravel	1972	60	16 4	13 \$ 174,89	3 \$ 128,25	5 \$ 46,638	\$ 925,851	3 5	5 Average	Possible	Moderate	М	2	2014	2014	2017	1			0	2016	2017	2077	1
2652 4199 Valua Roads - F	ation Sth SR - 10th Line - 9th Line (4199 Surface) Road Base	Gravel	1854	60	0 1	61 \$ 6,48	7 \$ 6,48	7 NULL	\$ 407,973	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
2721 4190 Valua Roads - F	ation 5th SR - 4th Line - County Rd 11 (4190 Surface) Road Base	Gravel	1854	60	0 1	61 \$ 7,31	4 \$ 7,31	4 NULL	\$ 460,007	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
Roads - F	ation 5th SR - 6th Line - County Rd 12 (4189 Surface) Road Base	Gravel	1854	60	0 1	61 \$ 6,10	\$ 6,10	2 NULL	\$ 383,772	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
2689 4202 Valua Roads - F	ation 5th SR - 7th Line - 6th Line (4202 Surface)	Gravel	1854				1 \$ 8,32		\$ 523,359			Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	
Roads - F	Base	Gravel	1854				4 \$ 6,06		\$ 381,368			Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028		
Roads - F	ation Sth SR - 9th Line - 8th Line (4200 Surface) Road Base	Gravel	1854	60	0 1	61 \$ 6,67	4 \$ 6,67	4 NULL	\$ 419,745	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
Roads - F	ation Sth SR - County 12 - 4th Line (4188 Surface) Road Base	Gravel	1854	60		61 \$ 6,46		4 NULL	\$ 406,541	0 5	5 Average		Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12
	ation 6th Line4km North of County Rd 10 - 15th SR	Gravel	1854	60	0 1	61 \$ 12,44	2 \$ 12,44	2 NULL	\$ 782,506	0 5	5 Average	Possible	Moderate	М	2	1896	1896	2017	1			20	2028	2028	2088	12

