



# Municipality of Tweed Document Digitization Report

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## Limitations of Our Work

The work conducted as part of this engagement with the Municipality of Tweed was advisory in nature and did not constitute an assurance engagement following Generally Accepted Auditing Standards (GAAS) or a fraud investigation or a forensic review. The findings and results of our engagement are based on the information shared by the Municipality of Tweed. We did not independently verify or audit the completeness and accuracy of information provided by the Municipality of Tweed as part of the engagement. We acknowledge that an alternative service provider with different resources performing a review at a different point in time may have different results.

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## Executive Summary

Using funding from the Ontario Municipal Modernization Program, the Municipality of Tweed (or the “Municipality”) has decided to modernize their current records management processes through automation, optimization, and digitization of their records. Currently the Municipality’s processes are primarily paper based, manual, and aren’t standardized across all departments. The Municipality has also noted that their records retention policy has not been updated since 2002 and several other policies have not been updated since 2006.

The Municipality engaged MNP to conduct a third-party review of their current retention by-laws and filing strategies. The Municipality’s departments involved with this assessment included: Corporate Services and Administration, Treasury, Public Works, Community Development and Recreation, Fire Department, Tax Services and By-Law Council. To better understand the current records management processes and identify opportunities to increase efficiency, decrease long term costs, and identify opportunities for document digitization, MNP utilized the information lifecycle management framework for their assessment. This assessment set out to examine and understand the Municipality’s records management process through the following 5 key stages:

- A. Collection, Creation, or Receipt of Record
- B. Organization and Classification
- C. Storage
- D. Retrieval and Dissemination
- E. Disposition and Destruction

Through this assessment, MNP identified 16 pain points and challenges related to the current records management processes. MNP also identified 8 opportunities for improvement that could address the identified pain points while also resulting in long term cost savings. These opportunities for improvement are listed at a high level below and represent initiatives to drive short and medium benefits:

- 1. Multi-year technology strategy
- 2. Infrastructure investment
- 3. Change management plan
- 4. Records management modernization plan
- 5. CGSB Standards
- 6. Standardized classification schema
- 7. Business continuity and disaster recovery
- 8. Develop and implement document digitization strategy

MNP anticipates that if the above opportunities are implemented by the Municipality, there is a high probability of an increase in 7-10 % operating efficiency resulting in annualized savings of \$35-\$45 K in the first 3 months. After the first year, when it is expected that all 8 of MNP’s recommendations have been implemented, operational productivity may increase by 12-16% and the annualized saving could be between \$56-\$72 K. If the Municipality continues a long term and continuous improvement digitization strategy, MNP expects that operational efficiency could be improved up to 15-20% which could result in annualized savings between \$70-90K. The Municipality would be able to more readily take full advantage of a digital environment allowing centralization and workflow automation and easier collaboration both internally and externally beyond organizational boundaries. MNP expects these initiatives to enable the Municipality to demonstrate a modernized cost effective and citizen-centric service.

## 1. Introduction

The Municipal Modernization Program, delivered through the Ministry of Municipal Affairs and Housing, was first issued in March 2019 to provide funding to 405 small and rural municipalities in Ontario. The goal of the program is to aid municipalities with expenditures to find service delivery efficiencies and lower costs in the long term. An additional application-focused program was released in November 2019 and approved in March 2020 to help fund the implementation phase of municipal modernization initiatives. Now that this program is available, the Municipality of Tweed (or the “Municipality”), an amalgamated municipality located in central-eastern Ontario in Hastings County would like to leverage this program to modernize the Municipality’s filing strategies and records management systems which is currently mostly paper based, manual, and out-dated. The Municipality is seeking to identify opportunities for document digitization, cost savings, and to create efficiencies in their records management systems and the related operational processes.

The Municipality, using funding from the provincial program, has engaged MNP (“us” or “we”) to conduct a third-party review of their current retention by-laws and filing strategies to move to a more digital and automated approach while also identifying areas that when modernized will lead to efficiencies and cost effective operations.

As a third-party reviewer, our objectives were to:

- ▶ Identify options for digitizing documents and standardizing filing systems across the various municipal departments
- ▶ Identify opportunities to improve efficiencies of the Municipality’s filing processes
- ▶ Identify long term cost savings in filing processes

Our assessment conducted between June and August 2020 was focused on examining the Municipality’s current state filing activities and retention by–laws. Our approach is presented in detail under Appendix A, Approach. The findings and recommendations presented within this report, can be used by the Municipality to develop and action a modernization program that addresses operational pain points and opportunities for improvement while also reducing risk of data loss and increased control while costs to operate are optimized.

## 2. What we found

For organizations to have efficient, effective operations, staff need to be able to access data and information reliably and in a timely manner. Oftentimes, this involves a centralized, easy to access, and easily searchable records inventory. The inventory enabled by the records management technology should provide access to digitized data, reports, and documentation necessary to effectively enable regular operations. Currently the Municipality is lacking a central electronic record filing system, as well as the technology to convert hard copies to digital records while meeting requirements for admissibility as legal evidence<sup>1</sup> (CAN/CGSB 72.34-2005). There are also limitations on the ability to search, index and retrieve these records efficiently and effectively. Additionally, the related processes lack automation, consistency, and have not been updated since they were first introduced. An outdated process means it is likely no longer usable or suitable for the purpose it was initially made for. These aspects of the current state are causing operational pain points at all stages of the Municipality’s records information lifecycle. A more detailed description of what each of the records information lifecycle stages are can be found in Appendix A – Our Approach.

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<sup>1</sup> CAN/CGSB 72.34-2005

## 2.1 Records Information Life Cycle Wide Pain Points

During the consultations conducted, we observed that there were several pain points that appeared across all stages of the records information life cycle and we refer to these as “life cycle wide pain points”.

As outlined in Appendix A, the records information life cycle can be depicted below:



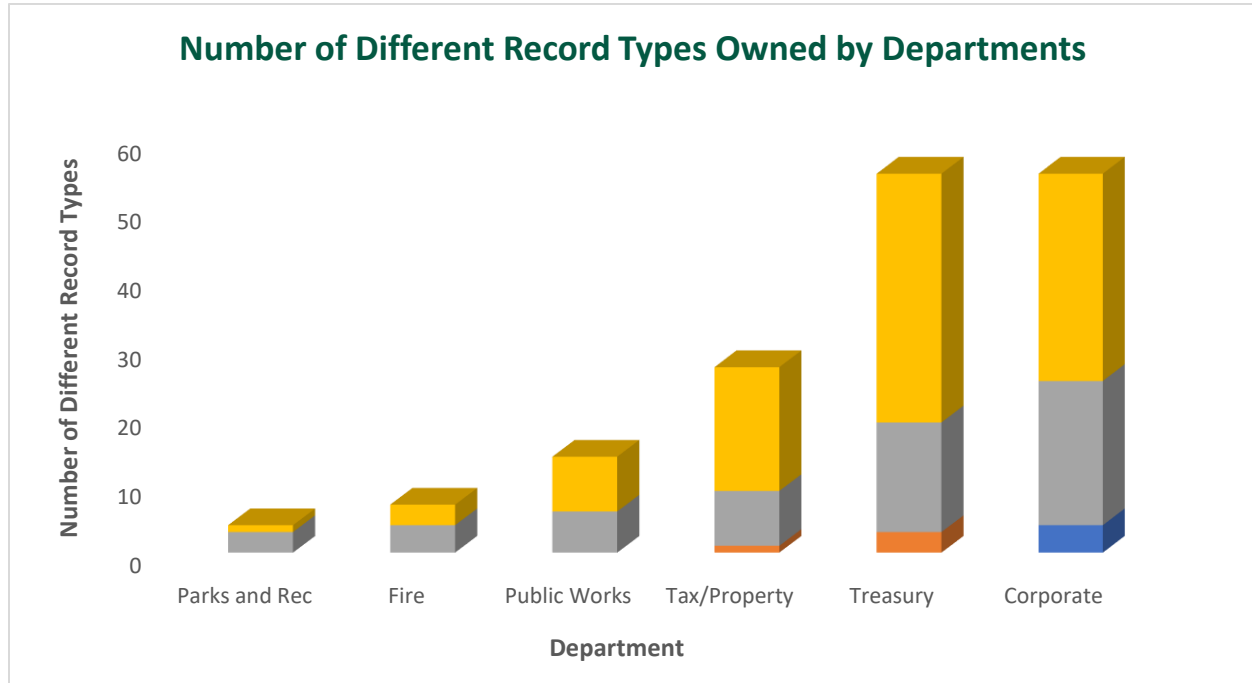
In this section, we discuss the following pain points that span the entire information lifecycle:

