Municipality of McDougall

6.0 Buildings

Asset Management Plan

January 2014

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STATE OF INFRASTRUCTURE

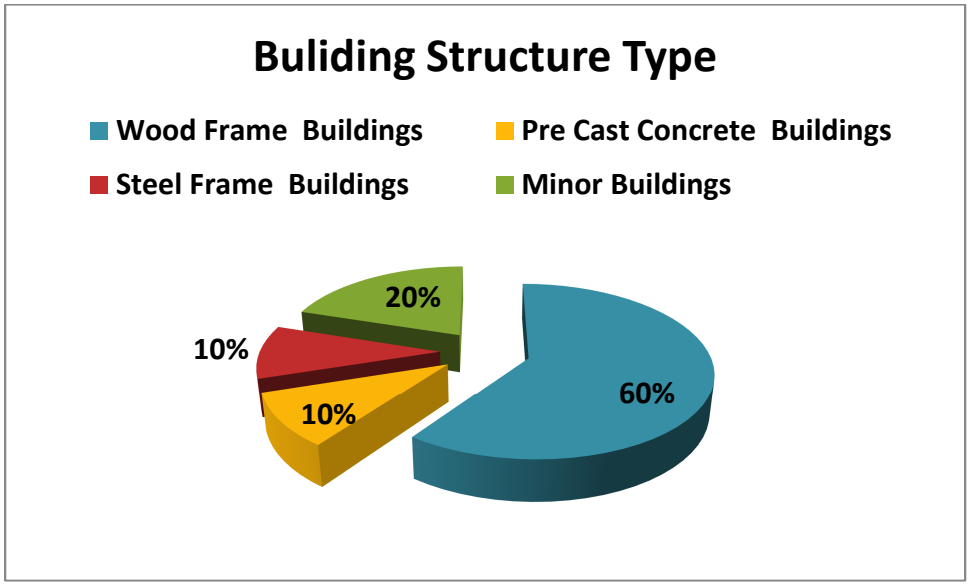
6.1 Inventory

The Municipality's buildings protect a variety of assets and provide community space for residents. McDougall currently owns 10 buildings excluding water works and Landfill buildings. Drinking water, leachate water, waste water and Landfill buildings are discussed in Asset Management Plans for water assets and are not covered in this Plan

The current inventory is broken down in Figure 6.1. The source of the information is the Asset Inventory Registry. For analysis, the Municipality relied on internal knowledge of the system, and contract documents.

Figure 6.1: Building Inventory Summary

Asset	Inventory
Wood Frame Buildings	6
Pre Cast Concrete Buildings	1
Steel Frame Buildings	1
Minor Buildings	2
Total Buildings	10



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6.2 Valuation

The historical cost of the buildings is shown without inflation. These values reflect the purchase price in the year of acquisition, including any additions or renovations made to the buildings up to 2012.

The estimated replacement value of the buildings is based on historical cost, inflated using CPI figures to 2013 values. Building Department recommendations were also considered in determining replacement values. The estimated current replacement value of the buildings is $9,785,000 or $3,758 household in McDougall. Figure 6.2 shows the breakdown of historical and replacement costs.

Figure 6.2: Building Historical & Replacement Value

Asset	Historical Cost 2012	Replacement Value 2013	Percent of Replacement
Wood Frame Buildings	$2,050,521	$6,670,000	68%
Pre Cast Concrete Buildings	$89,644	$250,000	3%
Steel Frame Buildings	$1,351,486	$2,800,000	28%
Minor Buildings	$77,864	$65,000	1%
Total Value	**$3,569,546**	**$9,785,000**	**100%**

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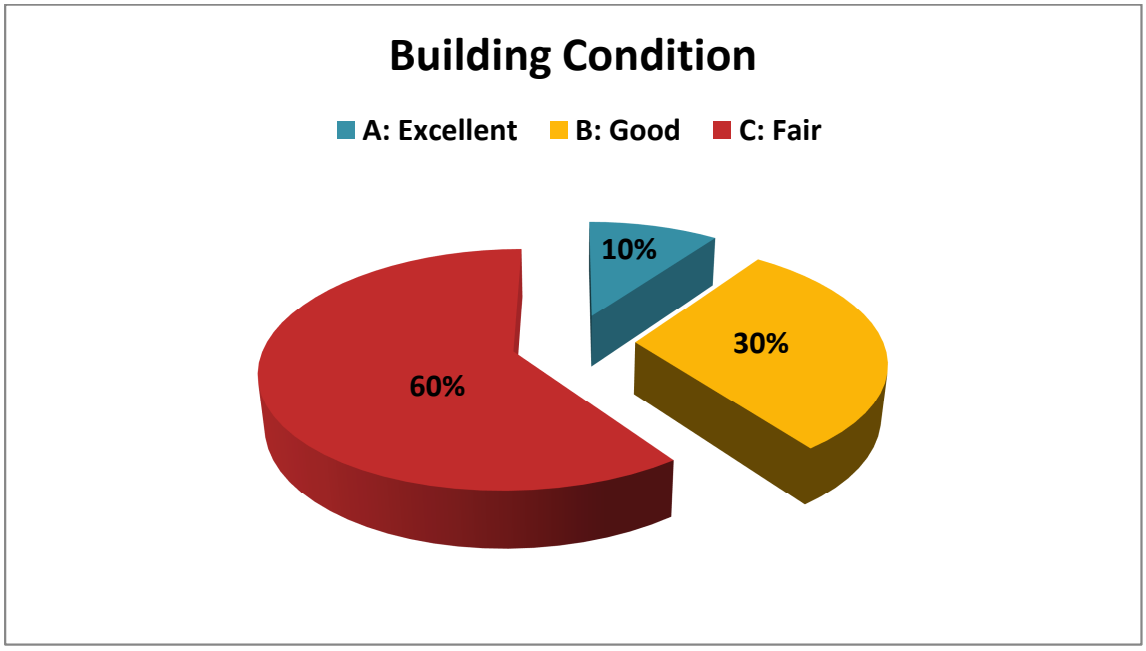
6.3 Condition Assessment

