



Corporate Records and Information Management Review



Information Management Strategy

FINAL REPORT

February 28, 2023

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Executive Summary

What is the issue?

The Town of Tecumseh has spent over ten years utilizing an Electronic Document and Records Management System (EDRMS) known as Laserfiche which can be used in conjunction with a published subscription guide to records categorization and recommended record retention periods (TOMRMS). At a time when efficient and comprehensive information management is generally accepted as a crucial component of organizational effectiveness, the Town's electronic information remains partially unmanaged. The most consistent use of these tools has been on the management of records under control of the Town Clerk. However, unstructured information (those documents not part of a data base of columns and rows) comprises the bulk of the electronic content and includes Word documents, Excel spreadsheets, scanned images, email and other document formats. Consequently, the Town finds itself with inconsistent records and information management across departments.

Efficient, information-driven business processes are the core of effective and cost-efficient government. Compliance with legislative obligations require the Town's information in all formats to be maintained, secure, accessible, and preserved. This is critical to the democratic concepts of accountability and transparency. Despite the fact that most of the records are born digital, documents continue to be printed, filed, and used inconsistently as official records, with the digital versions being managed on an ad hoc basis. As the volume of electronic records has grown, the time required for staff members to sort, file and dispose of electronic records makes compliance difficult. While electronic storage costs are in the acceptable range, as the volume of records has grown at an exponential rate, the ability to find the right document, and to trust that the source is authoritative has become a challenge. Long-time employees who are nearing retirement often hold the knowledge of where to find critical information, be it in physical or electronic form, and their departure represents a risk in the ability to locate specific documents.

In summary, the implementation of the existing electronic information management infrastructure does not adequately manage the life cycle (creation to disposition) required of electronic records. After almost twenty years of use, dispositions of electronic records and more comprehensive coverage of content (i.e. inclusion of most emails and electronic files now on network drives) adversely affects the Town's operations and compromises compliance with legislative obligations for all records to be maintained, accessible, secure, and preserved.

Enhanced use of the existing EDRMS, Laserfiche, also offers an opportunity to address these issues by building on the Town's strengths and successes in managing paper-based records to encompass its digital information.

In light of these findings, documented in the prior Current State Report (January 2023), a study was undertaken to review the current state of the Corporate Records and Information Management Program and propose a strategy and implementation plan to manage the current volume of both electronic and paper records.

The study asked a few basic questions and found the following answers.

Does the Town have an information management problem?

The Town does have many of the necessary tools and resources to manage electronic records, however, they have not used the full potential of the existing tools, and staff do not have the training, expertise, and leadership to move forward with managing electronic records by automating the life cycle of records from creation to disposition.

What tools should the Town invest in to address the concerns?

This report identifies a strategy with five components and tasks to address existing information management gaps:

1) Information Governance Model

Provide governance at the senior level to manage unstructured data in order to break down existing information silos, including monitoring and audit to measure compliance and performance. This includes clarification of metrics to establish a baseline of the number of records under life cycle management and monitor net change through addition of records and disposition on an annual basis. Increase in-house staff resources to oversee consolidation of existing repositories of electronic records; automation of the life cycle management of dispositions of electronic records; migration of relevant email and network drive content to a consolidated and automated life cycle records management repository, and potential transfer of software to cloud based service or alternate vendor.

2) Information Management Corporate Practices

Consolidate and simplify records and information management policies and procedures and implement the existing records retention schedule to better address electronic records and improve the findability of information regardless of the format it is stored in, and reduce risk through timely disposition as defined by the existing records retention rules. Automate the disposition process including addition of metadata into document repository and automated update of retention rules as connected to The Ontario Municipal Records Management System (TOMRMS) classification (metadata) for records held in repository.

3) Storage and Security

Review and increase security by identifying Personal Identifiable information, vital records, and distinguish between public, internal and confidential information within the retention schedule and the repository. Consolidate and manage storage of content through content migration into Laserfiche repositories with automated life-cycle management functions. This includes long term preservation of digital records for those electronic documents held over ten years or permanently.

4) **Information Management Technology**

Test and validate the capacity of existing Laserfiche software to manage electronic documents through the life cycle including disposition and audit trail management. This includes standardizing metadata used across departments to improve access and search results. Establish scanning standards for vital records and for continuously used paper records, and acquire migration software to move electronic records from network drives, email and other repositories into managed document repositories. Finally, address standards and processes for life cycle management of email, to encourage preservation of those emails critical and required to document operational processes and to delete and reduce volume of transitory (those records having no operational value) email records.

5) **Communication and Training**

Provide more staff training on the records policies and procedures, and software tools. Prepare a communications plan to make sure staff understand the “why and how” this will be accomplished and use change management techniques to support compliance and acceptance of these changes.

The first three actions are leveraged by, or require, a tool such as an Electronic Document Records Management System (EDRMS/Content Services) to provide the functions and features to manage electronic and paper records and to protect them according to Records Management best practices and the Town’s legal and business obligations. This system can also provide valuable metrics to help manage the governance of this type of information. The options to continue use of Laserfiche, move content into a cloud storage model, or transition to a SharePoint based solution or alternative vendor should all be assessed in detail over the next three years. Immediate improvements in use of the existing software in the near term (one to two years) will serve to create a strong base and familiarity using a more complete repository can be used as a good basis on which to consider the options moving forward in the longer term (three to five years). A change of vendor is not recommended at this time until a consolidated repository with a higher percentage of content (from network drives and email) is adapted and accepted by current staff. Familiarity and strong benefits will then make a transition to an alternative vendor more viable.

What will these actions deliver?

Properly implemented, and with sufficient training and ongoing support, these actions will deliver better information management which will enable Tecumseh to:

- Save up to a million dollars per year in staff productivity from managed email, trusted and protected records which are easy to find; reduced paper filing costs;
- Leverage economic opportunities resulting from transforming business to provide digital services and offer faster service transaction times;

- Better compliance with existing legislation such as Municipal Freedom of Information and Protection of Privacy Act;
- Improve and make consistent information sharing across departments;
- Provide a platform to better manage information security and to be able to audit the integrity of the information;
- Find information faster, and organize information to better meet business needs; and,
- Develop foundational components for future initiatives such as Smart City¹, Open Data² and inter-government service delivery.

The Information Management Strategy will provide a roadmap for the implementation of the tools. Implementation will ensure, on an ongoing basis that the management and protection of the Town's unstructured information continues to evolve to meet the Town's needs and to benefit from evolving technologies. This is in addition to activities by the Town Clerk and Deputy Clerk, engage department 'liaisons' (proposed designation to serve as a conduit to the Town's records management policies, procedures and tools), under the leadership of a proposed "Records Coordinator". This would add a new role as Records Coordinator under the direction of the Deputy Clerk. The Records Coordinator role would be to maintain the records policies and procedures and to continue to provide staff training and support for managing unstructured data.

What will it cost?

Imerge has developed budget estimates based on the continued use of the existing EDRMS while planning for a transition to a cloud based option to address the Town's future recordkeeping needs. Total **incremental** costs to implement the system over a three year period are estimated at approximately \$461,400 dollars for vendor, contractor, and/or services related costs and increased staffing costs. Costs to sustain the system, over time, will include a minimum of one new role (1 FTE) for ongoing internal support of the Information Management Strategy as a Records, Coordinator and 0.5 FTE for the coordination with Technology and Client Services. The risk of only a single person is the ability to find a person with the full range of skills, and the need for backup of this position given the number of tasks in the implementation roadmap. If only one position is available, vendor and or service costs will increase to cover the difference. The expenditure in staff costs will come with benefits in staff productivity, reduced legal risk, the ability to sustain growth, and the tools to support business transformation initiatives and innovation. Estimates of staff productivity is anticipated at approximately \$750,000 per year as detailed in the section on [Information Management Benefits](#).

¹ [Microsoft smart cities link](#)

² [City of Waterloo Example of Open Data](#)

What will it look like?

A fully implemented information management program will enable access to all formats and types of records through a single search using consistent rules and controls that only allow access to those who are entitled to view records. It will facilitate sharing between departments in a way that protects the information and provides an audit trail of all operations on versions or copies of a record. It will move from the current “keep everything” approach to keeping only those electronic records of business and historic value. An automated EDMRS system automates the life cycle management of the record, providing tools to facilitate long term transfer to archival status and disposal in compliance with laws and regulations. The integration of access to all record types, formats, access tools and consistent management of records between departments will create the opportunity to improve business processes and undertake service renewals through workflow, collaboration and a sustainable Information Management program.