- ▶ Current records management processes are heavily paper based
- ▶ Lack of standardization of records management across departments
- ▶ Lack of formalized records management policies and procedures

### Current records management processes are heavily paper based

We found that the municipality currently has 11 different storage locations and 60 different record types (by-law, zoning, amendments, etc.), with most documents are stored in hard copy.

**Exhibit 1**



#### **Legend:**

- Hard copy
- Digitized with legal substance
- Digitized without legal substance
- Electronic

Exhibit 1 displays the total number of record types by each department showing the number of documents in each category (state that the records were stored as). It was observed that the only department that currently digitizes records that may be used in a court of law (legal proceedings) is the Corporate Services and Administration department. The chart also shows that most departments currently store most of their records as hard copies, and very few records are digitized. The corporate services and the treasury departments were identified as the 2 departments with most records stored as a hard copy.

There are several instances where reliance on hard copy records storage leads to is causing operational pain points for the Municipality. The main pain point reported regarding the heavy reliance on hard copy records is the time-consuming nature of manually generating, utilizing, searching for, and retrieving hard copies. Some various examples of hard copy-based processing and records include the use of income tax receipts, timesheets, fire log reports, and the municipal facility booking systems. All these records are executed through hard copy-based intake, processing, utilization, storage, and document retrieval and we were told each of these processes is very time consuming. Additional pain points due to reliance on hard copy records are elaborated on throughout section 2.1.

### Lack of standardization of records management across departments

It was noted that several of the records management and storage processes have not been standardized across the departments. Employees have versions of files on their individual drives and use their own developed practices and methods to store documents. This causes operational pain points such as inefficiencies when other employees are trying to access these records, delays in retrieval, version controls issues, and the risk of losing valuable documentation.

### Lack of formalized records management policies and procedures

Aside from a retention policy, there are no defined records management policies or procedures. Currently there is no direction provided to guide records storage efforts which causes staff to encounter difficulties keeping track of information since they are developing their own individual practices for records storage. Staff currently develop their own classification schemes, which causes inefficiencies for record retrieval and collection across departments when other staff members attempt to search and retrieve those records. Without any defined policies or procedures for records management, it also becomes very difficult to identify what records are outdated and/or have outlived their usefulness. Lastly, it was noted that there is no procedure to identify records that have reached the end of their lifecycle and no longer need to be retained. The retention of these documents leads to excessive, unnecessary, and redundant storage of records.

## 2.2 Records Information Life Cycle Stages Pain Points

The following section outlines various pain points that appear throughout the lifecycle, but that are specific to each stage.



### 1. Collection, Creation, or Receipt

During this stage of the lifecycle, records are first created, collected, or received in several ways. We noted these specific pain points relevant to this first stage:

- ▶ Inefficient records intake channels and processes
- ▶ Redundant records generation

#### Inefficient records intake channels and processes

We understand that the municipality's processes to engage the community are almost entirely paper-based. This means that the information once collected must be transposed into electronic systems or worse yet, other hard-copy and manual processes. At each transposition there is a higher risk of creating errors, omissions and increase data redundancy (or "data smog"<sup>2</sup>). As an example, the Fire Department, only two computers have the Fire Pro application that tracks their incident records. Notes are handwritten and re-keyed into the Fire Pro application when the main users are not at their workstations. This causes inefficiencies, keying errors, delays to records generation, and duplication of efforts across the department due to the lack of proper infrastructure available for all staff.

Another example is when income tax receipts from donations come in the form of cheques, which are photocopied to process later. There is often not enough or too much information stored in either the

<sup>2</sup> "Data smog" is an overwhelming excess of information that makes finding the "right" information difficult



hard copy receipts or the captured photocopies. This causes inefficiencies and additional effort for the tax department to retrieve the required information.

### Redundant records generation

We heard of instances where documents may be received in electronic form, only to be printed and stored as hard copies. This leads to extra effort for a largely redundant storage of records (again increasing data smog) and it also is harder to search and locate since only manual inspection of the hard copies is possible when looking for information, which is very time consuming. The increased redundancy also introduces the risk of not knowing which record or form is to be relied upon (is authoritative) when required for retrieval. Since people are not sure when and how they can locate information they need, we understand that most employees create their own filing systems and approaches to preserve what they consider is important. An example of this occurs when the Municipality receives electronic invoices. The current process is that the invoices are printed and stored as hard copies in addition to storage of the electronic versions received. Another example occurs in the process used for energy reporting to the province. We noted that within this process there are cases where emails and invoices are printed, and they are kept as hard copies with no apparent limit for the volume that are being stored in this manner.



## 2. Organization and Classification

During this stage of the lifecycle, records are then organized and classified. The pain point reported below is relevant to this second stage:

- ▶ No formalized or standardized classification schema

### No formalized or standardized classification schema

It was noted that there is no standardized classification schema used for the storage of records, with several examples of employees developing and utilizing ad-hoc, largely manual driven solutions to organizing their records. Without standardization across departments for classification and retrieval of records, particularly when records need to be retrieved across departments, the retrieval process becomes labour intensive, time consuming, and overall inefficient.



## 3. Storage

During this stage of the lifecycle, records are stored depending on retention requirements and the classification schema. The pain points reported below are relevant to this third stage:

- ▶ No policies and procedures for business continuity and disaster recovery planning
- ▶ Insufficient storage capacity for digitized records

- ▶ Risk of damage to hard copy records
- ▶ Storage of record duplicates

### **No policies and procedures for business continuity and disaster recovery planning**

Currently there are no policies/ procedures for business continuity and disaster recovery planning with regards to the retrieval of records in the case of a natural or human-induced disaster. The IT department does have a procedure in place to ensure regular and consistent backups of electronic files, however the procedure is not documented and does not satisfy the need for formal business continuity and disaster recovery planning. For policies and procedures to be effective they need to be well documented, updated, enforced, and communicated. If the municipality encounters a disaster, there should be policies and procedures in place to ensure that all their data and documentation is backed up and retrievable. Without relevant policies, procedures, and supporting architecture in place, there is a risk that the municipality would lose valuable data/information with no way to recover that data and ongoing operations may be significantly disrupted.

### **Insufficient storage capacity for digitized records**

We heard that within the Tax department, the accounting software is at capacity in terms of the amount of data that they have stored. Staff must manually complete database repairs and compaction frequently to maintain the records storage. The system crashes often due to storage being overloaded, which risks the loss of data in the accounting software. The lack of supporting IT infrastructure for storage is a concern not just due to the risk to loss of data but when storage capacity is reached, oftentimes systems are not able to run efficiently, leading to processing delays for the retrieval of data.