The condition report in Figure 6.3 was developed by Municipal Staff with consideration of current legislative requirements. The Municipality chose to rely on Municipal Staff in determining the condition of the system due to the number of external variables and high degree of internal knowledge of the buildings. Condition assessment criteria are available in the Appendix 1.0.

Figure 6.3: Building High Level Condition Assessment

Asset	Condition
Wood Frame Buildings	C
Pre Cast Concrete Buildings	A
Steel Frame Buildings	C
Minor Buildings	C



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6.4 Lifecycle Activities

Buildings can be split into four categories of life with corresponding asset management activities. These activities are described in Figure 6.4.

Figure 6.4: Building Lifecycle Activities

Activity	Definition	Life Remaining
Minor Maintenance	Planned activities: inspections, monitoring, cleaning, testing, etc.	75-100%
Major Maintenance	Unplanned maintenance & repair: repairing breaks, replacing components, etc.	50 - 75%
Rehabilitation	Upgrades & rehabilitation: upgrading components, re constructing components, etc.	25 - 50%
Replacement	End of asset life: decommission, remove old asset and build a new asset that does the same job	0 - 25 %

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6.5 Life Expectancy

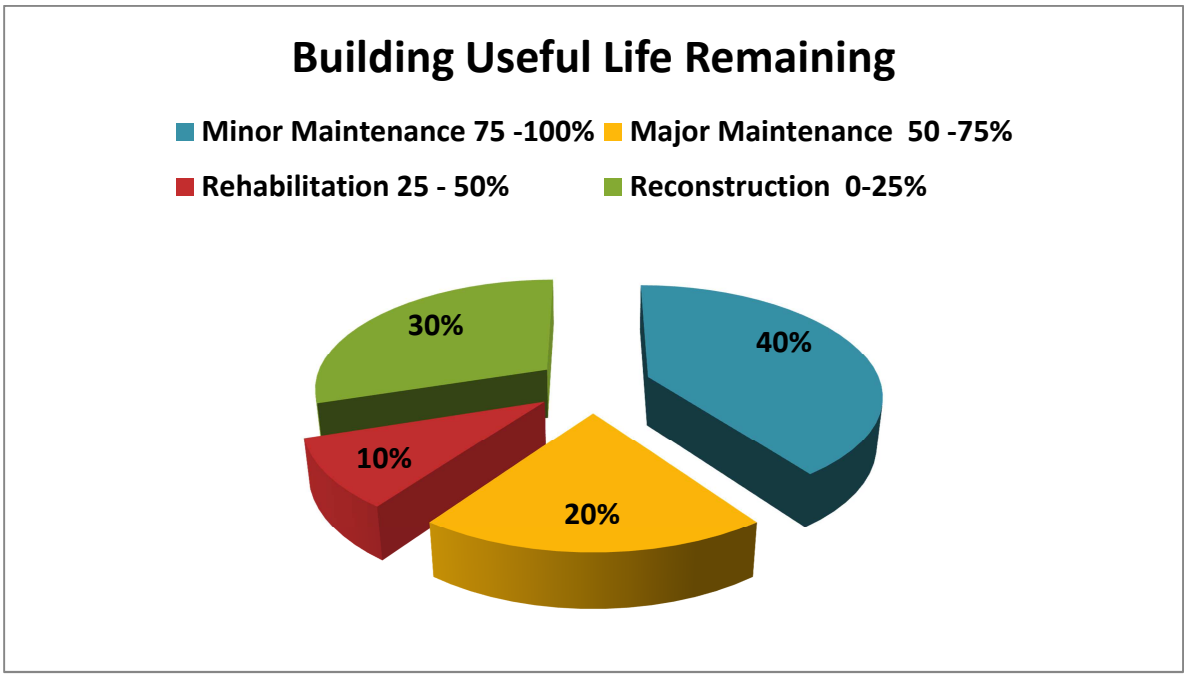
There are numerous direct and indirect variables that affect useful lives of buildings such as climate, building material, and installation practices. With this in mind, the Municipality chose to rely on Municipal Staff and Engineering reports in gauging useful life and life remaining for McDougall's buildings.

Figure 6.5 shows the useful life of the buildings; Figure 6.6 shows the remaining lives and the lifecycle activities that are being applied.

Figure 6.5: Building Useful Life

Asset	Useful Life
Wood Frame Buildings	50
Pre Cast Concrete Buildings	60
Steel Frame Buildings	60
Minor Buildings	30

Figure 6.6: Building Remaining Useful Life



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DESIRED LEVEL OF SERVICE

6.6 Target Levels of Service

The service levels in this plan are defined by two overarching performance measures community and operational.

Community Levels of Service: Community levels of service indicate how the community perceives the service and determines whether or not the service is valuable to the public.