Fixed Max						, Remainin		2015	2015 Net		Condition Cond	lision Condit	Asset	Probability of Failure		N	umerical Re	Year placement Cu	rrent Revised	Yea	ar Subse	quent Revised	Proposed	 Extended	Expected Levels of Service %	Revised Levels Service	Year Replacement S	subsequent Rev	evised
Asset #	Subtype	Asset Name - Road Base	Classification	Surface I Material	rear Life	g Useful A	Age Historic Cost	Accumulated Amortization System	Book Value	Replacement Cost/Section	Based On Useful Life	Town Used f	or (As per sis Priority	(Based on Condition or Expected Condition)	f Failure F	ailure	Risk of n		els of Levels Servi rvice Replacemen enefit Year		g Risk Replac		Rehabilitatio	Life (Years) due to Betterment		V	Replacement S Applying Risk R Score - or Staff Override		maining eful Life
	Roads - Road Base																				21:	10			for age				
2603 42	0 Valuation 6th Line Roads - Road Base	- 15th SR - 20th SR (4220 Surface)		Gravel	1854 6	0 0	161 \$ 14,736	\$ 14,736	NULL	\$ 926,765	0 5	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2604 32	5 Valuation 6th Line Roads - Road Base	- 20th SR - 25th SR (3235 Surface)	-	Gravel	1854 6	0 0	161 \$ 14,638	\$ 14,638	NULL	\$ 920,606	0 5	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2606 32	6 Valuation 6th Line Roads - Road Base	- 25th SR - 30th SR (3236 Surface)		Gravel	1854 6	0 0	161 \$ 15,115	\$ 15,115	NULL	\$ 950,643	0 5	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2605 32	7 Valuation 6th Line Roads - Road Base	- 30th SR - Highway 89 (3237 Surface)		Gravel	1854 6	0 0	161 \$ 5,692	\$ 5,692	NULL	\$ 358,002	0 5	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2602 42		- 5th SR - County Rd 10 (4218 Surface)		Gravel	1854 6	0 0	161 \$ 14,551	\$ 14,551	NULL	\$ 915,131	0 5	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2589 42	4 Valuation 7th Line Roads - Road Base	- 15th SR - 20th SR (4224 Surface)		Gravel	1854 6	0 0	161 \$ 14,844	\$ 14,844	NULL	\$ 933,612	0 5	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2588 42	5 Valuation 7th Line Roads - Road Base	- 20th SR - 25th SR (4225 Surface)		Gravel	1854 6	0 0	161 \$ 14,715	\$ 14,715	NULL	\$ 925,469	0 5	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2587 42		- 25th SR - 30th SR (4226 Surface)		Gravel	1854 6	0 0	161 \$ 14,737	\$ 14,737	NULL	\$ 926,855	0 !	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2586 42		- 30th SR - Highway 89 (4227 Surface)		Gravel	1854 6	0 0	161 \$ 5,331	\$ 5,331	NULL	\$ 335,264	0 !	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2592 42		- 5th SR - County Rd 10 (4222 Surface)	1	Gravel	1854 6	0 0	161 \$ 15,105	\$ 15,105	NULL	\$ 950,026	0 5	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2590 42	3 Valuation 7th Line Roads - Road	- County Rd 10 - 15th SR (4223 Surface)	1	Gravel	1854 6	0 0	161 \$ 14,597	\$ 14,597	NULL	\$ 918,046	0 5	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2591 42	1 Valuation 7th Line Roads - Road	- County Rd 109 - 5th SR (4221 Surface)	1	Gravel	1854 6	0 0	161 \$ 14,670	\$ 14,670	NULL	\$ 922,634	0 5	5	5 Average	Possible N	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2582 42		E from 15th SR to 20SR (4231 Surface)	1	Gravel	1854 6	0 0	161 \$ 14,568	\$ 14,568	NULL	\$ 916,212	0 !	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2583 41		E from 20th SR to 25th SR (4184 Surface)		Gravel	1854 6	0 0	161 \$ 14,671	\$ 14,671	NULL	\$ 922,728	0 !	