### **Risk of damage to hard copy records**

Records rooms located in the basement of the Municipality's main operations building are not climate controlled and there are common occurrences of flooding, which could risk damaging records. This could lead to potential loss of valuable data.

### **Storage of record duplicates**

We heard of instances where the same records are stored in multiple places in multiple forms. This leads to redundant efforts for the storage of records and confusion in identifying original copies. An example of this pain point was observed in the email storage process where emails were printed and stored in different files. Another example noted was with water meter entries, which are manually retrieved, entered into the system, and then printed as a hard copy to be stored in multiple forms. It was also reported that energy reporting is usually photocopied and stored in multiple forms across multiple locations.



## **4. Retrieval/Dissemination**

During this phase of the information lifecycle, records are retrieved and disseminated to be used for operational purposes. The pain points reported below are relevant to this fourth stage:

- ▶ Retrieval of hard copy records stored across many records rooms
- ▶ Dissemination and communication of Municipal policy documents

### Retrieval of hard copy records stored across many records rooms

During our workshop we observed that multiple records are scattered across different storage spaces in different offices with no clear way to identify specific records that exist in each records room. Without a standardized classification schema as noted in pain point 6 and 7 above, the retrieval process becomes very labour intensive and time consuming.

### Dissemination and communication of Municipal policy documents

The municipality's policies are stored in hard copy as a binder in multiple locations and several policies have not been updated since 2006. It was noted that some policies have been updated, with new policies added regarding the pandemic payroll policy, as well as the COVID water/sewer relief policy. For policies to be effective they need to be well documented, updated, enforced, and communicated. With the policies being stored only as a large hard copy binder, they may not be effectively communicated since it's more difficult for staff to locate them when compared to an online repository.



## 5. Disposition/Destruction

During this phase of the information lifecycle, records are then either retired and moved to an archive or they are destroyed depending on both the retention requirements and potential future use of the records. The pain point reported below are relevant to this fifth stage:

- ▶ Lack of clear records retention and archive policies and procedures

### Lack of clear records retention and archive policies and procedures

Very few records are disposed, and certain records are maintained in hard copy and electronic forms longer than required according to the retention schedules. It was also noted that there is no procedure in place to dispose of or retire records once they reach the end of their retention period. This process, or lack thereof, causes staff to spend more time searching for and retrieving records as there are greater volumes to search through. It also leads to lack of available physical and electronic storage space given the excessive storage of records. Lastly, it was noted that there is no formal procedure to identify the records that have reach the end of their lifecycle and no longer need to be retained, which leads to excessive, unnecessary, and redundant storage of records.

## 2.3 Current State – Cost Analysis

During our assessment, we completed a cost analysis of the current document management processes across the information management lifecycle stages. Estimated costs developed with the Municipality have been grouped into the following two categories:

- ▶ **Direct costs:** Includes the costs that can be directly tied to the information lifecycle, including costs for paper, printing, storage, shredding and scanning.
- ▶ **Indirect costs:** Based on the time/effort that staff allocate towards the information records lifecycle activities. The average time allocated by each department to the activities has been quantified to a

dollar value based on an estimate of the hourly wages (provided by the CAO/ Treasurer) for each department.

Based on the total direct and indirect costs calculated the total estimated cost allocated towards the current records management process was calculated to be around \$500,000 annually. The cost analysis concluded that over 90% of the current costs are labour costs related to the time spent on current records management processes. Given that the Municipality's current approach to records management is largely hard copy-based and heavily reliant on manual, ad-hoc processes, and given the several related operational pain points causing labour inefficiencies, the current cost of records management is largely due to associate labour costs, as shown in table 1. below.

**Table 1. Cost Analysis Table estimating Combined Direct and Indirect Costs for the Information Lifecycle**

Cost Estimation Table					
	Information Lifecycle Activities				
	1. Collection, Creation, or Receipt of records	2. Organization and Classification of records	3. Storage	4. Retrieval and Dissemination	5. Disposition & Destruction
Annualized averages					
Direct Cost (\$)	17,834	8,555	10,192	15,253	946
Time and effort (hrs)	4,104	2,232	3,298	3472	289
Time and effort (\$)	133,117	72,330	115,449	116,970	8,456
Total Direct & Indirect Costs	150,953	80,886	125,641	132,223	9,402

Please note that the cost information was rounded to the nearest 10 dollars and additional cost details and assumptions taken can be found in **Appendix D**.

## 2.4 Key Dependencies in the Pursuit of Records Management Modernization

Given the operational pain points and the associated high % labour costs for records management, the Municipality has recognized the need for change and modernization. However, there are several core dependencies that must be considered for addressing while planning for and implementing the records modernization program.

### Poor Internet Connectivity

The Municipality has recognized that part of an effective records management modernization is a focus on digitization of records, as well as the implementation of a supporting information technology system for records management. Such a system can drastically reduce manual efforts in document processing throughout the records information life cycle and thereby reduce ongoing associate labour costs. However, the Municipality is currently experiencing pain points related to its current IT infrastructure that must be addressed prior to the pursuit of additional technology to support a records management modernization effort.

Namely, there is poor internet connectivity in the Municipality's main office. Symptoms of the poor internet connections include frequent network down times and software crashing. Software crashes due to network connectivity increase the risk of loss of information. In addition to these current operational pain points and risks, many modern records management IT system solutions are cloud-based and therefore rely upon a sufficient and reliable internet connectivity to operate effectively. Without the appropriate network capacity, speed, and reliability, it would be difficult for the Municipality to reasonably pursue one of these options and expect it to operate effectively. Even if a cloud-based

solution was not pursued, poor internet connectivity is still likely to have impacts to any on-premise solution.

### **Records Management Requirements**

The Municipality also has a retention by-law and several internal policies which must be adhered to within whatever document management system is developed. The requirements from this by-law and the policies for documentation retention are as follows:

- 1) By-Laws and policies must be approved and signed using ink signature and be kept as a hard copy indefinitely
- 2) Marriage and death records are retained in a ledger indefinitely
- 3) Tax certificates need to be kept for 7 years
- 4) Timesheets need to be signed off by managers, and stored for an appropriate time period so that external auditors can review them
- 5) With respect to the Fire Department, all data logs for report incidents are stored for an appropriate time period. The fire chief would need to retain this evidence for possible use in court
- 6) Physical Signatures are needed to sign off on monthly water sampling report that's created
- 7) A certified copy of by-laws needs to be made with an indent stamp of the municipal logo once complete and stored permanently.

As the Municipality pursues and ultimately implements its modern records management program, they will need to either:

- a) Align to the by-law requirements and policies or
- b) Consider updating these retention related requirements to align to the modern capabilities to be pursued.

### 3. Recommended Opportunities to Improve

In order to prepare for the development, implementation, and operationalization of a records management modernization program, that includes a supporting IT records management system, there are several opportunities for improvement that the Municipality should action. These opportunity areas are presented as follows in the table below. Where applicable, examples are provided of items we heard of during our consultations and our suggestions that would be suitable to action as part of the opportunities described. Within some of the opportunities we have also highlighted where improvements are dependent on actioning before or alongside other opportunity areas. Lastly, we have outlined the expected benefits the Municipality should expect to receive if they action any of the opportunities.