An updated and comprehensive records by-law and records policies and procedures will ensure consistency in the management of information across departments and over time. It will help staff classify records so they can be located more easily.

A strong Information Management structure will ensure that:

- records policies are implemented;
- the EDRMS is used properly through the life cycle phases and contains information which is stored appropriately to ensure maximum usability;
- information is protected, and where needed, preserved;
- the foundation for smart-city support, with additional data and analytics is provided;
- future integration between the EDMRS and existing applications to further improve staff efficiency and information integrity.

In summary, EDMRS software will be the core of an integrated information management system designed to optimize business efficiency, while facilitating accountability, transparency, and legislative compliance.

How should the Town implement the changes?

Imerge has provided a roadmap of the tasks over a three year period by year and Principle to guide the preparation for, implementation of, and maintenance of an enhanced Information Management strategy. Costs and Benefits are also addressed over this three year time frame. The implementation does not end after the three years, as monitoring compliance with the Records Management policy, further benefits through business process workflow implementation, and auto-categorization tools will create further efficiencies and ease of use in finding and managing information.

Background and Methodology

Purpose of this Assignment

The Town of Tecumseh, retained the services of Imerge Consulting Inc., to develop a five year Records and Information Management Strategy. The objective is to outline key phases and deliverables for the development of holistic and integrated lifecycle approach to information management for all records, including physical paper and electronic records. The strategy will include the life cycle phases from creation, to active, inactive and permanent retention and a detailed roadmap for a comprehensive and sustainable Records and Information Management Program which will impact and drive key records and information management initiatives aligned with current and future planned Town directions for modernization of administrative processes.

Detailed Phases

The Town's major focus is on electronic documents and information strategy from an organization wide perspective. The work to accomplish the objectives include the following tasks:

Phase 1

- Inventory Review of Existing Content Assets and Records and Information Management Practices.
- Consultation with key staff from each department to determine the current practices and identify the existing gaps between existing and best practices. Current records and information management assessment (previous report) which includes a best practice review to relate existing records and information practices to best practices as defined by industry standards.
- A review with staff representatives to document the needs and future involvement of key stakeholders, and all departments who create and use records.
- This was completed in the Current State Assessment Report, December, 2023.

Phase 2 (this Report)

- The Records and Information Management Strategy will identify major components and desired outcomes that will form the core of the Records and Information Management Implementation Strategy.
- Identify the action items, strategies and recommendations to implement each action item.
- Identify the resources (staff, skillsets, financial, technical) required to complete each action item.
- A timeline for implementation of action items.

Current State Summary

Methodology and Background

In September 2022, Imerge Consulting was retained by the Town of Tecumseh to conduct a Corporate Records and Information Management Review resulting in a strategy that outlines the key phases and deliverables for an integrated lifecycle approach to information management of all records. This includes an assessment of the current state of records and information management in the Town today, and the identification of gaps to improve the management of information across the departments so that the information is protected and accessible and can be used as a corporate asset. This report includes the findings of the Current State Assessment.

Existing Records Management Practices and Tools

The Town of Tecumseh has made significant strides in building the foundations of an Information Governance and Records Management Program. This includes the existence of a Records Management Policy (2021) and Records Retention By-law (2018) and several forms and standards related to the disposition of paper records, including those records with confidential information. It also includes the implementation of a third-party records classification and retention management framework specifically designed for Ontario Municipal agencies (TOMRMS) and the implementation of an Electronic Records Management System (Laserfiche) in 2014.

Best Practices Assessment

An assessment using the Generally Accepted Recordkeeping Principles (GARP©) developed by an international professional association (ARMA) was conducted. On a scale of one to five, with one being 'Substandard' and five being 'Transformational', a series of tests were done for each of the eight principles, with the Town of Tecumseh scoring a '2 – In Development'. None of the Principles were scored at the 'Substandard' level. This indicates that while the basic concepts are established for most paper records, the electronic records are not as well managed from a corporate perspective and adherence to life cycle management (from creation to disposition). This is significant for the Principles of Accountability, Transparency, Compliance and Disposition.

Comparable Organizations

A survey of records and information management practices was completed for several similar sized municipal governments and the County of Essex- Amherstburg, Essex County, Innisfil, Lakeshore, LaSalle, Leamington, Kingsville. Most were similar to the Town in well-established policies and procedures for paper records and most make some use of the Electronic Records Management System "Laserfiche". They have made some advances in moving forward with tools and policies to support management of electronic records, but few have addressed the disposition of electronic records or consolidation of multiple document repositories. AODA compliance is also an issue for those documents with public access. Staffing to support records and information management varied across the participants.

Stakeholder Collaboration

Interviews were conducted with representatives of departments to determine the tools and technologies used to manage their information. The types of records and system used were reviewed. Issues that were raised include:

- Uncertainty over what is in Laserfiche or in other systems
- Confusion over access to Laserfiche licences (numbers and use of multiple Laserfiche repositories (old, new, web-based))
- Proliferation of documents held in other repositories (e.g. Escribe)
- Difficulty in finding electronic records, especially in network drives and email
- Lack of direction to manage life cycle of emails and attachments
- Difficulty in implementing retention rules and disposition of electronic records both those held in Laserfiche and those held in shared drives or email
- Absence of naming conventions
- Absence of scanning standards
- Overall life cycle management of electronic records

These issues could result in increased legal risk as follows:

- the number of claims and access requests may increase,
- potential embarrassment based on inability to locate documents as needed,
- difficulty in support of remote work,
- loss of knowledge of where and how documents are stored given staff turnover,
- and, most importantly, the lack of productivity and efficiency in time spent looking for critical documents or redoing work when documents cannot be found.
- Coupled with this loss of productivity and efficiency is the overarching shortcoming in limiting the use of information as a corporate asset, by ease of sharing information across departments.

Drivers and Priorities

The Records and Information Management strategy and priorities include:

- Information Governance – establishing staff resources and detailing roles and responsibilities which build on existing skills in information management and formalize roles for participation in the coordinated and consistent approach to information management

across key players (Clerk, Deputy Clerk, Administrative Assistants, IT, and the definition of departmental designations as Records Liaisons)

- Consolidation of Laserfiche repositories, with automation of the disposition process as well as automation in Laserfiche of the TOMRMS retention periods to allow for automated life cycle deletion for electronic records. Deletion of duplicate documents and Implementation of retention rules/disposals will also greatly reduce the volume of Laserfiche records. Also under consideration are the costs and options of moving to Cloud storage for Laserfiche repositories, or replacement of the Laserfiche platform with an alternative software tool (for example, SharePoint, add-ins to SharePoint or other software.)
- Establishment and simplification of records and information management templates for records to increase access to documents.
- Requirement for content migration across many electronic document applications, email and network drives to existing or replacement EDRMS repository, reducing duplication and applying retention schedules
- Staff training and oversight to facilitate implementation and compliance for consistent records management during onboarding and at regular intervals (bi-annually)
- Metrics dashboard from departments to monitor records compliance, especially disposals of electronic records
- Assessment of need and value of replacing Laserfiche including impact of change management

An assessment using the Generally Accepted Recordkeeping Principles (GARP®) developed by an international professional association, the Association of Records Management Professionals (ARMA), was conducted. On a scale of one to five, with one being 'Substandard' and five being 'Transformational', a series of tests were done for each of the eight principles, with the Town of Tecumseh scoring a '2 – In Development'. This indicates that while the basic concepts are established for most paper records, the electronic records are not well managed from a corporate perspective. This is significant for the Principles of Accountability, Transparency, Compliance and Disposition.

Management of Paper Records, Retention, Classification and Disposition

Inactive Records

Paper records are well managed and supported through a records program through the use of TOMRMS (a subscription service providing categories for all municipal functions and their corresponding records retention schedule. Storage area within the town locations are equipped with shelving and are approximately 80% full. Generally, these storage areas are clean, equipped with shelf storage and secure. Improvements could be made in secure access control and logging, and best practices in labelling of boxes only by box number, with computerized indexes to the contents and location of the box. This protects the privacy of the contents and allows for improved findability of the contents.

Digitization standards for scanning, quality assurance, metadata and long term preservation have not been addressed at this time.

Records Retention Rules and Functional Classification of Records

Records retention rules and functional classification categories are based on TOMRMS, an annual subscription service for use by Ontario municipalities. This is uploaded on an annual basis and is generally used and understood by the Town staff. Disposition has been an issue for electronic records, specifically those held in Laserfiche, network drives and email. Since storage of paper records is generally managed by the department that produced the records, disposition of paper records is inconsistent across the Town Departments.