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2585 41		from 25th SR to 30 SR (4183 Surface)		Gravel	1854 6	0 0	161 \$ 14,613	\$ 14,613	NULL	\$ 919,036	0 9	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2584 41	2 Valuation 8TH LIN Roads - Road Base	E from 30th SR to Highway 89 (4182 Surface)		Gravel	1854 6	0 0	161 \$ 5,288	\$ 5,288	NULL	\$ 332,585	0 9	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2565 42		from SSR to County Rd 10 (4229 Surface)	1	Gravel	1854 6	0 0	161 \$ 14,732	\$ 14,732	NULL	\$ 926,519	0 9	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2581 42		E from County Rd 10 to 15th SR (4230 Surface)		Gravel	1854 6	0 0	161 \$ 14,720	\$ 14,720	NULL	\$ 925,757	0 9	5	5 Average	Possible N	Moderate	м	2	1896	18	96	2017	1			20	2028	2028	2088	12
2564 42		E from County Rd 109 to 5th SR (4228 Surface)		Gravel	1854 6	0 0	161 \$ 14,968	\$ 14,968	NULL	\$ 941,356	0 9	5	5 Average	Possible N	Moderate	м	2	1896	18	96	2017	1			20	2028	2028	2088	12
2560 23	8 Valuation 9th Line Roads - Road	from .3km S of 20th SR to 20th SR (2318 Surface)		Gravel	1854 6	0 0	161 \$ 1,421	\$ 1,421	NULL	\$ 89,364	0 9	5	5 Average	Possible N	Moderate	м	2	1896	18	96	2017	1			20	2028	2028	2088	12
2561 31	Roads - Road	E from 20SR to 25th SR (3179 Surface)		Gravel	1854 6	0 0	161 \$ 14,739	\$ 14,739	NULL	\$ 926,986	0 !	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2563 31	Roads - Road	E from 25th SR to 30SR (3177 Surface)		Gravel	1976 6	20	39 \$ 247,558	\$ 165,039	\$ 82,519	\$ 925,798	3 5	5	5 Average	Possible M	Moderate	М	2	2018	20	18	2018	2			0	2018	2018	2078	2
2562 31	Roads - Road	E from 30th SR to Highway 89 (3175 Surface)		Gravel	1854 6	0 0	161 \$ 5,326	\$ 5,326	NULL	\$ 334,946	0 !	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2600 344	Roads - Road	E from 5th SR to County Rd 10 (3402 Surface)		Gravel	1854 6	0 0	161 \$ 14,590	\$ 14,590	NULL	\$ 917,611	0 !	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2599 344	Roads - Road	E from County Rd 10 to 15th SR (3408 Surface)		Gravel	1854 6	0 0	161 \$ 14,760	\$ 14,760	NULL	\$ 928,319	0 !	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2598 344	Base 1 Valuation 9TH LIN Roads - Road	E from Station ST to 5th SR (3401 Surface)		Gravel	1854 6	0 0	161 \$ 8,884	\$ 8,884	NULL	\$ 558,742	0 !	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2665 419	Base 3 Valuation Amaran Roads - Road	th / Grand Valley TL - 1.4km north of 20th SR - 25th SR (4193 Surface)		Gravel	1854 6	0 0	161 \$ 8,127	\$ 8,127	NULL	\$ 511,145	0 9	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2630 419	Base 2 Valuation Amaran Roads - Road	th / Grand Valley TL - 15th SR - 1.6 km north of 15th SR (4192 Surface)		Gravel	1854 6	0 0	161 \$ 8,386	\$ 8,386	NULL	\$ 527,411	0 9	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12
2710 419	Base 4 Valuation Amaran Roads - Road	th / Grand Valley TL - 25th SR - 30th SR (4194 Surface)		Gravel	1854 6	0 0	161 \$ 14,691	\$ 14,691	NULL	\$ 923,982	0 9	5	5 Average	Possible M	Moderate	м	2	1896	18	96	2017	1			20	2028	2028	2088	12
2709 419	Roads - Road	th / Grand Valley TL - 30th SR - Highway 89 (4195 Surface)		Gravel	1854 6	0 0	161 \$ 4,369	\$ 4,369	NULL	\$ 274,794	0 4	5	5 Average	Possible N	Moderate	м	2	1896	18	96	2017	1			20	2028	2028	2088	12
2618 23	Base 5 Valuation Grand V	iew Rd - County Rd 109 - eno of Grand View Rd (2305 Surface)		Gravel	1854 6	0 0	161 \$ 3,588	\$ 3,588	NULL	\$ 225,680	0 !	5	5 Average	Possible M	Moderate	М	2	1896	18	96	2017	1			20	2028	2028	2088	12