Opportunity for Improvement	Examples Items to Action	Expected Savings and Benefits
<p><b>1. Multi-year technology strategy:</b> The Municipality's goal of modernizing their records management processes is highly dependant on identifying and selecting the appropriate information technologies to digitize, classify, store, retrieve, and dispose of/retire records. Beyond simply network connectivity, and central to the modernization program, the Municipality should develop an IT strategy and implementation roadmap with a plan to acquire hardware, software, and network infrastructure that considers taking advantage of cloud-based solutions. However, pain points related to poor internet connectivity and speeds would need to be resolved in advance.</p>	<ul style="list-style-type: none"> <li>▶ Cloud use strategy including risk and performance requirements and vendor/contract considerations</li> <li>▶ Operational applications selection approach and acquisition strategy (focus on data/reporting integration and operational support</li> <li>▶ Office productivity along with records management solutions such as solutions such as SharePoint</li> <li>▶ End user devices (tablets, laptops and desktops and mobile devices)</li> <li>▶ LAN connectivity (wired, wireless and mot-spots)</li> <li>▶ Cloud storage including back-up/recovery and automatic archiving</li> </ul>	<ul style="list-style-type: none"> <li>▶ Reduced down-time and increased end-user productivity with automation and expected increased operational efficiency</li> <li>▶ Improved planning and decision support with near real time tracking of action taking</li> <li>▶ Access to cloud-based computing and SaaS, PaaS and IaaS solutions</li> </ul> <p><b>Dependencies</b> Internet connectivity and lack of supporting IT architecture pain points must be resolved if the Municipality wishes to reasonably pursue a cloud-based records management technology solution.</p>

<p><b>2. Infrastructure investment:</b> One of the main challenges that was repeatedly mentioned during our consultations was that the Municipality currently doesn't have the proper IT infrastructure. To take advantage of many of modern system such as cloud computing and solutions that can be enabled by Software as a Service (SaaS) it is critical that the Municipality have high-speed reliable network connectivity.</p>	<ul style="list-style-type: none"> <li>▶ Internet access</li> <li>▶ Cloud-based solutions for finance (ERP systems)</li> <li>▶ Community portals for online bookings to engage citizens</li> </ul>	<p><b>Dependencies (continued)</b> Need to consider training and possible external support for IT strategy development along with a budget and a long-term investment plan (over 24 months)</p>
<p><b>3. Change management plan:</b> We have been told that currently, Municipal staff largely have developed their own individual practices as related to records organization, classification, and storage. As such, any significant efforts to modernize and change these practices, is likely to represent a significant disruptor to the day to day activities of these staff.</p> <p>To best ensure that the Municipality receives positive results from their records management modernization program and to minimize the negative impacts any significant organizational changes could have on staff, there should be a thorough change management plan developed and documented in advance. While having strategies and plans for the actual records management modernization efforts is significant and important, these strategies and plans assume a perfect adoption, ideal executions, adherence to timelines and budgets, and all roles being able to fulfill their responsibilities. As strategies and plans are executed and become integrated into the daily operations of an organization, the estimations and assumptions built in are often different than reality and there are so many factors that prevent plans from being executed as expected. An effective change management plan considers how to best manage the transition to a new operational state, including how to continually monitor it for success.</p>	<p>An effective change management plan should consider and demonstrate;</p> <ul style="list-style-type: none"> <li>▶ The proposed reasons and benefits of the changes</li> <li>▶ The scope of the changes</li> <li>▶ The stakeholders and resources involved in implementing the changes</li> <li>▶ Milestones, timelines, and costs</li> <li>▶ Communication plan for both internal and external stakeholders</li> <li>▶ Methods and tools to monitor the success of the changes and adoption of the changes</li> </ul>	<ul style="list-style-type: none"> <li>▶ Change management plans allow organizations to remain agile and adapt to challenges over the course of plan execution and change adoption.</li> <li>▶ With a change management plan in place, the municipality will be able to plan and anticipate the effects that changes will have on all departments.</li> </ul> <p><b>Dependencies</b> Any change management plan should be closely integrated with the records management modernization plan to ensure there is appropriate change management coverage over the various modernization initiatives</p>

<p><b>4. Records management modernization plan:</b> Given the number of opportunity for improvement areas that the Municipality should action as part of a records management modernization effort, and given that there are several dependencies amongst pursuing addressing these various areas, the Municipality should develop, formalize, and document a records management modernization plan that captures each of these key initiatives and outlines related implementation plans.</p>	<ul style="list-style-type: none"> <li>▶ Objectives of the modernization effort</li> <li>▶ Thresholds of success and targeted outcomes</li> <li>▶ Identification and pursuit of solution options for records digitization and records management</li> <li>▶ Funding strategies</li> <li>▶ Transformation/Modernization strategy and enablement roadmap that considers all relevant initiatives</li> <li>▶ Detailed implementation plans specific to each initiative that consider key dependencies, timelines, costs, roles and responsibilities, and internal resourcing</li> </ul>	<ul style="list-style-type: none"> <li>▶ A consolidated view of the various initiatives to be pursued as part of the modernization effort, will allow the Municipality to effectively and efficiently manage the scope, dependencies, timelines, and costs associated with each of these initiatives.</li> <li>▶ A plan that adequately forecasts the level of effort for each initiative, will allow the Municipality to properly resource so that ongoing departmental operations are not impacted.</li> </ul> <p><b>Dependencies</b> The records management modernization program should consider plans to fulfill requirements for automation of hard copy-based processes</p> <p>The procurement of a supporting information technology system for records management should be a key component of the modernization plan to be developed</p> <p>A records management modernization program will require a good change management and communication plan.</p>
<p><b>5. CGSB Standards:</b> As noted in the records inventory current state analysis, there are records owned by Corporate Services that are currently digitized with legal substance. The CANADIAN GENERAL STANDARDS BOARD (CGSB), is a government agency that has developed national standards for electronic records as documentary evidence. CGSB standard CGSB-72.34 outlines compliance requirements that need to be followed for electronic records to be considered suitable and sufficient as legal evidence in court proceedings.</p>	<ul style="list-style-type: none"> <li>▶ CGSB-72.34 Compliance Assessment</li> </ul>	<ul style="list-style-type: none"> <li>▶ CGSB compliance may be too costly and unwarranted for all the Municipalities records. The most cost-effective strategy may be to identify records that are likely to be used in a court of law and where there is a risk that the record authenticity can be questioned and to retain hardcopy originals for those record types. There may for this reason also be regulatory requirements and or legal requirements to retain paper originals. These paper records should be minimized to reduce inefficiencies.</li> </ul>