Digital Preservation

At the current time, there is minimal effort directed to digital preservation, specifically for those electronic documents held longer than ten years.

Access to Information and Protection of Privacy

There is an awareness of the importance of protecting personal information and maintaining privacy, and processes are in place for processing information and access requests. There are minimal tools in place, however, to prevent access other than through sign on authentication and limiting access to records with personal information.

The Generally Accepted Recordkeeping Principles (GARP)

The principles of RM known as the Generally Accepted Recordkeeping Principles® (“The Principles”, easily remembered as the acronym “GARP” until 2013), were developed as a benchmark to measure an organization’s maturity level on RM practices for all records, paper and electronic. The Principles were developed by ARMA and have been used as a baseline for tracking progress in the implementation and compliance of an organization’s RIM program.

The Principles were created by ARMA in 2009 as a combined effort with legal and IT professionals to describe and recognize characteristics of an effective RM program. They are based on best practices suggested by ISO 15489-1 and mandated by case law. The Principles are an accountability framework that "includes the processes, roles, standards, and metrics that ensure the effective and efficient use of information in enabling an organization to achieve its goals".

Each of the eight Principles outlines attributes that when combined with an organization’s unique needs and circumstances can be applied to the development of a program to meet RM requirements. The Principles apply to all sizes of organizations, all types of industries, both in private and public sectors; and they can be used to establish consistent practices across departments or divisions in an organization.

Information Management is a business process tightly aligned and integrated with policies, procedures and infrastructure. The Principles are used to identify requirements for and guide

governance of the creation, organization, security, maintenance, and other RM activities. The Principles include a Maturity Model overlay that provides metrics to define a RM program’s maturity and is used as an evaluation of current practices. The Maturity Model provides a description of RM effectiveness.

This assessment is based on the scoring for the GARP Maturity Model Principles. There are eight basic principles that provide guidance for a compliant and sustainable records and information management program.

Each will be expanded below.



Maturity levels are defined, color-coded, and rated numerically 1-5.

Overall Scoring

Using scoring against a range of approximately 13-15 questions per Principle, we scored the Town of Tecumseh to determine the Town’s level of maturity in establishing a Records and Information Management program. The score was tabulated and the results below indicate that the Town is at the “In Development” stage, with only one of the Principles performing at the Essential level.

Sub-Standard	1
In-Development	2
Essential	3
Proactive	4
Transformational	5

	Principle	Score
1	Accountability	3.1
2	Transparency	1.9
3	Integrity	2.2
4	Protection	2.3
5	Compliance	1.8
6	Availability	1.8
7	Retention	2.6
8	Disposition	2.2
Score	2.2	

It is normal for organizations to be at differing levels of competency across the eight Principles. A rating of less than five may be acceptable depending on Town's risk tolerance and the cost/benefit of moving up to a higher level. Good information governance can be achieved at Level 4, and even Level 3, when risk and costs are factored in.

The Principles are important as we outline the Implementation Roadmap. The proposed initiatives will identify which Principle will be addressed so that by moving forward with implementation the scoring on each Principle can be measured from year to year.

Roadmap for Information Governance

Information Governance Components (Principles of Accountability and Compliance)

Several components that we aggregate under the Information Governance Model are high priority for implementation of the Information Management Strategy.

The components include:

- Roles and Responsibilities which determines how the key stakeholders who have a role in successful implementation of the Information Management Program interact;
- Planning and Oversight for the Information Management Program, basically the ability to execute policy and align the Information Management with the Town's strategic goals; and,
- Audit and monitoring which include the metrics to provide oversight and provide direction to maximize compliance with the policies underlying the Information Management program.

There needs to be a plan in place to formalize communication among the stakeholders so that management of electronic records are brought within the active management of the Records and Information management policy, including a clear definition of roles and responsibilities.

This includes the roles related to information management for:

- Records (provisions for overseeing life cycle management of electronic records)
- Information Technology (provisions for normalizing retention rules and processes for life cycle management across multiple software repositories including email)
- Audit (establishing and using metrics for life cycle management of electronic records, and identifying and executing compliance tests)
- Legal (approving retention schedules, and formalizing requirements for a process for legal holds)
- Communications (consolidation of tools and vocabulary to standardize terminology across repositories to allow for improved access to information and serve as a foundation for automated categorization of electronic documents in the future.
- Defined roles for Records Liaisons to ensure that training and tools for records management are consistently used and understood in the context of departmental operations, including use of Laserfiche, Email and Network Drives.

Roles and Responsibilities

At the current time the responsibility for Records Management is distributed between the Deputy Clerk- Clerks Services and Policy Advisor with support from other members of the Legislative

Services and Clerk a limited time each month, equivalent to approximately 0.25 FTE on Records and Information management tasks, not including special projects relating to Laserfiche repository or Access to Information and Privacy requests and issues. There is no full-time person designated as a Records Coordinator. This would require a redefinition of the Deputy Clerk – Clerks Services and Policy Advisor to focus exclusively on providing support to the Records Management functions, coordinating the Liaisons, and coordinating IT initiatives and external vendors.

Departmental staff vary in the skill and time devoted to records management tasks. Some have made use of Laserfiche, but training is limited and use of the Laserfiche system is primarily for search and storage, not for life cycle management. There are no full time records management support positions in the departments. Where staff do dedicate time, it is often focused on managing physical records and a few selective scanning initiatives. In order to accomplish the management of all records, including electronic records, the Town requires a cross functional, well-managed Information Management (IM) program with designated ‘Liaisons’ in each department. Ideally, this is best if included in selected administrative staff job descriptions. These Liaisons would require approximately 8 hours per month to ensure that they can advise their departmental staff on the application of the Records Management Policy, and use of the existing tools (TOMRMS and Laserfiche). Moving forward this will allow for compliance and consistency in implementing a Records and Information Management program across the town. For departments that are small, a single Records Liaison could provide support to more than one department.

ISO Standard 15489-1³ defines IM as “responsible for the efficient and systematic control of the creation, receipt, maintenance, use, and disposition of records, including processes for capturing and maintaining evidence of, and information about, business activities and transactions in the form of records”.

While each department is responsible for their own records, it is essential that there be a cross-functional IM program or area of responsibility in order to eliminate redundancy and information silos across departments and to facilitate collaboration, consolidation and information sharing.

Information management is not a “project” but an ongoing administrative responsibility that requires accountability and sustainability.

It is very difficult to administer an IM program that addresses best practices for IM in a decentralized environment. Consistent rules (policies and IM tools such as retention rules, classification and metadata) used across Town departments and tools (i.e. technology) are required, so that Records Liaisons can sustain practices, support IM initiatives, develop and institute training, and oversee compliance with the IM program.

³ ISO 15849 (International Standards Organization).

Implementing the IM program and future technology requires strong, cross-functional teams and dedicated resources (business analysts, infrastructure support, and programming) whose primary responsibility is the IM program.

Moving forward in the future will require a hybrid approach, with business analysts as part of the Records department, with infrastructure support through IT would also make sense. This combines subject expertise and the capabilities of the tools (technology and policy) with detailed understanding of the business requirements (such as workflow). Without the right resource availability, technology deployments will stall, and expected benefits will be delayed or ultimately never realized. The most prominent example of this risk is the fact that in approximately twenty years of using Laserfiche, the final stage of life cycle management, that of disposal of electronic records as determined by the Records Retention schedule, has not been completed. In addition, after more than a decade of using the software to manage records only a fraction of content is held in Laserfiche and a limited number of staff are trained to use it.

The skills needed for an IM Program are too diverse for any one individual to master completely. The Town needs to build up a team that together has all the skills required. A staff competency analysis, to be done during implementation will identify the current skills knowledge, abilities of staff with an in-depth understanding of the skills required to implement and maintain the IM program. This analysis will help to define and even develop special training and education programs. Also, it will help in recruitment plans to hire those who can meet the skill and knowledge requirements regardless of their professional or technical backgrounds.

Several organizations have developed standards for measuring the core competencies required by basic practitioners in the field of records management. These are detailed in “Core Competencies for Records Management⁴”, published by ARMA, a leading professional association in this sector. These skill requirements are important considerations when defining RM Roles required to address the findings and moving the Records Management Program forward to a more compliant records management program.

Appendix 3 includes an extract from the Core Competencies at Level 2. This identifies the knowledge and skills for the following domains:

⁴ “Records and Information Management Core Competences”, 2nd Edition, 2017, ARMA International.