Amaranth Roads - Bridge Inventory

Current Leveles of Service Expected Levels of Service

Replacement/Improvement Year Based on Current Levels Service Replacement/Improvement Year Based on Expected Levels of Service Replacement/Improvement Year Based on Expected Levels Service Repla

																				R	eplacement/Ir		r Based on Currer	nt Levels Service				Replacemen		Year Based on E	xpected Levels
FIXED ASSET ID	Subtype Asset Name	Asset Type	Install Year		Remaining Useful Life	Age	Cost	2015 Accumulated Amortization	2015 Net Book Value		Condition Based On Useful Life	Assessed	Condition Used for Analysis	Asset Condition (As per Priority Rating)	Probability of Failure (Based on Condition or Expected Condition)	Consequence of Failure	Risk of Failure	Numerical Value of Risk of Failure	Year Replacement due to minimmal maintenance practices	Current Rev	vised Levels Service	Year Replacement	Subsequent Replacement Year	Revised Remaining Useful Life	Proposed Rehabilitation Cost (2016 \$)	Year for Rehabilitatio	Extended Life (Years) due to Betterment Expended Life (Curr Control bette expec	ected els of ice % it over ent + dittion r then ted for	Year	Subsequent	Revised Remaining Useful Life
					26	64	\$ 4,654,146	. ,,	, . ,	\$ 13,181,022			5.5					3							\$ 902,800					4	
	ads - Bridge Arch Culvert - 15th Sideroad for Drain #20	Arch Culvert	2015	5 30	29	1	\$32,769	\$1,092	\$31,677	\$35,000			10	Very Good	Rare	Major	M	2	2042	10	2045	2045	2075	29				0 204		2075	29
	ads - Bridge Bridge 1 MTO(4-106) - 6th Line	I-beam or Girders	2007		5 66	9	\$345,958	\$41,515	\$304,443	7 .2,000		9	9	Very Good	Rare	Major	M	2	2075	10	2083	2083	2159	67				208			
	ads - Bridge Bridge 10 MTO(4-72) - 7th Line	Solid Slab	1900		5 0	116	\$16,233	\$16,233	\$0	\$700,000	0	4	4	Poor	Likely	Major	Н	3	1968	10	1976	2017	2134	1			3			2100	9
	ads - Bridge Bridge 11 MTO(4-73) - 15th SR	Solid Slab	1900		5 0	116	\$16,115	\$16,115	\$0	\$700,000	0	5	5	Average	Possible	Major	Н	3	1968	10	1976	2017	2134	1			4	0 200		2106	15
	ads - Bridge Bridge 12 MTO(4-76) - 6th Line	Bowstring Arch	1910		5 0	106	\$20,256	\$20,256	\$0	\$800,000	0	4	4	Poor	Likely	Major	Н	3	1978	10	1986	2017	2124	1			3			2096	
	ads - Bridge Bridge 13 MTO(4-75) - 6th Line	Bowstring Arch	1910		5 0	106	\$15,360	\$15,360	\$0	\$800,000	0	4	4	Poor	Likely	Major	Н	3	1978	10	1986	2017	2124	1			3			2096	5
2481 F	ads - Bridge Bridge 14 MTO(4-74) - 6th Line	Rigid Frame, Vertical Legs	2000	75	5 59	16	\$431,256	\$92,001	\$339,255	\$510,000	8		8	Good	Unlikely	Major	M	2	2068	10	2076	2076	2152	60				207		2151	60
	ads - Bridge Bridge 15 MTO(4-71) - 7th Line	Solid Slab	1900	75	5 0	116	\$16,548	\$16,548	\$0	\$800,000	0	2	2	Very Poor	Almost Certain	Major	E	4	1968	10	1976	2017	2134	1	\$300,000	2018	40 1	0 205		2133	42