<p>The Municipality may wish to consider, in consultation with their legal advisors, determining whether compliance with CGSB-72.34 should be assessed to ensure that electronic records stored in digitized electronic form may be considered suitable and sufficient as legal evidence in court proceedings. Those records that may be involved in a court of law may be best to remain in a paper hardcopy form and while the can be digitized and stored for easy retrieval and search, the authoritative “original” may need to be stored safely in paper files that are aligned to electronic records using a standardized file system that has pointers to where these files are stored.</p>		<ul style="list-style-type: none"> <li>▶ It should be noted that any document that starts off as electronic that isn’t signed by an individual is likely not a candidate for CGSB 72.34 compliance.</li> </ul> <p><b>Dependencies</b> A standard file system and a data/records classification system should include those records that need to be retained for regulatory requirements and or legal requirements</p>
<p><b>6. Standardized classification schema:</b> We heard that there is a lack of standardization when it comes to classification for records storage at the Municipality. We were told that in many instances, employees across departments have come up with their own methods to categorized and organize records. Without a standardized system for the classification of records, it becomes very difficult to organize and effectively store records in a structured way that other employees can understand for the utilization and retrieval of records.</p> <p>The Municipality should consider the development of a detailed data classification schema that is standardized across all departments. This can be documented in both a policy and/or directive that sets the requirements for records classification as well as supporting procedural documentation that describes exactly how employees should classify records during storage.</p> <p>The Municipality should consider the development of a policy that maps out the various departments, considers the type of data belonging to each, and subsequently classifies that data according to a set of parameters beneficial for the Municipality to be aware of in regards to the record types (integrity, confidentiality, availability, etc.).</p>	<ul style="list-style-type: none"> <li>▶ Employees self-developed methods for categorization and organization of records should be identified and assessed</li> </ul>	<ul style="list-style-type: none"> <li>▶ With a standardized file system and data classification to support the protection and ease document retrieval, we expect an increase in the productivity of all municipal staff.</li> <li>▶ A standardized data classification policy could be more easily developed if the Municipality first developed a data inventory that should be periodically maintained and captured:             <ol style="list-style-type: none"> <li>i. What data is used</li> <li>ii. Where its available</li> <li>iii. Where its located</li> <li>iv. What access is permitted and to whom</li> <li>v. Integrity and security requirements for the type and nature of the data, including compliance requirements with current laws, by-laws, and regulations</li> </ol> </li> <li>▶ By setting requirements for classification across the Municipality, and then monitoring and enforcing compliance, departments will then be adhering to a standardized approach, which should reduce the pain point of numerous, ad-hoc approach by employees</li> </ul>

<p>Data classification procedures can then be developed to provide employees detailed steps to be executed when proceeding with the classification of records that they must follow in order to meet the policy requirements.</p>		<p><b>Dependencies</b></p> <p>A data and records classification scheme starts by having a full and complete data/records inventory and then classifying that inventory based on the needs of each department and the Municipality as a whole. Sound policy, procedure and standard operating practices can help communicate and train Municipal staff. (a baseline records inventory has been developed as part of this engagement)</p> <p>Development of a data classification policy and supporting procedural documentation should be included as part of the documented records management modernization plan</p>
<p><b>7. Business continuity and disaster recovery:</b> It was noted that the Municipality has an Emergency Management Plan, however it focuses more on supporting and addressing emergencies external to the Municipality (flooding, droughts, pandemics, etc.). It was discovered that there are no formalized policies or procedures in place from the Municipal organization standpoint for business continuity planning or disaster recovery planning, which puts the municipality at risk of losing valuable information that is unrecoverable in the event of a disaster. There are some ways that electronic data is being backed up, but nothing is formalized or documented. A business continuity plan is a proactive plan to avoid and mitigate the risks associated with events that could disrupt operations. It details not only steps to take during an event but also steps to be taken in advance and during the event in order to maintain the operations and overall viability of an organization. A disaster recovery plan is a reactive plan on how an organization should respond after disaster event has occurred. It deals with safety of personnel, locations, and the protection of organization assets. In the case of this engagement, these assets relate to the protection of organizational records.</p>	<ul style="list-style-type: none"> <li>▶ Business Continuity planning policy</li> <li>▶ Disaster Recovery Policy</li> <li>▶ IT Operations Policy</li> <li>▶ Data security and protection policy</li> </ul>	<ul style="list-style-type: none"> <li>▶ The Municipality will be in a better position to protect its assets.</li> <li>▶ Reduce the impacts of negative events down to short term disruptions vs longer term, more significant shutdowns.</li> </ul>

<p>Given that we heard from the Municipality that certain records are stored in building basements that are prone to flooding, the lack of a business continuity plan or disaster recovery plan is even more significant as these environments represent major risk to hard copy records. The Municipality should consider the development, formalization and documentation of both a business continuity plan and a disaster recovery plan.</p>		
<p><b>8. Develop and implement document digitization strategy:</b> As noted during our consultations, there are many inefficient paper-based processes that once converted to digital format will increase efficiency and reduce the need for excessive, redundant storage. Storing information electronically means that this information is easier to store, move, process, automate, retrieve and identify for archiving and back-up with copies.</p>	<ul style="list-style-type: none"> <li>▶ Timesheet system</li> <li>▶ Booking municipality facilities</li> </ul>	<ul style="list-style-type: none"> <li>▶ Increase of efficiency for those that use timesheet reporting (20 employees)</li> <li>▶ Capturing information in a more timely, flexible and agile manner with greater accuracy, reduced transposition errors, and reduced manual work to copy information into numerous systems.</li> </ul> <p><b>Dependencies</b> Need to consider training and change management along with an IT strategy that provides a framework.</p>

While we expect benefits and cost savings to be realized by the Municipality if these opportunities for improvement are addressed, there will be cost implications associated with actioning each. The following cost categories should be considered by the Municipality if they choose to develop and/or purchase solutions to addressing these opportunities for improvement:

### One Time Costs

- Network infrastructure upgrade costs
- Internal labour fees associated with the development of plans, strategies, policies and procedures
- Third party labour fees
- Implementation costs from technology vendors

**Ongoing Costs**

- Fees for upgraded network connectivity
- Maintenance fees for upgraded network infrastructure
- Ongoing maintenance and service fees for any purchased technology solutions
- Ongoing operational costs associated with maintenance and updates to policy and procedures framework
- Internal operational costs associated with ramp up by Municipal employees adopting and adapting to new processes and technologies

## 4. Implementation Roadmap and Prioritization Framework

An implementation roadmap serves as a tool to help prioritize and plan to address the opportunities for improvement. This roadmap diagram below presents our recommend priority and sequencing for actioning the opportunities for improvement based upon the likely dependencies each of these opportunities for improvement will have on one another to be actioned successfully. The diagram organizes the opportunities for improvement each by either developing strategies and plans or improving records management capabilities and highlights the benefits to be realized if these opportunities are actioned.

Benefits to be Realized

**Short-Term (Within 3 months)**






*Establish Records Management Infrastructure*




**Medium-Term (1 year from start)**





*Focus on IT Infrastructure*

**Long-Term (2 + years)**



*Fully Modernized Records Management Program*


-  Annualized cost savings between \$35 K and \$45 K
-  Increase in operational efficiency by 7% to 10%
-  Accurate forecasting and resourcing
-  Access to cloud-based computing, SaaS, PaaS and LaaS solutions
-  Ability to effectively and efficiently manage the scope dependencies, timelines, and costs of all initiatives
-  Reduced downtime through automation



-  Annualized cost savings between \$56 K and \$72 K
-  Increase in operational efficiency by 12% to 16%
-  Stronger protection of assets and reduction of potential disruptions or shutdowns

-  Annualized cost savings between \$70 K and \$90 K
-  Increase of 15% to 20% in efficiency with electronic timesheets
-  Accurate & timely collection and use of information
-  Demonstrable cost effective citizen-centric service

-  3. Change management plan help adoption and evolve the organization
-  4. Records management modernization plan that allows the Municipality to track progress and avoid risk
-  5. CGSB standards so that legal records have the right standard in their digitization process to be court admissible

-  7. Business continuity and disaster recovery
-  8. Develop and implement document digitization strategy

-  6. Standard classification schema allows fast and efficient search, retrieval and utilization

-  2. Infrastructure investment – establishes technological enablement
-  1. Multi-year technology strategy to help implement the critical infrastructure and do so in the right order/sequence to help early benefit realization and building