IM Activities and Skill Requirements by Function

Functions	Activities and Skill Requirements
Business Functions	<ol style="list-style-type: none"> 1. Optimize current and future IM functions to support Town operations 2. Identify IM process improvements 3. Create and present meaningful metrics and key performance indicators related to RM program and service, productivity and performance 4. Manage acquisition of IM goods and services via procurement contracts 5. Manage IM budget process 6. Create position descriptions for IM staff, current and future, including requirements and, performance criteria 7. Knowledge of change management principles and the impact on IM 8. Integrate and transfer records for internal reorganizations, mergers, acquisitions, divestitures
IM Practices	<ol style="list-style-type: none"> 1. Develop, review, update procedures to document IM practices 2. Create and implement records retention policies and schedules 3. Manage records retention and disposition in compliance with IM program policy, legal and regulatory requirements and business needs 4. Manage security and protection of organizational information assets in IM storage facilities 5. Oversee operations of records storage 6. Provide guidance and direction and centralized and decentralized file management operations to improve access and control 7. Provide training in IM processes in compliance with organization policies and procedures 8. Establish and promote policies and practices for preservation and maintenance of vital records 9. Delegate IM responsibilities to ensure creation, capture, management, preservation, retention and disposition of comprehensive, reliable, authentic records 10. Define and monitor metadata to describe records 11. Design and implement classification scheme and controlled vocabulary

Functions	Activities and Skill Requirements
Risk Management	<ul style="list-style-type: none"> • Collaborate with legal and risk to implement legal hold process • Design IM assessment to evaluate compliance • Establish and manage access control protocols for IM systems • Develop security classification framework, policies and procedures • Manage privacy and proprietary information control and breach notification process • Assist with implementing, managing and testing business continuity plan to protect mission-critical information assets • Establish vital records programs
Communications and Marketing	<ul style="list-style-type: none"> • Communicate with key stakeholders to ensure organizational understanding of interrelationship of records and business processes • Provide expertise and advice to maintain compliance and promote efficiencies through use of IM program and to internally market IM program • Champion IM program to senior management
Information Technology	<ul style="list-style-type: none"> • Identify emerging technologies to improve management of information assets • Collaborate with IT to meet requirements related to management of repositories • Collaborate with IT to implement IM requirements during the operation, maintenance and closeout phases of the information management system lifecycle
Leadership	<ul style="list-style-type: none"> • Collaborate with IT to define and address life cycle management into information systems design • Evaluate IM staff career development plans through training, review and mentoring

Executive Sponsor and IM Program Champion

An actively engaged executive sponsor will drive and be a critical success factor for the RM program. This is important because information management initiatives will typically impact all areas of Town staff, and managers look to their superiors to understand priorities and important initiatives. The IM team may not be able to compel the various business units to adopt changes, but a good business change management plan and communication from the executive sponsor may motivate staff to support the team's efforts.

An executive sponsor will provide the most help by:

- Rallying support of group management
- Managing stakeholders
- Intervening on escalated issues
- Removing roadblocks
- Championing the Implementation Strategy

And will possess these key attributes:

- Ability to influence stakeholders
- Leadership
- Decision making
- Effective communications

For the Town of Tecumseh this role could be filled by the Chief Administrative Officer or the Clerk.

Information Technology

This group includes systems analysts, business analysts, web content developers, application developers, and database administrators who support the owners of the Town's operational systems in other areas.

IT professionals should:

- Understand that applications and systems need to capture and manage the evidence of Town business needs
- Work cooperatively with RM professionals to design, implement and improve the records management capability, information architecture and accessibility of information within business systems
- Consider the risks involved if records are not managed properly
- Provide input to strategic frameworks for managing information across the Town departments
- Include records management staff on project boards for major IT projects, and participate on records management implementation teams
- Include assessing records management in any testing regimes
- Incorporate records management capabilities into selection criteria for new staff or use them to guide training and development plans for existing staff
- Encourage staff to undertake relevant training

At the current time, there is no analyst dedicated to day to day maintenance and operation of the Laserfiche EDMRS. While support is contracted to a certain extent through ThinkDox, there is regular maintenance and support that should be provided specific to maintenance and life cycle management function of the document repository.

These tasks involve:

- Defining, revising and use of metadata (now existing as templates for documents managed by documents within Legislative Services and Clerk) and standardization and maintenance of metadata/taxonomy to ensure consistent terminology across departments. This will improve findability and set the foundation for future implementation of auto-classification (the ability of the system to automatically categorize documents to the TOMRMS classification) and thus set the record retention period.
- staff training in the use of the system
- project managing migrations of email and network drives content into the managed repository
- oversight of compliant dispositions
- generating metrics to manage and monitor information management compliance
- quality assurance in the integrity and authenticity of records in the managed repository
- planning and participation in transitions to implement additional functions or transitions to alternative EDMRS

This would be a new role for the Town at the Level 2 and could be split in 50% of time spent on IT functions and 50% time on Records and Information Management functions. This would be an ongoing commitment, not a contract role, as more advanced actions such as processes for monitoring compliance with the policy and more advanced workflow processes are developed.

Departments

Identification of Records Liaisons in departments would be a new designation and would account for approximately 8 hours per month. Each Liaison would be responsible for overseeing compliance with the IM program, ensuring the disposition of each department's records in accordance with the Records Retention Schedule (RRS), and serving as a link to the Records Coordinator. For example, the representative would review record destruction requests and approve them based on signatory authority. This role extends the authority of the Records Coordinator into administrative and operational areas and provides a voice to departments regarding any proposed or required changes to the IM Tools (notably the classification scheme and RRS) or related policies and procedures. This approach represents a major shift from departments making decisions regarding records management independently to a more coordinated and consistent program of managing records on an enterprise-wide scale, improving both consistency and compliance.

Department liaison initiatives include:

- Conduct a business process analysis to understand how records relate to the Town's business and its business processes
- Identify IM requirements to document business functions and opportunities for records management efficiencies through workflows
- Produce status and statistical reports by reviewing and analyzing project outcomes and IM activities

- Monitor and report changes in the organizational business environment having an impact on the use of records
- Provide support and guidance to department staff including requests for changes to classification and retention, analysis, and IM services to meet business objectives
- Serve as a subject matter expert when planning and implementing content migration, compliant disposition and defining metadata for Electronic records held in electronic repositories.

The records liaison becomes a local expert and part of a communications network to promote training, implementation and coordination of IM best practices. The representative also provides feedback to the Records Coordinator on IM issues or changes required for varying sets of information requirements.

The requirements and responsibilities for records liaisons need to be defined and explicit. The employees assigned as liaisons need to be assessed to ensure they have the capability to fulfill their duties and to determine if additional training is needed. Depending on the department, it is expected that this role would require approximately 8 hours per month. Some departments may require depending on a records liaison person outside of their own department if resources from within the department are not available or trained in this capacity.

IM Responsibilities of all Staff

All staff are responsible and accountable for making and keeping adequate, accurate, authentic, and reliable records of their work-related activities. All staff, contractors and consultants must:

- Understand that good records management is essential to Town operations and government accountability
- Understand that records can be an important means of making and accounting for judgments where situations are not explicitly covered in policies and procedures
- Know and follow records management policies and procedures
- Use RM properly to meet Town obligations.

To summarize, successful IM programs focus on strategies that enable employees to meet Town and departmental goals. If there is a clear and distinct commitment to resources supporting the program, and there are mechanisms in place to clearly demonstrate that everyone has their part to play, the program will become a natural and assured element of daily life.

Emphasis on Compliance

It is increasingly important to understand the Town's compliance responsibilities to prevent or mitigate the risk of public embarrassment, litigation or civil actions. Compliance is ensuring that policies and best practices are being followed, and that practices are in line with the retention

schedules by-law. When the Town is audited, compliance with the appropriate laws is one of the items that needs to be verified.

The Town needs to regularly assess the effectiveness and efficiency of their IM systems and processes to ensure that they are satisfactory and meet user needs.

It is important to regularly monitor the management of records within the Town to ensure the effectiveness and efficiency of IM systems and processes, and conformity with Federal, Provincial and local IM requirements as well as business and operational needs, and associated standards and best practices.

Using multiple document repositories results in diverse local information-related practices without clear, uniform sets of information management guidance. Conflicting practices make compliance difficult, if not impossible, negatively impacting productivity and introducing risk.

Records provide evidence of business decisions and transactions and are required to prove compliance with applicable laws and internal policies. The Town needs to improve its control and management of records to provide proof of compliance in the same way its financial systems provide control and assurance of financial transactions.