	ads - Bridge Bridge 16 MTO(4-69) - 7th Line	Rigid Frame, Vertical Legs	1988	B 75	5 47	28	\$303,072	\$113,147	\$189,925	\$480,000	6	7	7	Good	Unlikely	Major	M	2	2056	10	2064	2064	2140	48				5 206		2143	52
2483 F	ads - Bridge Bridge 17 MTO(4-70) - 20th SR	Solid Slab	1900	75	5 0	116	\$15,169	\$15,169	\$0	\$1,000,000	0	4	4	Poor	Likely	Major	H	3	1968	10	1976	2017	2134	1	\$100,000	2018	40 3	0 205	8 2060	2135	44
2290 F	ads - Bridge Bridge 18 MTO(4-50) - 25th SR	Rigid Frame, Vertical Legs	2007	7 75	5 66	9	\$340,527	\$40,863	\$299,664	\$340,527	9		9	Very Good	Rare	Major	M	2	2075	10	2083	2083	2159	67				208	3 2083	2158	67
2301 F	ads - Bridge Bridge 19 MTO(4-49) - 6th Line	Rigid Frame, Vertical Legs	2002	2 75	5 61	14	\$145,291	\$27,121	\$118,170	\$163,230	8		8	Good	Unlikely	Major	M	2	2070	10	2078	2078	2154	62				207	8 2078	2153	62
2299 F	ads - Bridge Bridge 2 MTO(4-105) - 7th Line	Solid Slab	1900	75	5 0	116	\$7,762	\$7,762	\$0	\$450,000	0	5	5	Average	Possible	Major	Н	3	1968	10	1976	2017	2134	1			4	0 200		2098	7
2484 F	ads - Bridge Bridge 20 MTO(4-78) - 4th Line	Multi-Plate Culverts	1980	75	5 39	36	\$56,370	\$27,058	\$29,312	\$150,000	5	7	7	Good	Unlikely	Major	M	2	2048	10	2056	2056	2132	40			1	0 206	4 2026	2101	10
2293 F	ads - Bridge Bridge 3 MTO(4-104) - 8th Line	T-Beam	1920	75	5 0	96	\$25,058	\$25,058	\$0	\$257,000	0	6	6	Average	Possible	Major	Н	3	1988	10	1996	2017	2114	1	\$105,000	2023	40 5	0 206	3 2063	2138	47
2294 F	ads - Bridge Bridge 4 MTO(4-103) - 9th Line	Arch Culvert	1995	5 75	5 54	21	\$161,595	\$45,247	\$116,348	\$210,000	7		7	Good	Unlikely	Major	M	2	2063	10	2071	2071	2147	55				207		2146	55
2302 F	ads - Bridge Bridge 5 MTO(4-155) - Station St / Mill St	Box Beams of Girders	1980	75	5 39	36	\$526,120	\$252,538	\$273,582	\$1,400,000	5	7	7	Good	Unlikely	Major	M	2	2048	10	2056	2056	2132	40	\$137,800	2021	40 1	0 206	1 2061	2136	45
2292 F	ads - Bridge Bridge 6 MTO(4-101) - 10th Line	I-beam or Girders	1968	B 75	5 27	48	\$355,960	\$227,814	\$128,146	\$2,200,000	4		4	Poor	Likely	Major	Н	3	2036	10	2044	2036	2111	20	\$260,000	2019	40	205	9 2059	2134	43
2291 F	ads - Bridge Bridge 7 MTO(4-102) - 5th SR	Rigid Frame, Vertical Legs	1991	1 75	5 50	25	\$453,778	\$151,259	\$302,519	\$620,000	7		7	Good	Unlikely	Major	M	2	2059	10	2067	2067	2143	51				206	7 2067	2142	51
2295 F	ads - Bridge Bridge 8 MTO(4-66) - 9th Line	Rigid Frame, Vertical Legs	1993	3 75	5 52	23	\$465,186	\$142,657	\$322,529	\$620,000	7		7	Good	Unlikely	Major	M	2	2061	10	2069	2069	2145	53				206	9 2069	2144	53
2298 F	ads - Bridge Bridge 9 MTO(4-65) ** - 8th Line	I-beam or Girders	2008	B 75	67	8	\$903,765	\$96,402	\$807,363	\$903,765	9		9	Very Good	Rare	Major	M	2	2076	10	2084	2084	2160	68				208	4 2084	1 2159	68
4290 F	ads - Bridge Grand Valley Owned Bridge - AMARANTH -	EAST LUTHER TOWNLINE South	ot 2016	75	75	0							0	NVALID CONDITIO	#N/A	Major	#N/A		2084	10	2092	2092	2168	76				209	2 2092	2167	76