Operational Levels of Service: Operational levels of service are the technical activities that bring community levels of service into action. They include resource allocations to create and maintain service levels that users expect and value**.**

Figures 6.7 and 6.8 cover buildings. These figures identify target levels of service, and current performance relative to measures identified. Future demand drivers, forecasts and effects are discussed in the Asset Management Plan Introduction Section 8.0 and includes all of the assets covered in the plan.

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Figure 6.7: Building Community Levels of Service 2012

Performance Measure	Level of Service Objective	Performance Measure Process	2012 Performance Measured	Desired Level of Service
Purpose	To provide safe, clean buildings.	Customer service complaints relating to safety and cleanliness.	2 complaints recorded that were verified.	3 complaints.
Reliability	Ease of accessibility, (parking, signage, etc.) and overall experience at facilities.	Customer complaints regarding accessibility and experience.	0 complaints recorded.	1 complaint
Capacity	Building capacity meets or exceeds demand.	Customer complaints regarding lack of facility space.	0 complaints recorded.	0 complaints.

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Figure 6.8: Building Operational Levels of Service 2012

Performance Measure	Level of Service Objective	Performance Measure Process	2012 Performance Measured	Desired Level of Service
Operations	Buildings are well managed.	Buildings inspections. Building cleaning schedule.	Maintain a daily log book for each facility for inspections and cleanings.	Weekly inspections. Daily scheduled cleaning when in use.
Maintenance	Respond to customer requests for service and perform maintenance activities.	Reactive and general maintenance is undertaken within a reasonable timeframe.	Maintain a daily log book for each facility for maintenance.	Maintenance activities are completed within 1 day of becoming aware of issue (dependant on complexity).
Renewal	Buildings meet or exceed user needs.	Useful lives of buildings should be increasing with renewals. Customer requests for facility upgrades. Renewals should include providing accessibility.	2012 average useful life – 56%. MRC at 4% of useful life. 0 Customer requests for facility upgrades. 2012 – 1 critical building meets legislation (MRC).	Building components are replaced within operating life cycles. 1 Customer requests for facility upgrades. Buildings should be accessible to all residents.
Upgrade/New	Construction of new facilities.	Residents have adequate Community facilities.	Dept. head reviews facility needs annually based on vision and community requests - none at present.	0 Customer requests for additional buildings.

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ASSET MANAGEMENT STRATEGY

6.7 Non Infrastructure Solution – Asset Hierarchy

An asset hierarchy provides a base for planning renewal, maintenance and rehabilitation. The structure allows the Municipality to focus its resources on assets that have been identified as critical assets. These assets have a high consequence of failure but not necessarily high risk of failure. Since not all assets can be maintained at the desired level of service prioritizing work on critical assets over low risk ones ensures that the system is protected against the most severe risks. Implementation of this strategy in the planning process has inherent cost savings and efficiencies. Figure 6.9 identifies critical building assets.

Figure 6.9: Critical Assets

Ranking	Service Hierarchy	Service Level Objective	Critical Risk
1	Fire Halls	Protect emergency equipment. Provide safe buildings that fall within Building Code.	• Loss of electricity. • Loss of water service. • Building becomes unsafe. • Staff is unable to access emergency equipment. • Loss of life and/or equipment.
2	Public Works Building	Protect snow removal and road maintenance fleet. Provide safe buildings that fall within Building Code.	• Loss of electricity. • Loss of water service. • Building becomes unsafe. • Staff is unable to access roadway fleet. • Loss of life and/or equipment.
3	Municipal Office	Protect electronic equipment and important documents. Provide safe buildings that fall within Building Code.	• Loss of electricity. • Loss of water service. • Building becomes unsafe. • Staff is unable to access electronic equipment and documents. • Loss of life and/or equipment.

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6.8 Maintenance & Operations Plan

Maintenance Activities: includes all actions necessary for keeping assets at their operable capacity. These actions were previously discussed in Figure 6.4 relative to useful life remaining.

Reactive Maintenance: unplanned repair work carried out in response to service request, break down or disruption.

Planned Maintenance: identified repair work indicated by the asset's useful life remaining in the Asset Inventory Registry. These activities include inspection, assessing condition based on asset's past performance, scheduling and tracking work to establish a centralized maintenance history and improve service delivery data collection.

Operational Activities: affect service levels by determining day to day servicing of the buildings. These activities determine facility quality, life of equipment, etc.

The Municipality will operate and maintain assets to the desired level of service identified above. These activities will be within approved budgets. Strategies being considered include:

- Annual inspections to determine up to date condition status, maintenance and planned renewals for incorporation into the annual Budget.
- Scheduling maintenance activities in a priority sequence to ensure that the highest risk assets are addressed before lower risk assets.
- Maintaining the Asset Inventory Registry.
- Maintaining service risk and mitigation strategy database.
- Undertaking capital activities through a planned replacement and renewal system**.**

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6.9 Renewal & Replacement Plan

The Municipality will undertake renewal and replacement activities to maintain desired levels of service and minimize infrastructure related risks. The following Figure 6.10 criteria will act as McDougall's guide to determining whether major work on an asset should be considered.

Figure 6.10: Capital Planning Tool

Criteria	Weighting
High consequence of failure	20%
High utilization	20%
Identified in critical asset hierarchy	15%
Total value represents the highest net value to Municipality	10%
Has highest age relative to assets in group	10%
Has high operational or maintenance costs	10%
Replacement cost is less than maintenance and/or operating cost	10%
Where replacement with modern equivalent asset would yield material savings	5%
Total	**100%**

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6.10 Disposal Plan

Disposal includes any activity associated with removing a decommissioned asset from the Municipality. These activities include sale, demolition or relocation to another department. The following procedures are followed by the Municipality when disposing of assets.