Town staff want to do the right thing and meet requirements, but they need guidance to know what to do and how to do it. Use of tools to assist them in automating IM practices to ensure policies are followed systematically in the normal course of business are needed.

Keeping it Simple

Building IM into business processes using pre-defined management rules (for example, the TOMRMS classification, retention schedule, and security classifications) that have been formally agreed to by the business eliminates day-to-day decisions by information creators/receivers. Content in repositories has lifecycle management rules incorporated into its design, and disposing records at the end of the retention period becomes an automated function...

Planning and Oversight

In order to consolidate the planning and oversight of the IM Implementation Strategy, there should be a formalized group of stakeholders who have both specialized knowledge and strategic knowledge to coordinate and rank objectives and provide direction through the process. Generally, membership of the oversight or working group should include:

- Clerk or Deputy Clerk
- Internal Audit, Director of Financial Services/Treasurer or a delegate
- Director Technology and Client Services
- Records and Information Manager * (Potential New Role)
- Electronic Records Analyst *(Potential Contract Role during Implementation Period)

- Communications/ Web Site/ Media Role
- Departmental Record Liaisons Representatives (1 Rotating Roles based on stages of implementation in different departments) The idea of rotating roles addresses projects to bring automated workflows on board in specific departments during the later implementation phases.

This group ideally would meet quarterly to review audit and compliance reports, provide oversight on IM/RM Practices and Policies and review and adjust IM Implementation plan and budget.

Audit and Monitoring

Records management performance and related metrics are relatively new to the IM discipline as the industry is beginning to embrace IM compliance as an integral part of the information governance framework model. Results-oriented organizations are finding ways to measure performance in both formal and informal ways.

The Town should introduce IM performance and compliance measures and related metrics to gather data, measure against known standards or best practices and to take appropriate action for continuous improvement of the IM Program.

Performance measurement is a systematic way of assessing whether the Town is reaching the goals and targets of the RM Program. These measurements offer the following:

- a means of communicating success to stakeholders;
- a way to show evidence that the RM program adds value to the enterprise;
- a common approach that applies to all levels within the enterprise from strategic to operational units; and,
- a collaborative and repeatable process involving all stakeholders

For the development of metrics, the following international and national standards and best-practice concepts have been adopted:

- ISO 15489-1, Information and documentation – Records Management – Part 1: General;
- CAN/CGSB 72.34-2017 – Electronic Records as Documentary Evidence; and,
- The Principles® (ARMA International) - Generally Accepted Recordkeeping Principles

IMERGE recommends that the Town undertake two types of monitoring activities to understand how departments are performing and to identify those areas which require further attention. Two types of monitoring activities are:

- performance monitoring, and
- compliance monitoring.

Performance Monitoring

Performance monitoring involves an in-depth analysis of a process or project to determine whether it is efficient and effective. It involves developing criteria, conducting interviews, and examining documentation to determine how the process or project is conducted. This type of monitoring is also referred to as a process audit.

Performance monitoring can also include targeted assessments of RM, for example assessing high risk business areas to ensure that records are being created and captured, and that records are adequate (i.e., whether records being created and captured are adequate for providing evidence of business decisions or transactions).

The starting point for some performance monitoring activities may be the identification of a business issue/problem. The Town can then analyze the problem and develop corrective actions which may involve updating processes or developing new processes.

Compliance Monitoring

Compliance can be defined as adhering to the requirements of laws, industry and organizational standards and codes, principles of good governance and accepted internal standards

Compliance monitoring and compliance auditing establish whether a process or procedure is carried out in conformance with relevant external requirements, whether set through legislation, regulations, or policies. It involves examining at a straightforward level how the Town completes a process in conformance with compliance criteria.

Compliance monitoring activities can include assessing:

- compliance requirements
- the RM program's efficacy
- the records management system and the business systems that create and capture records

Accurate, up-to-date records of the Town's compliance activities should be maintained to assist in the monitoring and review process and demonstrate conformity with compliance requirements. Initially this could be as simple as a dashboard showing the number of records added to the document repository, the number of records deleted as per the rules in the Records Retention Schedule, and the number of records held in unsecured locations such as in Email or Network drives. Done once annually this is an important tool for assessing the value and success of the Information Management strategy.

Role of Finance / Internal Audit

An Internal Audit group or representative of Finance with a well-defined framework for internal auditing of business unit operations can be tailored to incorporate an IM Program audit.

The mission is to assist Senior Management with the effective discharge of their duties regarding internal control by providing reports and analyses on the effectiveness of internal controls, the integrity of reporting, the management of information assets, and the risks to the Town.

This involves provision of:

- assurance to management and leadership that internal controls are adequate in areas of high risk; and
- follow-up and report on management actions to address findings from past audits

With limited staff resources, this can be addressed by limiting the extent of the IM audit to a rotating cycle. Each department is only covered periodically in a five-year cycle or if warranted based on RM shortcomings as highlighted during RM performance and compliance monitoring.

Risk Mitigation and Compliance

The risk of not having a compliant IM program results in the Town not having proper control over the management of electronic records for meeting evidentiary and compliance requirements, and not achieving productivity gains in the operation of the enterprise and the quality of service to its customers. Over the long term, the risk results in the missed opportunity of using the electronic records as a corporate asset to achieve efficiencies and agilities moving forward.

An essential goal of IM is to assess and mitigate risk.

The initiation of this project is a critical step to improve IM at the Town. RM strategies require behavioral or attitudinal changes and the support and involvement of the entire organization, not just the work of a few. There are four fundamental actions to implement IM:

- Provide continuous support that is relevant to everyday processes
- Continuous monitoring and assessment to have constant visibility so that employees know the program is here to stay and that they are expected to adhere to it
- Engage employees to implement IM in their business processes
- Provide training and ensure there are easily accessible avenues to ask for help

Information Management Metrics

Records and information management performance and related metrics are relatively new to the IM discipline as the industry is beginning to embrace RM compliance as an integral part of the information governance framework model. In results-oriented sectors (both public and private), organizations are finding ways to measure performance in both formal and informal ways.

This section deals with how to introduce IM performance measures and related metrics to gather data, measure against known standards or best practices and to take appropriate action for continuous improvement of the IM Program.

Performance measurement is a systematic way of assessing whether the Town is reaching the goals and targets of the Information Management Program. It offers the following:

- a means of communicating success to stakeholders from year to year;
- a way to show evidence that the RM program adds value to the organization;
- a common approach that applies to all levels within the organization from strategic to operational units; and,
- a collaborative and repeatable process involving all organizational stakeholders.

Frequency of Performance Measurement

Once the information management program and software management repository are fully operational for access and disposition, a period of time (for example, after one year), a frequency cycle of performance measurement should be applied. The application of performance measures must contain criteria that are set by the department Record Liaisons. The resulting reports should be shared between the departments and the Records and Information Manager on the progress in attaining improved information management practices.

Conducting performance assessments against performance measurements is a time-consuming process. Many organizations choose to select only a small number of metrics to be applied to all business units, and only conduct in-depth reviews for all parameters as part of a records audit process on a selected, rotating basis (e.g., two business units per year). IMERGE is recommending that the GARP assessment and a review of the Records Management Program using selected metrics (for example, how many email, paper and electronic records are under Information Management control) be done annually, with the records audit processes being done on a rotating basis in tandem with other scheduled operational or financial audit processes.

GARP Annual Assessment

The GARP[®] (Generally Accepted Recordkeeping Principles) as formulated by ARMA International, a leading professional records management association, is a simple means of evaluating an information management program in a simplified and generalized manner, resulting in a visual representation on the degree of maturity and compliance of the program with international standards and best practices. This evaluation process of the Town's current records management program was completed by IMERGE during Phase 1 of this Project, and IMERGE recommends that the Town carry out this assessment annually in order to measure progress from the established baseline.

The Current State Assessment report of this project contains a full description of the eight categories measured and the factors that impact scoring, all of which constitute the GARP[®]. While this is a highly subjective representation, it is a very broad sweep benchmark to visually demonstrate progress in the early establishment of a compliant information management program. Most government agencies of similar size begin the process in the Red or Orange target area. Setting a target score of "yellow" is a large step towards compliance and a starting goal for

embarking on a newly established information management program. Given that the Town of Tecumseh began use of Laserfiche twenty years ago, they have a well-established start in understanding the importance of managed records repository. Articulating specific goals that are tied to the eight principles in GARP© also serve to drive priorities for the information management planning process. The expectation is realistic, that the level of “blue” can be reached by the Town within a three to five year window.