APPENDIX A: AMENDMENT ASSET MANAGEMENT PLAN ASSUMPTIONS

The following assumptions were made and applied during the creation of the Township of Amaranth's asset management plan.

1. AMENDED STATE OF LOCAL INFRASTRUCTURE

- a) All replacement costs for Roads and Bridges were estimates based on current 2018 pricing.
- b) Useful life of an asset were provided by the Township, discussed with Township Staff and/or obtained from similar assets in other communities/municipalities.
- c) Condition was from staff's understanding of the asset's relative condition, and finally via estimation from the asset's age were used to provide estimated remaining life to the assets.

2. AMENDED ASSET MANAGEMENT STRATEGY

- a) Capital inflation rate was assumed to be 2.0% annually.
- b) Operating budget inflation rate was assumed to be 2.0% annually.
- c) Regarding operating expenses included in the Township's current budget, it is assumed that they will increase at an operating inflation rate annually.

3. AMENDED FINANCING STRATEGY

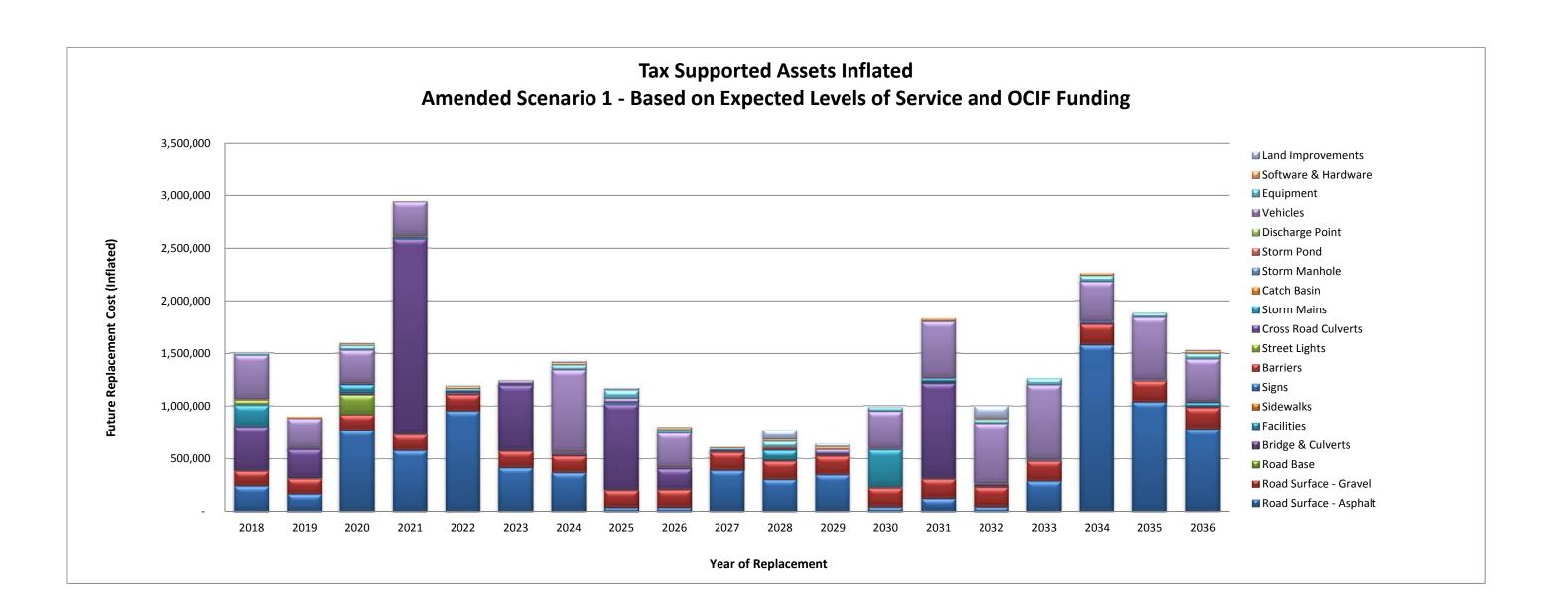
- a) OCIF application for 2018 is expected to be received to assist in closing the Township infrastructure gap.
- b) Gas Tax and OCIF Formula Based Funding revenue have been identified as a funding source for the purposes of this analysis (i.e. for asset replacement purposes), and has been assumed to continue throughout the forecast period.
- c) Interest rate earned on a Capital Replacement Reserve Funds will be 1.0% annually.
- d) Township of Amaranth past Annual Capital Investment was identified as \$1,000,000.

Appendix A - AMP Assumptions.Docx 7/17/2018 11:00 AM



Appendix B

19 Year Detailed Asset Management Strategy & Financing Strategy



Asset Type	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	TOTAL
Total Scheduled Capital - Inflated	1,502,010	898,025	1,601,589	2,945,053	1,195,699	1,244,722	1,425,623	1,172,353	799,845	607,938	768,476	638,327	988,087	1,829,812	1,001,959	1,262,425	2,266,198	1,881,154	1,530,979	25,560,272
Road Surface - Asphalt	242,800	167,013	772,431	580,512	954,997	415,691	368,113	38,826	39,602	386,872	301,888	344,998	42,867	124,749	44,598	287,747	1,581,207	1,039,591	781,292	8,515,793
Road Surface - Gravel	142,000	144,840	147,737	150,692	153,705	156,779	159,915	163,113	166,376	169,703	173,097	176,559	180,090	183,692	187,366	191,113	194,936	198,834	202,811	3,243,359
Road Base	1,000	1,019	188,312	1,061	1,082	1,104	1,126	1,149	1,172	1,195	1,219	1,243	1,268	1,294	1,319	1,346	1,373	1,400	1,428	210,112
Bridge & Culverts	417,860	275,461	18,582	1,854,843	19,332	623,872	20,113	815,636	196,675	-	9,508	-	9,892	905,525	10,292	-	10,708	-	11,140	5,199,439
Facilities	204,500	-	78,030	12,734	-	-	-	5,743	-	-	91,425	-	348,766	6,468	-	-	-	-	35,706	783,373
Sidewalks	-	-	-	-	-	-	-	-	586	-	609	-	634	-	990	-	-	1,050	-	3,869
Signs	4,500	4,590	4,682	4,775	4,871	4,968	5,068	5,169	5,272	5,378	5,485	5,595	5,707	5,821	5,938	6,056	6,178	6,301	6,427	102,783
Barriers	-	-	-	-	878	-	-	-	-	5,688	9,770	6,048	-	-	6,214	-	-	-	-	28,598
Street Lights	45,000	510	520	531	541	552	563	574	586	598	609	622	634	647	660	673	686	700	714	55,920
Cross Road Culverts	4,500	4,590	4,682	4,775	4,871	4,968	5,068	5,169	5,272	5,378	5,485	5,595	5,707	5,821	5,938	6,056	6,178	6,301	6,427	102,783
Storm Mains	-	-	-	-	-	-	-	-	-	-	-	-	-	25,872	-	-	-	-	-	25,872
Catch Basin	2,000	2,040	2,081	2,122	2,165	2,208	2,252	2,297	2,343	2,390	2,438	2,487	2,536	2,587	2,639	2,692	2,746	2,800	2,856	45,681
Storm Manhole	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storm Pond	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Discharge Point	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vehicles	415,000	280,500	312,120	325,791	-	33,122	777,052	36,758	322,206	-	-	39,788	348,766	536,847	567,376	702,543	377,516	581,100	392,768	6,049,254
Equipment	20,350	408	44,217	1,167	19,700	662	46,004	77,587	29,291	20,914	57,110	1,057	38,047	6,274	37,209	60,564	55,529	42,069	52,845	611,006
Software & Hardware	2,500	17,053	17,791	6,049	27,061	794	23,456	3,101	24,019	9,823	20,845	23,251	3,171	24,215	12,667	3,634	29,142	1,007	28,708	278,286
Land Improvements	-	-	10,404	-	6,495	-	16,892	17,230	6,444	-	88,987	31,084	-	-	118,753	-	-	-	7,855	304,145