Surplus capital assets will be disposed of in the following manner:

- Disposals will be authorized by C.A.O and Management Staff
- Competitive bid process through a Request for Quotations
- Public auction

Invitations to bid on capital assets offered for sale by the municipality will be:

- posted on the municipality's website for at least 14 days before the closing date of the invitation to bid
- published in at least one edition of the local newspapers

6.11 Procurement Methods

The Municipality will refer to its internal Procurement Policy (By-Law 2007-09) and Tender Policy (By-Law 2007-10) when purchasing new assets. McDougall will endeavor to where possible follow sustainable purchasing strategies and consider costs based on the lifecycle of the asset.

6.12 Risks Involved with the Plan

Optimal Capital Funding vs. Budgeted Capital Funding

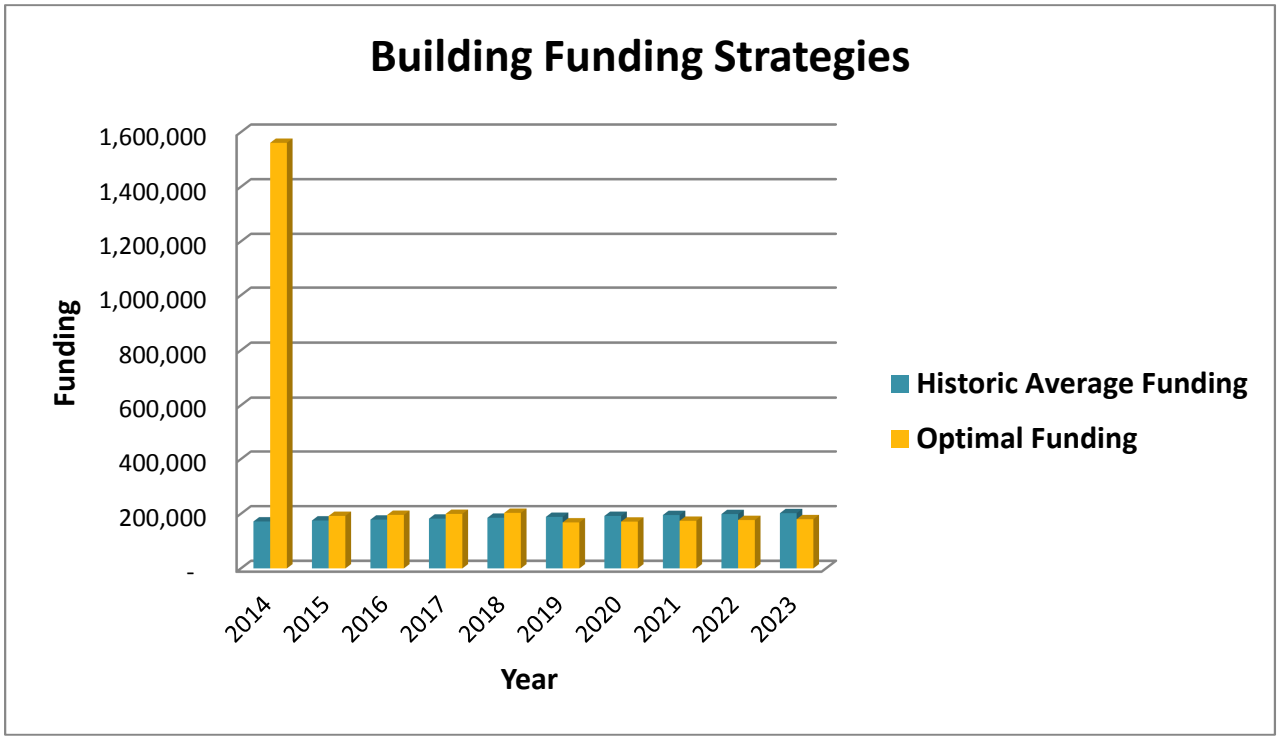
The Municipality has adopted this Asset Management Plan to obtain efficiency in operation. The decision to pursue the Plan was based on the following two scenarios in Figure 6.11.

Scenario 1: Optimal funding for capital renewals, maintenance and operation activities required by the building assets over the next 10 years is $3,221,779 this figure is inflated by 2% annually. Renewals and replacements include approximately $1,307,000 (Administration Office replacement) and $183,380 of general renewals over the next 10 years in addition to operation expense. No contributions to the reserve are included in Scenario 1.

Scenario 2: Over the last three years the Municipality spent an annual total of $505,326 operating, maintaining and renewing the buildings (excluding expansion activities). Based on this average, McDougall projects an annual average budget $186,971. This budget provides sufficient funding to rehabilitate assets that require work in the coming years. The scenario does not allow for any expansion or building replacement when asset lives are exceeded. This funding shortfall will leave the

Administration Office (useful life of 50 years, exceeded in 2005) open to rapid deterioration and potential liability. No contributions to the reserve are included in Scenario 2.

Figure 6.11: Optimal vs. Budgeted Funding Strategies



What McDougall Cannot Do

The Municipality is able to rehabilitate assets that require work in the coming years; however it cannot financially meet the backlogged need for a new Administration Office (Scenario 2). The Administration Office exceeded its 50 year life in 2005 and will cost approximately $1,307,000 to replace. McDougall will continue the Administration Office's Health & Safety monitoring and maintenance programs. It will also consult with Engineers about life expectancy projections, possible extensions and building alternatives. Plans are in place to renovate the Administration building to be accessible to all residents.