Records Management Modernization

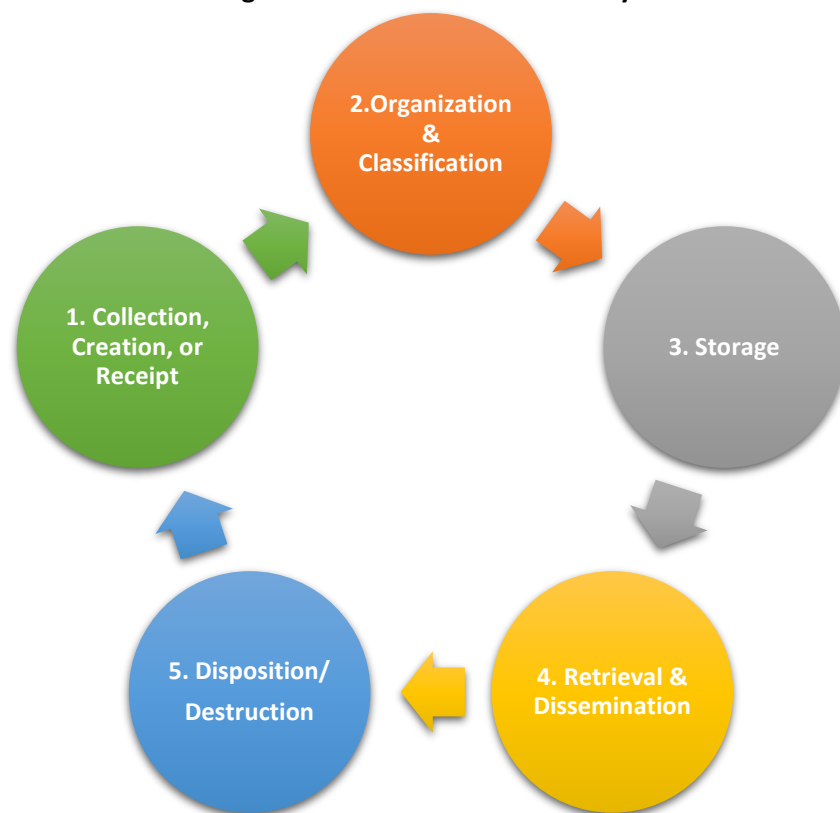
Developing Strategies and Plans

Improving Records Management Capabilities

## Appendix A – Our Approach and Methodology

Organizations across all industries have used the Information Lifecycle Management framework to help better develop and align processes to managing valuable documents in a way that provides coverage over their entire lifecycle<sup>3</sup>. By implementing a standardized records management approach that considers effective technology usage and process implementation across all aspects of the records life cycle, organizations can improve access, better manage their compliance risk, gain long term cost savings, and improve organizational efficiency. The information lifecycle management approach allows organizations to keep track of their records while avoiding the storage of unnecessary records, and aids organizations in meeting regulatory compliance standards by identifying the records that need to be monitored for compliance purposes. The approach outlines that documents should be managed throughout their lifecycle with appropriate document protection controls in place to ensure that the records aren't damaged throughout processing. The image below gives an overview of the 5 stages of the Information Lifecycle used during our engagement. We used the Records Information Lifecycle Management utilized by the government of Canada<sup>1</sup> as a baseline framework for our information lifecycle and tailored the approach to fit the context of this assessment as described below.

**Image 1. Records Information Lifecycle**



<sup>3</sup> (Library and Archives Canada, 2018) <https://www.bac-lac.gc.ca/eng/services/government-information-resources/lifecycle-management/Pages/life-cycle-management.aspx>

**Image 1** above demonstrates the various lifecycle stages that a record undergoes. The 5 stages are defined below:

- 1) **Collection, Creation, or Receipt of Record:** the record is collected, created, or received in a number of ways identified below
- 2) **Organization & Classification:** the record is organized according to a data classification scheme established by the organization.
- 3) **Storage:** the record is stored either offsite or offline from operational systems to not burden the storage capacity of the operating system/office
- 4) **Retrieval and Dissemination:** a record is retrieved from the storage site/inventory and disseminated to information users as needed.
- 5) **Disposition and Destruction:** the record is either destroyed or retired depending on its future potential use (e.g. contains legal substance that could be used as evidence in court).

During the first stage of the record lifecycle, a record may be created within an organization in the following ways:

- ▶ Recording of a meeting (e.g. minutes of a meeting)
- ▶ Creating/processing a document used as a record
- ▶ Creating/sending an email
- ▶ Entering a transaction into a system
- ▶ Receipt of document/spreadsheet/email

We conducted a third-party review of the Municipality's current retention by-laws and filing strategies. The Municipality's departments involved with the assessment included:

- ▶ **Corporate Services and Administration**
- ▶ **Treasury**
- ▶ **Public Works**
- ▶ **Community Development and Recreation**
- ▶ **Fire Department**
- ▶ **Tax Services**
- ▶ **By-Law Council**

In order to collect the information that was needed, we started by performing an in-depth review of relevant by laws and policies to gain a deeper understanding of the processes prior to delving into workshops and interviews. Following the document review, we conducted remote interviews with the Treasurer to validate the preliminary findings and gain additional context to support the development of a records inventory and a cost analysis. In addition to the remote interviews, we performed on site cross-functional workshops with various members of teams across the municipality. Throughout these workshops, we leveraged the Records Information Lifecycle as explained above (See Annex 1 of this Appendix for the template tool). These workshops in conjunction with the use of the framework allowed us to gain insight to requirements, pain points, and opportunities for improvement.

The next step was to leverage the document review of the retention bylaw and the information collected from the interviews and the workshops with various stakeholders in order to develop a



records inventory. As a part of our analysis, we asked that the Municipality's stakeholders fill in the records inventory tool and define the number/volume of records they currently own within each department. This records inventory allowed us to have a better view of the current state of inventory of record filings. This tool (high-level template showed in **(Annex 2 of this Appendix)** allowed us to better understand where any inefficiencies and pain points/risks lie within the business process, capture of requirements for the desired future state of the records lifecycle, and identify opportunities for improvement.

In a separate data collection and validation exercise we were able to collect information on the direct and indirect costs allocated towards their current records management processes and calculate an estimate of the total annual costs associated with their current processes. This assessment estimated that almost one third of the Municipality's current wages are spent just on their records management processes. A detailed breakdown of the assumptions and cost estimation methodology can be found in Appendix D.

As a part of our assessment, we developed a records classification inventory and cost estimation tool that allowed us to get a better view of the current state of inventory of record filings and the costs allocated towards each stage of the record information lifecycle. This tool (high-level template showed in **Annex 1 of this Appendix**) also helped provide an overview of the current records lifecycle stages executed at the Municipality. This allowed us to better understand where any inefficiencies and pain points/risks lie within the business process, capture of requirements for the desired future state of the records lifecycle, and identify opportunities for improvement.

Prior to conducting the workshops, we reviewed the retention by-law policies and organization chart, and held interviews with the CAO/Treasurer of the Municipality and performed an in-depth document review to gain an understanding of the current processes leading into the workshops.

Through data collection exercises conducted with the Municipality's CAO/Treasurer and the workshops conducted with the Municipality's internal stakeholders (Referenced in **Appendix C**), we collected information as related to the stages of the information lifecycle by the following categories:

- ▶ **Baseline costs:** a total estimate of direct costs (paper supplies, shredding services, storage, etc..) and indirect costs (time currently spent by staff on records management processes)
- ▶ **Requirements:** any specific legislation, regulations, standards, or policies that mandate the retention of media through which information/documents must be stored.
- ▶ **Pain points:** challenges that stakeholders experience across the record's information lifecycle processes that have a potential impact on service delivery
- ▶ **Opportunities for improvement:** opportunities for the organization to improve current processes and become more efficient

The information collected during those workshops helped us analyse the current state of the records filing processes and analyze their current records inventory. In a separate data collection and validation exercise we were able to collect information on the direct and indirect costs allocated towards their current records management processes and calculate an estimate of the total annual costs associated with their current processes. This assessment estimated that almost one third of the Municipality's current wages are spent just on their records management processes. A detailed breakdown of the assumptions and cost estimation methodology can be found in **Appendix D**.