IM Snapshot

The purpose of an IM Snapshot Report is to provide a quick “snapshot” or numeric and quantitative summary of key information management activities both in a department and cumulated across the Town departments in a consistent form.

It is used as a visualization (or “big picture”) and planning tool and allows one to set annual recommendations and targets. It is often comprehensive in that it includes electronic records, paper records and an average breakdown according to staff complement (i.e., how many).

The RM Snapshot Report most often measures these key metrics:

For Electronic Records

- Email Volume
- Volume of Records on network drives (shared drives)
- Volume of Records in the managed repository (supported by EDMRS System/Content Services)

For Paper Records

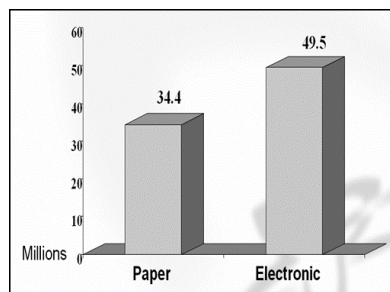
- Active record volume (in linear feet)
- Inactive storage activity (stored volume [boxes], recalls, destructions, per department)

These reports are generally reported at the Town Level (reporting on a total for the Town), as a Department Summary (providing a high level and simple number for a specific Department), and as a Department Detailed Report (additional details that relate more closely to specific records management objectives of the department’s records initiatives). In summary, the numeric Snapshot Reports cover all areas and should include these sections:

- Year in Review (Key Highlights)
- Positive Indicators
- Key Areas of Concern
- Recommended Future Actions

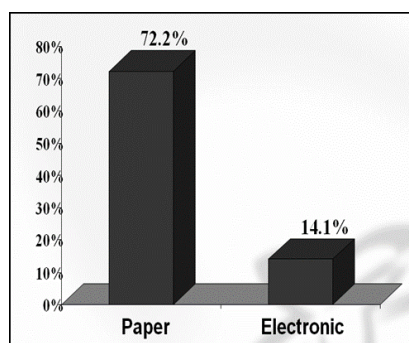
Below is an example (not with Town data) of how this can be represented.

How many records do we have?



Example of Compliance Rates (Not Town of Tecumseh Data)

How many Records are under Life Cycle Management, i.e., classified and tied to a records retention schedule)?



Data reflected in these diagrams could be tied to the more detailed information reflected in the figure and is used to track the shift from Paper to Electronic records and to also track the volume of records (especially electronic) that are held in the managed repository under life cycle management. The data is primarily system generated, with paper record data coming from annual reports submitted by the Records and Information Manager.

While the RM Snapshot appears to be simplistic, there are very strong arguments for the benefits of using an RM Snapshot as a simple way of summarizing volume of records under records management control, especially in the early years of stabilizing and improving the existing program.

The benefits include:

- providing a once-a-year picture of where the issues are;
- setting the bar for uniformity within the departments as well as corporate-wide;
- providing a roadmap for work plans and projects;
- tying the numbers to everyday behaviors;
- using the numbers as a basis for performance management;

- allowing managers to be more confident in supporting decisions related to records management; and,
- providing a basis for competitive or incentive-based motivators for compliance.

As a history of this type of reporting is created, the most common use is to tie compliance targets to individual staff performance management and to link targets to audit compliance.

“Greening” Targets

Many organizations also use the consumption and printing of paper, and the objective of reducing and or eliminating paper as “greening” targets in their environmental planning and the business processes that use paper for reporting. The shift from paper to electronic records can be demonstrated with the specific and summarized snapshots so that different departments can be targeted and assigned more aggressive “greening” targets. These numbers often get translated not only into paper cost savings, but related savings in file cabinet equipment, photocopiers and toner, and floor space as file cabinets become surplus.

Enforcing Compliance with Information Management

Performance Incentives

One means used by many organizations to enforce compliance with its Information Management Program is the inclusion of metrics in individual performance incentives. This could be done for all staff or could be limited to specific Record Liaisons in departments. The concept is that individual staff members build information management targets into their annual performance plan/agreement. This could be as simple as setting goals for transitioning from paper to electronic records, setting targets as to the number of documents moved to the managed repository, or the number of paper records classified and managed under life cycle control.

IMERGE recommends that incorporating information management targets into individual performance incentives be introduced later in the implementation cycle, to allow time for training and understanding of the Information Management Policies and Procedures, the development of metrics and reports, completion of training, and a degree of familiarity and comfort with the automated system. Typically, this would occur in year 4-5 of the Information Management Program implementation.

Annual “Records Cleanup” Day

Another strategy for raising awareness of the importance of, and enforcing compliance with, the Information Management Program is the introduction of one day in the year which becomes a Corporate “Records Cleanup” day. This is often held at a point close to 30 days after the end of the fiscal year. It involves all staff attending in casual day, cleaning type clothes. No meetings, or external visitors are scheduled on this day. Contests to encourage disposals (in accordance with the Records Retention Schedule), or transfers of records to the electronic repository, deletions of non-record emails, and other activities are to be strongly encouraged and carried out.

Recognition is provided for departmental record champions and their respective departments who make strides in information management compliance as measured by the IM Snapshot type metrics. This type of activity to encourage compliance with the records management program usually begins in Years 3-5 after implementation in order to ensure that training, systems and metrics reporting tools are well established in the organization.

Information Governance Tasks

The table below lists the tasks and timing for initiatives related to Information Governance.

Task No.	Action	Implementation Year	Tasks
IG 1.1	Planning and Oversight	Year 1	Develop working group to review and approve IM program requirements, initiatives and IM Tools (policies, classification schemes, file structures and retention schedules).
IG 1.2	Planning and Oversight	Year 2	Develop three-year plan for compliance with each department
IG 2.1	Roles and Responsibilities	Year 1	Formalize roles and responsibilities of the Records Management and departmental staff
IG 2.2	Roles and Responsibilities	Year 1	Review and assess department IM responsibilities and staff capability for management of electronic records, physical records, technology and policies
IG 2.3	Roles and Responsibilities	Year 1	Formalize new RM roles and responsibilities, and prepare budget adjustments and recruitment plans
IG 2.4	Roles and Responsibilities	Year 2	Recruit/ Train for new roles
IG 2.5	Roles and Responsibilities	Year 2	Develop legal hold policy and procedures and formalize role/responsibilities
IG 2.6	Roles and Responsibilities	Year 2	Detail roles and responsibilities of departmental records liaisons assign responsibilities
IG 2.7	Roles and Responsibilities	Year 3	Conduct analysis to identify key records owners and establish skill sets and needs
IG 2.8	Roles and Responsibilities	Year 3	Assign Department liaisons to develop plan for applying retention to legacy paper and electronic records past retention requirements
IG 3.1	Monitoring and Auditing	Year 1	Identify metrics for electronic records volumes by repository. Establish base line metrics for records held in repository under compliance with policies (retention/disposition)

Task No.	Action	Implementation Year	Tasks
IG 3.2	Monitoring and Auditing	Year 2	Identify metrics for records disposition in shared drives and at the user level establish goals for streamlining
IG 3.3	Monitoring and Auditing	Year 2	Verify retention requirements meet business needs and compliance with operational and regulatory requirements
IG 3.4	Monitoring and Auditing	Year 3	Conduct an audit of records compliance with RM policies and RRS
IG 3.5	Monitoring and Auditing	Year 4	Develop corrective action plans to improve compliance

Roadmap for IM Corporate Practice and Approach

Overview of IM/RM Corporate Practice and Approach

(Principles of Transparency, Availability, Retention and Disposition)

These tasks include:

- Update, simplification of IM Policies and Procedures to include Roles of Records Coordinator, Technology, Liaisons
- Document Legal Hold process within Records Management Procedures
- Disposition actions to activate the Records Retention Schedule for electronic records and Implementation of Disposition Rules through automation of the Records Retention Schedule, initially those held in Laserfiche repository and then other records repositories
- Eliminate duplicate, redundant or obsolete records held in the Laserfiche repository
- Metadata definition in order to normalize vocabulary usage across Town departments, in order to set the foundation for auto-classifications, and flag personal information and vital records.