Service Consequences

Consequences occur when the Municipality decides not to undertake asset lifecycle activities after considering the strategies above. These consequences may impact users' service experience and are explored in Figure 6.12.

Figure 6.12: Service Consequences & Mitigation

Action	Consequence	Mitigation Strategy
Critical assets will be maintained to higher standards than low risk assets.	o Increase in minor repair billings. o Stress on resources. o Reactive maintenance. o Increase in customer complaints.	o Regular inspections of minor assets.
Buildings will continue to deteriorate and will only be repaired if a breakage occurs.	o Increase in breakages. o Service interruption. o Safety risk to Public.	o Routine, scheduled preventative maintenance on minor assets in poor condition and intensive monitoring.

FINANCING STRATEGY

This section contains the financial requirements of the Asset Management Plan discussed in the previous sections. For data confidence information see Appendix 3.0.

6.13 Ten year Building Expenditure Projections

The optimal expenditure forecast for the next 10 years is shown in Figure 6.13. It includes projections for operating, renewal, and maintenance activities. Note that all costs are shown with 2% annual inflation on 2010 - 2012 values.

The total renewal and maintenance expenditure excluding asset replacement is $542,310 or $208 per McDougall household over the next 10 years. With replacement of the Administration Office the total is $1,912,316 or $734 per household. Note neither of these totals includes operating expense which is projected to be between $120,000 and $150,000 annually.

For comparative purposes Figure 6.14 shows building expenditures from 2010 to 2012. Note that all costs are shown without inflation.

Figure 6.13: Projected Operating & Capital Expenditure

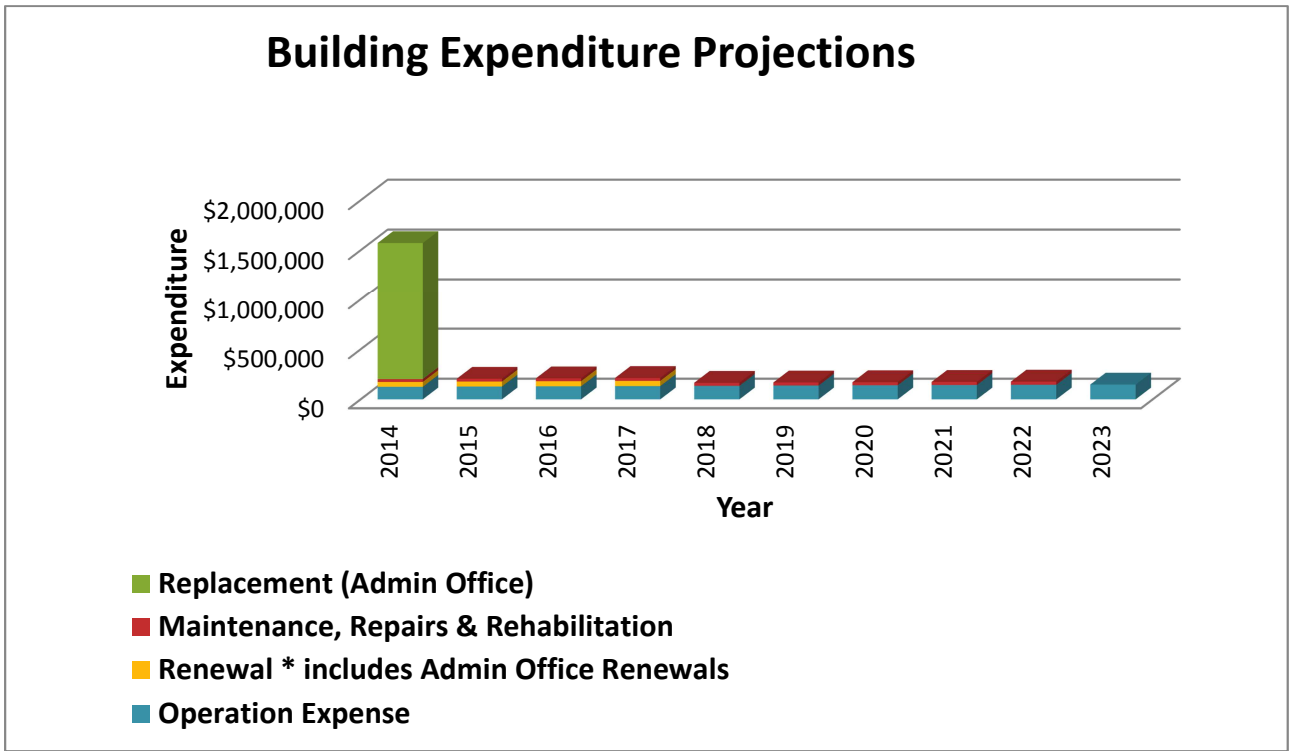
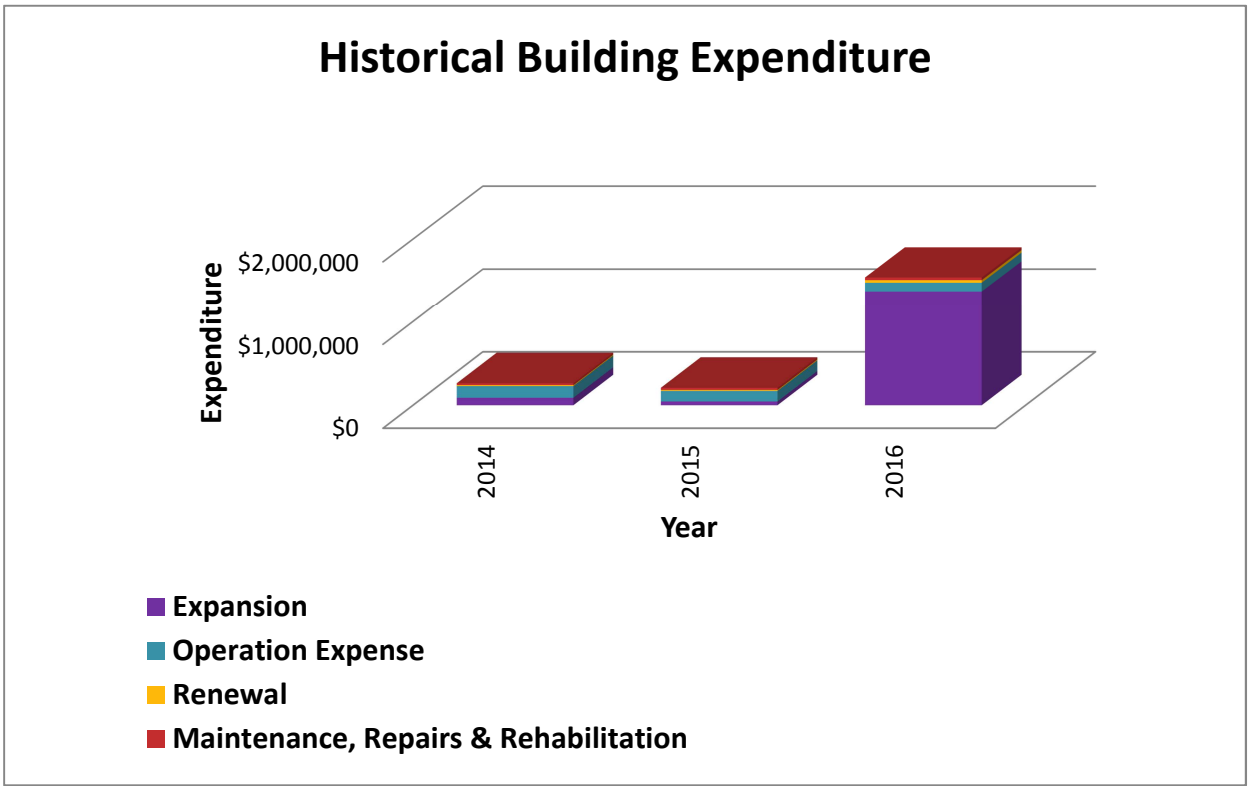