Within the records inventory and cost estimation tool created, we requested that the Municipality fill in with information on their current records inventory (**can be found in Annex 1 and 2 of this Appendix**). gives a brief overview of the outline used for current state assessment of the records inventory. After collecting the information outlined, we were able to analyze the information and quantify the number of records within each of the following categories:

- ▶ **Hard copy:** the record type is retained as a paper-based hardcopy
- ▶ **Electronic:** the record that is scanned or otherwise captured from a hardcopy version at any point during the record lifecycle has potential legal implications
- ▶ **Digitized (with legal substance):** the record that is scanned or otherwise captured from a hardcopy version at any point during the record lifecycle has potential legal implications
- ▶ **Digitized (without legal substance):** the record that is scanned or otherwise captured from a hardcopy version at any point during the record lifecycle has no potential legal implications

As a part of our analysis, we asked that the Municipalities stakeholders fill in the records inventory tool and define the number/volume of records they currently own within each department. The volume of records was defined as a range of record “sets” as per below:

- ▶ **Below 100 records**
- ▶ **Between 100-500 records**
- ▶ **Between 500 – 1000 records**
- ▶ **Above 1000 records**

## ANNEX 1 – Appendix A: Template Tool

**Table 1. Information Lifecycle Activities**

<b>Information Lifecycle</b>	<b>1. Collection, Creation, or Receipt of Record</b>	<b>2. Organization &amp; Classification</b>	<b>3. Storage</b>	<b>4. Retrieval &amp; Dissemination</b>	<b>5. Disposition / Destruction</b>
<b>Total Costs*</b>					
<b>Requirements</b>					
<b>Pain Points</b>					
<b>Opportunities for Improvement</b>					

\*Total costs represent direct and indirect costs incurred during each stage and are presented in further detail in Appendix D

## ANNEX 2 - Appendix A: Records Inventory Tool

Table 2. Records Inventory Tool

Records Inventory							
Document Category	Record Type	Volume of records	Retention Requirement	Owner	Repository	Source of Record	Notes
Hard copy							
Electronic							
Digitized (with legal substance)							
Digitized (without legal substance)							

## Appendix B – Glossary of Terms

The following are a list of terms and acronym used throughout the report

Term	Definition
<b>Information Lifecycle</b>	Set of activities that manage the lifecycle of information from creation to final disposition.
<b>Layer</b>	Refers to the rows under each of the activity.
<b>Outputs</b>	Key deliverables and work products developed as part of conducting the activity.
<b>Pain Points</b>	Issues, problems or challenges causing “pain” in the organization and requiring a solution.
<b>Opportunities for Improvement</b>	Areas to change, focus attention and transform.
<b>Metrics</b>	Key indicators that track progress and are thresholds to monitor (KPIs, KRIs, etc.)
<b>Outcomes</b>	The benefits or value accomplished as a result of the delivery of core activities

## Appendix C – Detailed Information Lifecycle Table

Current State Information Lifecycle					
Information Lifecycle Activities	1. Collection, creation, or receipt of records	2. Organization and classification of records	3. Storage	4. Retrieval and dissemination	5. Disposition/destruction
<b>Requirements</b>  Summarizes requirements that need to be considered for certain types of records across each phase of the records lifecycle. (i.e. laws, regulations, standards, etc.)	<b>Requirement 1:</b> By-Laws and policies have to be approved, signed using ink signature and be kept as a hard-copy indefinitely		<b>Requirement 1:</b> By-Laws and policies have to be approved, signed using ink signature and be kept as a hard-copy indefinitely		
	<b>Requirement 2:</b> Marriage and death records are retained in a ledger indefinitely		<b>Requirement 2:</b> Marriage and death records are retained in a ledger indefinitely		<b>Requirement 2:</b> Marriage and death records are retained in a ledger indefinitely
			<b>Requirement 3:</b> Tax certificates need to be kept for 7 years		<b>Requirement 3:</b> Tax certificates need to be kept for 7 years
	<b>Requirement 4:</b> Timesheets need to be signed off by managers, and stored for an appropriate time period so that external auditors can review them		<b>Requirement 4:</b> Timesheets need to be signed off by managers, and stored for an appropriate time period so that external auditors can review them	<b>Requirement 4:</b> Timesheets need to be signed off by managers, and stored for an appropriate time period so that external auditors can review them	<b>Requirement 4:</b> Timesheets need to be signed off by managers, and stored for an appropriate time period so that external auditors can review them
	<b>Requirement 5:</b> With respect to the Fire Department, all data logs for report incidents are stored for an appropriate time period. The fire chief would need to retain this evidence for possible use in court		<b>Requirement 5:</b> With respect to the Fire Department, all data logs for report incidents are stored for an appropriate time period. The fire chief would need to retain this evidence for possible use in court	<b>Requirement 5:</b> With respect to the Fire Department, all data logs for report incidents are stored for an appropriate time period. The fire chief would need to retain this evidence for possible use in court	<b>Requirement 5:</b> With respect to the Fire Department, all data logs for report incidents are stored for an appropriate time period. The fire chief would need to retain this evidence for possible use in court

	<p><b>Requirement 6:</b> Physical Signatures are needed to sign off on monthly water sampling report that's created</p>				
	<p><b>Requirement 7:</b> A certified copy of by-laws needs to be made with an indent stamp of the municipal logo once complete and stored permanently.</p>		<p><b>Requirement 7:</b> A certified copy of by-laws needs to be made with an indent stamp of the municipal logo once complete and stored permanently.</p>		<p><b>Requirement 7:</b> A certified copy of by-laws needs to be made with an indent stamp of the municipal logo once complete and stored permanently.</p>

<p><b>Pain Points</b>  Summarizes major pain points discussed during the workshop sessions.</p>		<p><b>Pain Point 1:</b> It was noted that several of the records filing processes have not been modernized and standardized across the different departments involved with the records management process. Employees have their own file on the drive and their own way to store files.</p>	<p><b>Pain Point 1:</b> It was noted that several of the records filing processes have not been modernized and standardized across the different departments involved with the records management process. Employees have their own file on the drive and their own way to store files.</p>		
				<p><b>Pain Point 2:</b> Currently there are no formal policies/ procedures around business continuity and disaster recover planning with regards to retrieval of records in case of a natural or human-induced disaster.</p>	