Consolidation and Update of IM Policies and Procedures

It is important to update RM Policy in order to:

- Identify record groups within TOMRMS that may contain personal identifiable information (PII)
- Identify record groups within TOMRMS that are “vital records” (records to be recovered first in case of emergency and for which backup is critical)

In the prior decade, the responsibility for labelling, organizing, providing access to and disposing of information was the responsibility of RM professionals. The digital world has forced responsibility for organizing and accessing information downstream to the user creating information as documents and records. The digital world requires users to have a direct role in describing and managing their information assets. Everyone who creates a document, completes business transactions or needs information to support decision making must be able to capture/file and retrieve information. Document naming and organizational approaches are affected by their creators' individual perspectives or ways of understanding the information, which makes categorizing information a challenge and lack of naming consistency an issue. Personalized naming conventions versus a defined structure was broadly reported to the consultants as an issue.

Legal or Administrative Hold Policy

The legal hold process puts a stop to any retention and disposition action on documents that may be subject to any formal or legal request including the legal discovery process. The legal hold process must be analyzed, mapped (flowcharted), and redesigned to increase its defensibility. Redesign should take place immediately, but the process needs further revision and improvement once metadata has been developed, and if and when metadata strategy are implemented, along with new content services, File Analysis and Content Remediation software (FACR) capabilities are used. Then users must be trained, and the process monitored for compliance.

Once a legal hold policy is created, there needs to be a process to remove records from legal hold and to destroy legacy records from past legal matters when no longer needed.

Criteria to consider for removal of the hold to allow disposition under RRS rules include:

- matter close date
- exhausted appeal process
- expired statute of limitations
- no requirement to keep intrinsic or original documents

On direction of legal advisors, records that are off legal hold and eligible for destruction under the RRS. Process the records as a one-time destruction.

When employees and executives get a legal hold notice, many will save email information they think is relevant into an email archive file or a folder in their Outlook application. This information may be accessible on their mobile devices. Make sure mobile device information is governed during the matter and the retention period applied once the hold is lifted. Follow-up with employees to ensure legacy records taken off hold are properly dispositioned to minimize risks from a lost laptop or phone. Employ remote-wipe capabilities to delete information on lost or stolen devices.

Identify and destroy obvious duplicates – typically there are many copies of the same document or email stored in multiple places. If there is push-back on destroying these documents, at least destroy the duplicates of documents with expired retention.

Classification (Arrangement)

The use of TOMRMS is a valuable tool in addressing grouping of common types of records and connecting the records to a retention requirement. TOMRMS follows a functional approach to managing records which is consistent with best practices as defined in the ISO Standard 15489. Maintenance may include the addition of missing record groups, or the removal of record groups not relevant to the Town's operational requirements. Maintenance of TOMRMS is minimized on the basis of the subscription service purchased by the Town.

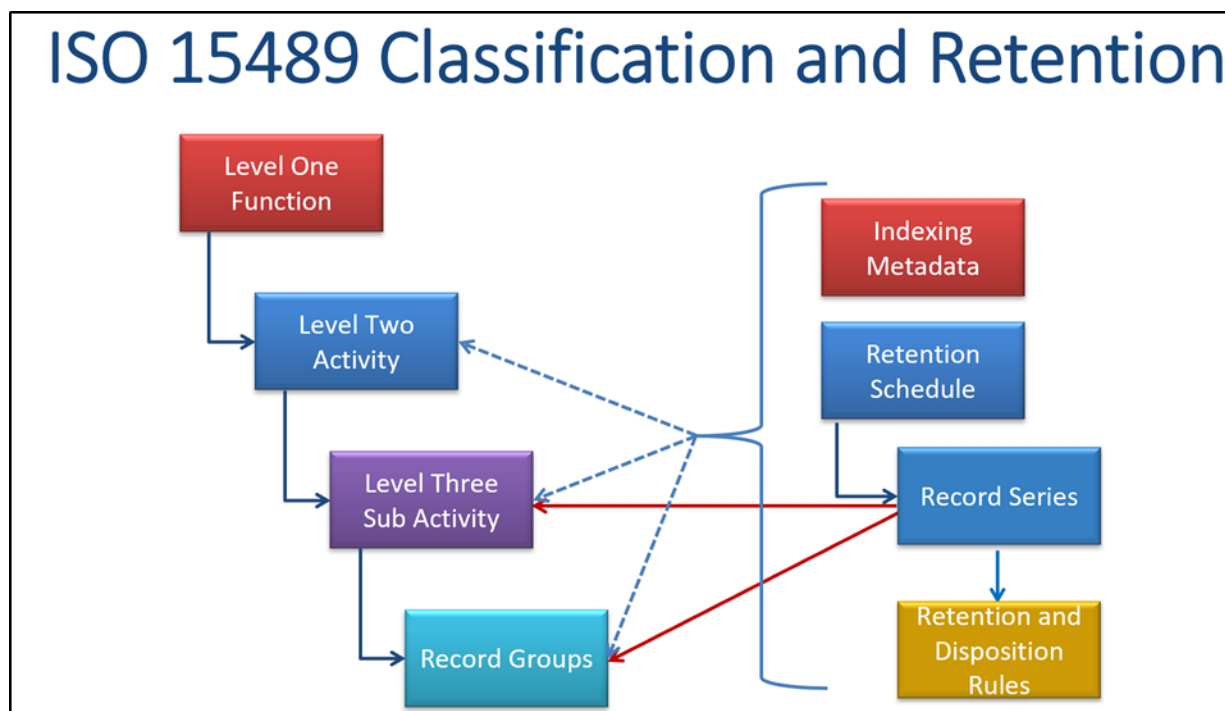
Enhancements to classification could include adding vocabulary and metadata to improve retrieval and set the foundation for future auto-categorization.

Most important is the need to add the classification code as a metadata field to records not currently in the Laserfiche repository to allow for compliant disposition. More extensive use and application of this code across all content including email and documents stored on network drives will address the following departmental issues identified during the current state assessment:

- findability and access,
- lack of direction for managing email and attachments,
- absence of naming conventions,
- difficulty searching for documents in network drives
- overall life cycle management of electronic records.

Mapping Classification to RRS

Best practice uses the ISO 15489 guidelines for unified functional classification schemes which are linked to the retention schedule to apply retention and business rules to records for disposition. End users, when they classify a document (usually by selecting its document type, e.g., invoice, correspondence, contract, etc.), are transparently assigning retention rules as indicated in the diagram below.



Ongoing Maintenance of RRS

The RRS requires ongoing maintenance to support changes in vocabulary, additional record types, or changes to retention as regulatory requirements, programs or conditions change. Once

the RRS has been implemented and applied to documents and records, a change history should be kept and audited so that the Town can prove records were managed appropriately. Changes could include changing groupings (record series) or categories, splitting a large category into two, updating retention rules, etc. This cannot be done without considering all records that are currently attached to that category. Conversely, some categories may not be used; when this occurs, the category may be omitted from future RRS.

It is essential that the process of maintaining the RRS is centralized and that a procedure is established allowing all records/documents creators to understand the RRS change process. The resulting changes need to be published and communicated on a regular basis (e.g., annual updates posted to an Intranet for updating systems and applications). Automated updates to repositories holding records for disposition, and with metadata (classifications) that utilize the records retention schedule should be automated as updates to the Retention Schedule are received (a few times per year, or annually).

Disposition Implementation

Once the Functional Classification has been adapted to the Town's use, the existing records retention and disposition rules can be reviewed and updated to include previously missing records, update retention periods to improve compliance, and map records retention rules to any regulatory or legal retention citations. This is an essential step in implementing disposition actions on electronic records. It will have a significant impact in:

- reducing the number of stored records which reduces backup time and cost,
- reduce the volume of documents that will need to be provided based on access to information requests,
- allow for easier finding of documents by eliminating duplicates and multiple versions of the same records.

Disposition Process

Review the procedure and approval process for records being tracked in RM systems that have met retention requirements and are not subject to legal hold. In the retention schedule, identify:

- Record series that do not require approval for destruction. This would include most drafts, duplicates, convenience copies, transitory records and other low-value low-risk records.
- Records that require review prior to destruction.
- The identity of the records owner or custodian responsible for maintaining the official record and disposition review.

The disposition review would be sent to the records owner or custodian for review. If records are identified requiring further retention, the owner or custodian should complete a request for hold and provide justification to extend retention. The request and justification should be reviewed by the Records Coordinator for action or escalated up in the reporting structure. All remaining records should be destroyed as soon as possible.

Defensible Deletion

In some departments, the official record is kept in paper format only; electronic records that meet the definition of records are often printed and kept in file folders. Most often, however, staff are unsure as to which of the records constitute the “official” record and end up keeping both the paper and electronic records. Keeping two formats of records synchronized represents both added cost and a liability.

A clear policy should detail which is the official form of the record and which is a convenience copy, each with their own retention period. The retention will be defined for the official record and the department of responsibility, most often the originator of the document. If copies are made (i.e., in paper or as a renamed electronic record) they are convenience copies and can be treated as transitory records.