Figure 6.14: Historical Building Expenditures



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The Municipality will not continue its expansion activities into the next 10 years. Instead McDougall will focus on renewing buildings. Efforts will also be undertaken to gauge a better understanding of building life expectancy and extension activities.

In the past the Municipality has not invested in reserves for buildings. Looking at future projections reserve contributions are necessary to maintain service delivery standards in the future and provide building replacements.

6.14 Building Funding Projections

The optimal funding forecast for the next 10 years is shown in Figure 6.15. Funding requirements cover all renewal, replacement, maintenance, and operating expenses. Buildings are an integral part of the Municipality however they do not generate significant direct revenues and are dependent on the net levy that is shared between multiple departments. All revenue allocated to buildings has been used to cover expenses. Note that projected revenues are shown with 2% annual inflation on 2010-2012 average values.

For comparative purposes Figure 6.16 shows net levy funds allocated to building activities including expansion from 2010 – 2012. Note that all revenues are shown without inflation.

Figure 6.15: Building Funding Projections

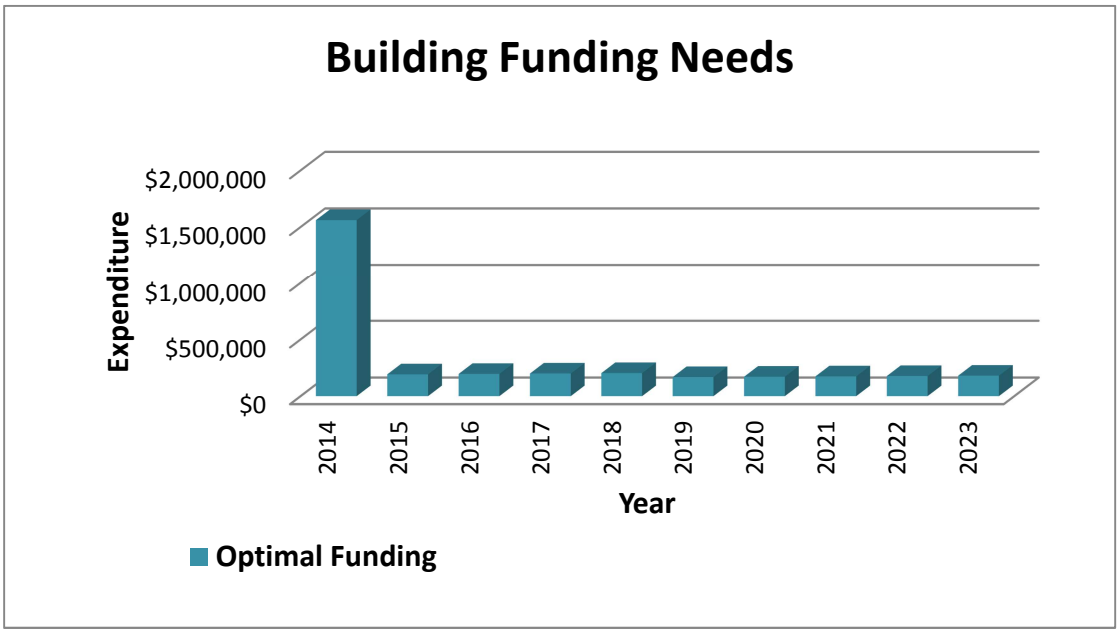
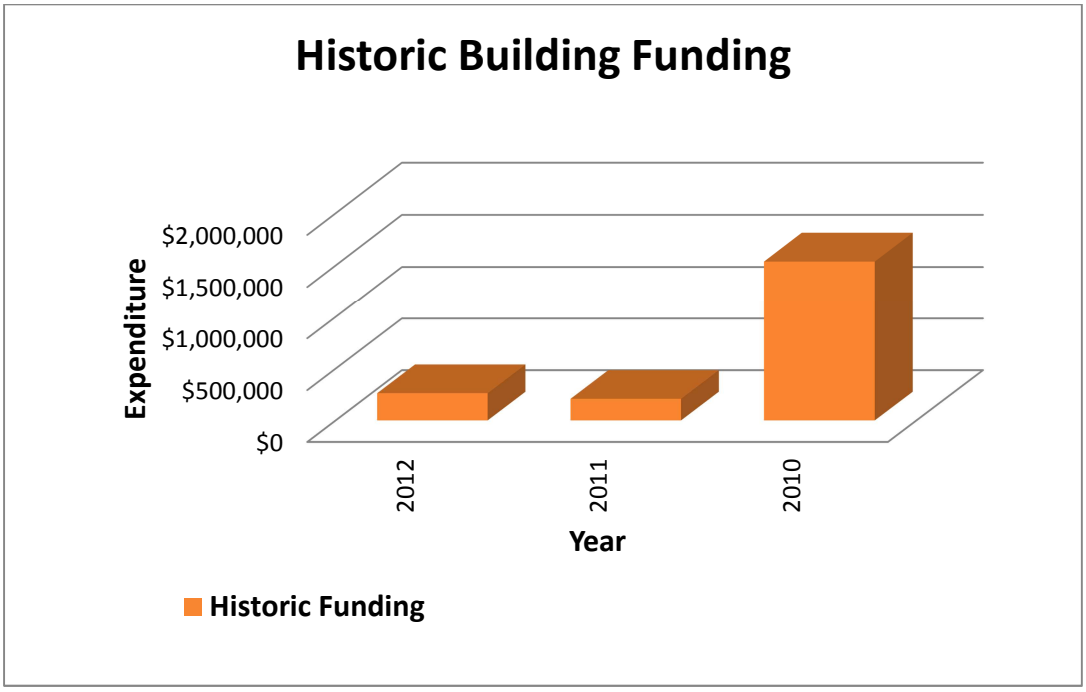


Figure 6.16: Historic Building Funding



6.15 Sustainability of Service Delivery

The key indicator for service delivery sustainability that has been considered in the financing of the building Asset Management Plan is the asset renewal funding ratio. This ratio is the most important indicator. It reveals how much of the capital renewals the Municipality will be able finance and how big the infrastructure gap is.

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio 61%

The ratio above indicates that all renewals are not fully funded for the next 10 years with the Asset Management Plan in place. The infrastructure gap is 39% wide and is attributable to the Administration Office's need for replacement.

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APPENDIX