			<p><b>Pain Point 3:</b> With respect to the Fire Department, only two computers have the Fire Pro application that tracks their incident records. Notes are handwritten and re-keyed into Fire Pro application on these computers when the main users are not at their workstations.</p>		
			<p><b>Pain Point 4:</b> On the tax side, the accounting software is at capacity in terms of the amount of data that they have in the Accounting system, which staff manually complete a repair and compact of records frequently. The system is crashing often because the system is overloaded.</p>		
	<p><b>Pain Point 5:</b> Income tax receipts from donations come in the form of a cheque, which is photocopied to process later on. There is often not enough information or too much information</p>		<p><b>Pain Point 5:</b> Income tax receipts from donations come in the form of a cheque, which is photocopied to process later on. There is often not enough information or too much information</p>	<p><b>Pain Point 6:</b> Income tax receipts have to be located manually which is time consuming and decreases efficiency. This can be address by implementing a detailed, standardized record</p>	



	stored in the records.		stored in the records.	classification schema.	
		<b>Pain Point 7:</b> Emails are printed, and they are kept in different files. No limit for emails that are being kept on record. They get filed into whatever subject they are related to. There are two different file systems. This process leads to inefficiencies in retrieval.	<b>Pain Point 7:</b> Emails are printed, and they are kept in different files. No limit for emails that are being kept on record. They get filed into whatever subject they are related to. There are two different file systems. This process leads to inefficiencies in retrieval.	<b>Pain Point 7:</b> Emails are printed, and they are kept in different files. No limit for emails that are being kept on record. They get filed into whatever subject they are related to. There are two different file systems. This process leads to inefficiencies in retrieval.	
			<b>Pain Point 8:</b> Policies are stored in a hard copy as a binder in multiple locations and many policies have not been updated since 2006.		
	<b>Pain Point 9:</b> There are many paper-based processes (e.g. timesheets, Fire Log reports, facility/hall booking systems) that can be automated.				
	<b>Pain Point 10:</b> Tweed receives electronic invoices which are then printed and stored as hard copies. This process of duplication is also used for energy reporting to the province. This causes		<b>Pain Point 11:</b> Very little records are disposed, and certain records are maintained in hard copy and electronic forms longer than required.		<b>Pain Point 11:</b> Very little records are disposed, and certain records are maintained in hard copy and electronic forms longer than required.

	inefficiencies in terms of increased costs and time consumption				
	<b>Pain Point 12:</b> Aside from a retention policy, there are not any defined records management policies or procedures.				
			<b>Pain Point 13:</b> Hard copy records are stored across multiple rooms, including multiple records rooms and multiple offices and there is no clear way to identify the specific records that exist in each records room.		
			<b>Pain Point 14:</b> Records rooms located in the basement are not climate controlled and there are common occurrences of flooding, which could risk damaging records.		
			<b>Pain Point 15:</b> <b>Redundant storage</b> - records are stored in multiple places through multiple forms		
	<b>Pain Point 16:</b> There is poor internet connectivity in the Municipality's main office. Symptoms of the poor internet connections include, frequent network down times and software crashing.				

<p>Desired future state/opportunities to transform</p> <p>Summarizes the key opportuniti</p>	<p><b>Observed Opportunity for Improvement 1:</b> Establish modernization program aligned to a province roll out strategy</p>
	<p><b>Observed Opportunity for Improvement 2:</b> Develop a policy framework with a maintenance approach</p>
	<p><b>Observed Opportunity for Improvement 3:</b> Develop a change management initiative while considering organizational culture and operating context</p>

<p>es for improvement noted during the work sessions.</p>	<p><b>Observed Opportunity for Improvement 4:</b> Develop an IT infrastructure strategy to improve network connectivity and computing capacity to take advantage of modern computing (e.g. cloud - based applications, software as a service, infrastructure as a service, wireless and remote working, etc.)</p>
	<p><b>Observed Opportunity for Improvement 5:</b> Implement IT infrastructure plan</p>
	<p><b>Observed Opportunity for Improvement 6:</b> Develop an implement a detailed classification schema</p>
	<p><b>Observed Opportunity for Improvement 7:</b> Select technology to be leveraged for records management system. This system could be used for cataloguing hard copies as well as cataloguing and storing electronic copies</p>
	<p><b>Observed Opportunity for Improvement 8:</b> Document digitization plan and strategy, which involves organizing the historical records to be digitized (in accordance to records scheme)</p>

## Appendix D – Cost Estimation Breakdown

Information Lifecycle Activities	1. Collection, creation, or receipt of records	2. Organization and classification of records	3. Storage	4. Retrieval and dissemination	5. Disposition/destruction	Total	Assumptions
<b>Direct Costs (Annual based on monthly average)</b>							
Paper supplies	\$3,768			\$5,095		\$8,863	All figures were rounded to account for decimal points
Printing/scanning	\$3,010			\$3,010		\$6,020	
Ink	\$791			\$791		\$1,582	
Shredding					\$946	\$946	
Software	\$9,604	\$3,443	\$3,443	\$3,443		\$19,933	
Record Creation Tools	\$610					\$610	
Storage	\$51		\$51			\$102	
Any other direct costs		\$5,112	\$6,698	\$2,914		\$14,724	
<b>Total Direct Costs</b>	<b>\$17,834</b>	<b>\$8555</b>	<b>\$10,192</b>	<b>\$15,253</b>	<b>\$946</b>	<b>\$52,780</b>	
<b>Indirect Costs (allocation of Salary and wages based on estimated hours spent across the information lifecycle)</b>							
<b>Annual time spent based on daily average (assume 248 days/year)</b>		Assumed that there are 248 working days in 2019 across all departments. This accounts for stat. holidays, and weekends, but doesn't account for vacations, or any leave of absence.					

Treasury Department	818	496	818	496	62	2,690	Derived figures by multiplying the number of hours spent on a daily average by 248 working days
Parks and Recreation Department	496	248	124	248	83	1,199	
Fire Department	310	186	744	248	21	1,509	
Tax/Property Department	496	310	496	620	42	1,964	
Public Works Department	496	248	248	744	21	1,757	Given that it takes 1- 5 hours for retrieval the average was assumed to be 3 hours
Corporate Services Department	1,488	744	868	1,116	61.33	4,277	Given that disposal is only done once annually taking 16 to 24 hours to sort and pull information the average effort was assumed to be around 20 hours annually + 10 mins daily
<b>Allocation of Salary/Wage cost based on annual time spent (monthly salary information provided and assumed to be uniform over a 12-month period)</b>							
Treasury Department	\$23,431	\$14,200	\$23,431	\$14,200	\$1,775	\$77,038	
Parks and Recreation Department	\$9,285	\$4,643	\$2,321	\$4,643	\$1,548	\$22,439	

Fire Department	\$14,713	\$8,828	\$35,310	\$11,770	\$981	\$71,601	Assumed total hourly cost of 47.46
Tax/Property Department	\$14,518	\$9,074	\$14,518	\$18,147	\$1,210	\$57,467	
Public Works Department	\$19,776	\$9,888	\$9,888	\$29,663	\$824	\$70,038	
Corporate Services Department	\$51,396	\$25,698	\$29,981	\$38,547	\$2,118	\$147,739	
<b>Total Indirect Cost Allocation</b>	<b>\$133,119</b>	<b>\$72,330</b>	<b>\$115,449</b>	<b>\$116,970</b>	<b>\$8,456</b>	<b>\$446,322</b>	
<b>Total Cost Allocation</b>	<b>\$150,953</b>	<b>\$80,886</b>	<b>\$125,641</b>	<b>\$132,223</b>	<b>\$9,402</b>	<b>\$499,102</b>	

## Appendix E – List of Internal Stakeholders Involved

Position	Department/Team
CAO/Treasurer	Corporate Services/Treasury
Clerk/Deputy Treasurer	Corporate Services/Treasury
Manager of Public Works	Public Works/Waste
Manager of Community Development/Parks & Recreation	Community Development/Recreation
Fire Chief	Fire Department
Deputy Clerk/Corporate Services Assistant	Corporate Services
Landfill Supervisor	Waste
Recreation Supervisor	Recreation
Fire Prevention Officer	Fire
By-Law Enforcement Officer	By-Law
Tax & Property Assistant	Tax
Treasury Assistant	Treasury
Administration/ Public Works Assistant	Corporate Services/Public Works/Treasury