Levels of Service Costs - Inflated

Asset Type	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	TOTAL
Total Scheduled Capital - Inflated	234,660	160,507	171,832	166,992	178,774	173,738	185,997	180,757	194,097	176,037	220,150	183,149	197,338	216,420	205,641	198,246	212,919	207,306	221,521	3,686,084
Road Surface - Asphalt	58,800	34,476	35,166	35,869	36,586	37,318	38,064	38,826	39,602	40,394	71,677	42,026	42,867	43,724	44,598	45,490	46,400	47,328	48,275	827,486
Road Surface - Gravel	110,000	112,200	114,444	116,733	119,068	121,449	123,878	126,355	128,883	131,460	134,089	136,771	139,507	142,297	145,143	148,046	151,006	154,027	157,107	2,512,461
Road Base	1,000	1,020	1,040	1,061	1,082	1,104	1,126	1,149	1,172	1,195	1,219	1,243	1,268	1,294	1,319	1,346	1,373	1,400	1,428	22,841
Bridge & Culverts	17,860	10,261	18,582	10,676	19,332	11,107	20,113	11,556	20,926	-	9,508	-	9,892	-	10,292	-	10,708	-	11,140	191,953
Facilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sidewalks	-	-	-	-	-	-	-	-	586	-	609	-	634	-	990	-	-	1,050	-	3,869
Signs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barriers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Street Lights	45,000	510	520	531	541	552	563	574	586	598	609	622	634	647	660	673	686	700	714	55,920
Cross Road Culverts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storm Mains	-	-	-	-	-	-	-	-	-	-	-	-	-	25,872	-	-	-	-	-	25,872
Catch Basin	2,000	2,040	2,081	2,122	2,165	2,208	2,252	2,297	2,343	2,390	2,438	2,487	2,536	2,587	2,639	2,692	2,746	2,800	2,856	45,681
Storm Manhole	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storm Pond	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Discharge Point	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Software & Hardware	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Land Improvements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

2016 Asset Management Plan Amendment Scheduled Capital Replacement - Inflated

Scenario 2: Capital Phased-In Approach - Medium Deferral (Recommended)

Tax Supported Assets

Inflation Factor 102.0% 104.0% 106.1% 108.2% 110.4% 112.6% 114.9% 117.2% 119.5% 121.9% 124.3% 126.8% 129.4% 131.9% 134.6% 137.3% 140.0% 142.8% 145.7%

Asset Type	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	TOTAL
Scenario 2a	1,032,750	1,066,410	1,101,003	1,136,554	1,173,086	1,210,625	1,249,196	1,288,825	1,329,540	1,371,369	1,414,338	1,458,478	1,503,818	1,550,388	1,598,219	1,647,343	1,697,793	1,749,602	1,802,804	27,382,139
Scenario 2b	1,045,500	1,092,420	1,140,799	1,190,675	1,242,091	1,295,087	1,349,706	1,405,991	1,463,988	1,523,743	1,585,302	1,648,714	1,714,029	1,781,296	1,850,569	1,921,900	1,995,344	2,070,957	2,148,796	30,466,908