1.0 CONDITION ASSESSMENT CRITERIA

Condition		
A	**Excellent:** no noticeable defects, some aging or wear may be visible. Immediate action is not required.	Normal PM
B	**Good:** Only minor deterioration or defects are evident. Immediate action is not required.	Normal PM + Minor M.
C	**Fair:** Some deterioration or defects are visible; function is still adequate. Analysis of repair and/or replacement options is recommended.	Normal PM + Major M.
D	**Critical:** Extensive deterioration, barely functional. Immediate action required.	Major Repair + Rehab.
F	**Failed:** No longer functioning. Immediate action required	Rehab. Unlikely = Replace

2.0 LEVELS OF SERVICE CRITERIA

Current Levels of Service

The service levels in this plan are defined by two overarching performance measures: community and operational. These performance measures will enable McDougall to track its progress against targeted outcomes and use those results to improve the Municipality's service delivery.

Community Levels of Service:

Community levels of service indicate how the community perceives the service and determines whether or not the service is valuable to the public.

These performance measures include:

Purpose: Does the service satisfy users' needs?

Reliability: Does the service have the capability to maintain its functions on a routine basis?

Safety: Are the users protected from potential risks associated with the service?

Quality: Does the service fulfill its purpose to a high degree of excellence?

Capacity: Is the service at, under or over its capacity?

Operational Levels of Service

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Operational levels of service are the technical activities that bring community levels of service into action. They include resource allocations to create and maintain service levels that users expect and value.

These activities affect the annual operating budget as the following performance measures:

Operations: routine activities that provide the service.

Maintenance: routine activities that keep the infrastructure functioning at the desired level of service.

Renewal: non-routine activities that extend the useful life of an infrastructure asset at the desired level of service.

Upgrade: non-routine activities that raise the level of service that the infrastructure can provide.

3.0 DATA CONFIDENCE

Confidence Grade	Description
A Very Reliable	Data is complete and estimated to be accurate ± 2%.
B Reliable	Data is complete and estimated to be accurate ± 10%.
C Uncertain	Data is substantially complete but up to 50 % is extrapolated and estimated to be accurate ± 25%.
D Very Uncertain	Data is over 50% incomplete; most data is extrapolated or estimated. Accuracy is estimated between ± 40%.
E Unknown	Little to no data is available at present.

Data	Confidence Assessment	Source
Operation Expenditure	A	Based on actual spending records. Consideration given to historical records.
Maintenance Expenditure	A	Based on actual spending records. Consideration given to historical records.
Projected Renewals	B	Taken from Asset Registry, Municipal Building Staff recommendations and industry standards.
Asset Useful Lives	B	Based on Municipal Building Staff recommendations and industry standards.

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4.0 FUNDING SCENARIOS – HISTORIC VS. OPTIMAL

Building Financing	Scenario One - Optimal Funding										
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
REVENUE											
Optimal Annual Building Budget	1,560,847	192,071	195,764	199,458	203,152	168,094	171,096	174,098	177,098	180,100	183,102
Reserve Draw Down											
TOTAL REVENUE	**1,560,847**	**192,071**	**195,764**	**199,458**	**203,152**	**168,094**	**171,096**	**174,098**	**177,098**	**180,100**	**183,102**
OPERATION EXPENSE											
Operation Expense	128,416	128,416	130,886	133,355	135,825	138,294	140,764	143,233	145,703	148,172	150,642
Debt Repayment - Development Charge											
CAPITAL EXPENSE											
Renewal	35,292	35,984	36,676	37,368	38,060	-	-	-	-	-	-
Replacement (Admin Office)	1,370,000										
Maintenance, Repairs & Rehabilitation	27,139	27,671	28,203	28,735	29,268	29,800	30,332	30,864	31,396	31,928	32,460
Non Infrastructure Solutions											
Disposal Activities											
Expansion Activities											
RESERVE BULIDING											
Asset Replacement Reserve Contribution											
Calculated Contribution											
Contribution Smoothing %											
Contribution Smoothing $											
Contributed Reserve											
TOTAL EXPENSE	**1,560,847**	**192,071**	**195,765**	**199,459**	**203,152**	**168,094**	**171,096**	**174,097**	**177,099**	**180,101**	**183,102**
NET INCOME (deficit)	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

*** All figures shown in CAD $**
****Inflation assumption is 2 %**
***** Forecasted revenues & expenditures based on 2010 -2013 average spending**

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Scenario Two – Historic Average Funding											
Building Financing	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
REVENUE											
Average Annual Building Budget	171,811	175,180	178,548	181,917	185,286	188,655	192,024	195,393	198,761	202,130	205,499
Reserve Draw Down											
TOTAL REVENUE	**171,811**	**175,180**	**178,548**	**181,917**	**185,286**	**188,655**	**192,024**	**195,393**	**198,761**	**202,130**	**205,499**
OPERATION EXPENSE											
Operation Expense	125,947	128,416	130,886	133,355	135,825	138,294	140,764	143,233	145,703	148,172	150,642
Debt Repayment - Development Charge											
CAPITAL EXPENSE											
Renewal (includes Admin. Office)	47,532	48,464	49,396	50,328	51,260	-	-	-	-	-	-
Replacement (Admin Office)	1,370,000										
Maintenance, Repairs & Rehabilitation	27,139	27,671	28,203	28,735	29,268	29,800	30,332	30,864	31,396	31,928	32,460
Non Infrastructure Solutions											
Disposal Activities											
Expansion Activities											
RESERVE BULIDING											
Asset Replacement Reserve Contribution											
Calculated Contribution											
Contribution Smoothing %											
Contribution Smoothing $											

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Contributed Reserve											
TOTAL EXPENSE	**1,570,618**	**204,551**	**208,485**	**212,419**	**216,352**	**168,094**	**171,096**	**174,097**	**177,099**	**180,101**	**183,102**
NET INCOME (deficit)	**(1,398,807)**	**(29,372)**	**(29,936)**	**(30,501)**	**(31,066)**	**20,561**	**20,928**	**21,295**	**21,663**	**22,030**	**22,397**

*** All figures shown in CAD $ **Inflation assumption is 2 %**

***** Forecasted revenues & expenditures based on 2010 -2013 average spending**

5.0 PROJECTED 10 YEAR CAPITAL RENEWAL & REPLACEMENT PROGRAM

Asset Component	Useful Life	Life Remaining	2019 Renewals	2024 Renewals
Ferguson Fire Hall repairs	50	24%	$ 25,000.00	
McDougall Fire Hall repairs	50	46%	$ 30,000.00	
McDougall Rec. Centre repairs	60	95%	$15,000.00	
Nobel Beach House repairs	60	95%	$ 1,000.00	
Waubamik Hall repairs	50	74%	$ 25,000.00	
Administration Office repairs	50	-16%	$ 60,000.00	
Administration Storage Building repairs	30	-93%	$ 40,000.00	
Public Works Building repairs	50	94%	$ 15,000.00	
Sand/Salt Shed repairs	50	66%	$ 2,000.00	

Transfer Station Shed repairs	30	87%	$ 20,000.00	
		Total Program	***$ 173,000.00***	***$ 0.00***