Staff needs to be trained to understand that the originator of the document has the responsibility to manage the document as a record. In the case of uncertainty as to whether a document is an original or a copy, the copy would inherit the same retention as the original.

Legally defensible records management programs are built on solid RIM policies and tools (Classification and Records Retention Schedule). To accomplish defensible deletion (or disposition) the Town must prove that policies and accompanying disposal procedures were executed in the normal course of business and in good faith. It is difficult to prove adherence to policy without software that audits the destruction actions. Defensible deletion is yet another value of managing records within an EDMRS system like Laserfiche.

Applying a defensible deletion policy to legacy content and cleaning up the legacy environment reduces the long-term costs and potential liability of content on backup tapes and other servers. The policy can mandate that records are moved, de-duplicated or defensibly deleted. Defensible deletion triggers can be based on owner, record created, last accessed and a series of searchable metadata.

Metadata Definition to Improve Access and Provide Basis for Auto-Classification

Consistent use of metadata has a great impact on many aspects of Information Management control. It serves to normalize vocabulary across business functions and greatly improve access to documents and records. More importantly, it sets the foundation for eventual auto-classification of documents and emails which reduces the burden on staff to spend time categorizing or cataloguing their documents. Use of metadata also simplifies the management of protecting personal information and identifying vital records. Key to the success of managing metadata is the procedure for maintaining the metadata as new issues, terms and concepts emerge.

Taxonomy, Classification and File Structures

An understanding of the relationship between Town operations and records form the foundation for developing tools and other mechanisms to establish lifecycle management of records and information. Building on TOMRMS with a clear metadata strategy is essential for categorizing

records, particularly in an electronic environment; and is required for users to search, retrieve, and manage records through their lifecycle and must be based on user terminology and vocabulary. Folder structures on shared drives or in Outlook are examples of classification schemes that are developed organically in an ad hoc manner.

Metadata

In simple terms, metadata is "data about data," it is generated whenever data is created, acquired, added to, deleted from, or updated in any data store and data system in scope of the enterprise data architecture, including data about documents and records stored in repositories.

A simple definition is any code or software-defined object having descriptive attributes or fields. In a system, metadata represents data elements with defining information about, for example, a document or photo file -- an object. Metadata elements can include date and time of file creation, date and time of file modification(s), author, file location, and so on. All of this data and information is crucial to the accuracy and integrity of the file object. Metadata must only be changed through a controlled process usually a centralized function overseen by a Records Coordinator.

Metadata management provides important benefits including:

- **Consistency of definitions.** Metadata contains information about data that helps reconcile the difference in terminology such as "members" and "customers," "revenue" and "fees," etc.
- **Clarity of relationships.** Metadata helps resolve ambiguity and inconsistencies when determining the associations between entities or objects stored throughout the data environment.
- **Clarity of data lineage.** Metadata contains information about the origins of objects and can be granular enough to define information at the attribute level; metadata may maintain allowed values for a data attribute, its proper format, location, owner, and steward.

One- Time Destruction Projects

A one-time destruction may be required to eliminate old, valueless paper records not covered by the RRS or when retention periods are updated during the annual retention schedule review process. Examples of records that may be subject to a one-time destruction include miscellaneous records for former employees and other records which have not been used for many years. These may also be considered abandoned or orphaned records. Old records rarely have operational or legal value. It is inappropriate to devote a lot of time or resources to inventorying, organizing, or appraising them. Courts are concerned when records are selectively destroyed or selectively withheld from destruction. A one-time destruction may be more suspect than normal records retention and disposition. The one-time destruction project must be carefully developed, documented, and implemented to alleviate these concerns.

1. Set project scope. Identify the prospective records subject to the one-time destruction. Select only those records meeting the requirements and begin scheduling the remaining records under the regular disposition cycle.

2. Review the content. Conduct a random sample of the prospective records to determine their content and scope, when the records were last accessed or used, and their value to the Town. A complete inventory of the records is not required for this type of project.
3. Classify the records into specific groups or record series. For example, candidate records for destruction can be classified as “miscellaneous (orphaned) records of employees no longer at the Town and older than ten years”, or “back-up tapes no longer required for recovery older than two years”, or “records of all defunct business areas which ceased to exist prior to [year]”.
4. Tag records identified as orphaned and decide upon a specific time period; say, five to ten years, and destroy the records after that time period.
5. Ensure records selected for the one-time destruction do not include records that must be retained under the current retention schedule. For example, records subject to current audits or litigation must be retained until the audit requirements are met or the litigation hold has been removed.
6. Prepare a description for each group of records eligible for a one-time destruction. Records with continuing retention requirements should be clearly identified and retained.
7. After completing the destruction plan obtain approvals as required by the records management policy. For example, legal counsel, tax and audit, department managers and the Records Coordinator need to sign off.
8. Destroy the selected group of records at the time designated in the destruction plan as consistently as possible.
9. Thoroughly document the scope of the records and the date they are destroyed. Because the one-time destruction is based on random sampling, it is recognized that some valuable records with on-going legal retention requirements may be destroyed; but following the procedure should have a sufficient degree of accuracy to meet the needs of the Town and indicate the Town attempted to act reasonably and in good faith to comply with current policy and legal requirements.

While the above one-time destruction describes physical records, similar rules apply to digital records. However, there is rarely a formal process for deletion of digital records (one reason no one does it). Using File Analysis and Content Remediation (FACR) tools, however, it will be possible to identify, tag, and delete (or quarantine) digital content using a controlled, audited process.

IM Corporate Practice Tasks

These tasks are summarized in the table below:

Activity	Action	Year	Tasks
CP 1.1	IM Procedures	Year 1	Review business processes to ensure records are managed and stored securely
CP 1.2	IM Procedures	Year 2	Consolidation and simplification of policies and procedures for RIM, including electronic records disposition, legal hold, and email management policies
CP 1.3	IM Procedures	Year 4	Review and revise RM policies and procedures to include transparency statements
CP 2.1	Classification	Year 2	Extend use of TOMRMS classification to electronic records not held in Laserfiche through metadata fields
CP 2.2	Classification	Year 2	Audit Laserfiche content to assess volume of records not attached to TOMRMS category.
CP 2.3	Classification	Year 2	Devise process to update TOMRMS based on input from Records Liaisons for those records not covered by TOMRMS
CP 3.1	Disposition	Year 1	Develop procedures and processes for automating updates from TOMRMS into Laserfiche
CP 3.2	Disposition	Year 1	Develop an implementation policy for disposition processes for electronic records
CP 3.4	Disposition	Year 2	Update inventories with details of the destruction, use review sheets, or keep a record of when destruction or deletions were carried out in compliance with retention schedules
CP 3.6	Disposition	Year 2	Develop procedures and guidelines on deletion of duplicates and obsolete electronic records
CP 3.7	Disposition	Year 3	Develop plan for applying retention to legacy and orphaned electronic records
CP 4.1	Metadata	Year 2	Add metadata for security, privacy and other business process related classifications to RRS
CP 4.2	Metadata	Year 3	Develop metadata management framework and file naming convention or standards
CP 4.3	Metadata	Year 4	Improve organization of information with uniform metadata standards
CP 4.4	Metadata	Year 3	Establish departmental thesauri, file arrangement and metadata

Roadmap for Storage and Security

Storage and Security

Storage and Security encompass the following:

- Security of Access
- Email Management
- Security of Physical Records in Inactive Storage
- Content Migration from Shared Drives or other repositories to controlled repository with life cycle management
- Long term digital preservation for records held longer than 10 years

Security

There is a need to identify Vital Records as an entry in the Records Retention Schedule.

This has value in the availability of a Disaster Recovery Plan. This usually involves identifying those records designated vital which should get priority in a data recovery effort, and which should be protected by redundant versions or the records that are up to date or synchronized over time. Older paper records that are identified as vital may require a digitization plan.

Other security provisions also identify those records that are internal, confidential, or public. They also should contain a flag for those groups or records which may contain personal information and would need review and redaction prior to release or publication.

Security of Paper Records in Inactive Storage

At the current time records held in inactive storage areas pose a risk because:

- No logs are kept of entrance or access to storage areas
- Box labels provide too much information (e.g. Payroll) and provide a privacy breach risk
- Some box labels include sticky notes which dry up and fall off over time

Best practice is to only indicate a box number on the box, and use boxes with attached tops. Generally a file list is attached to the inside of the box. The box number is recorded in a data base which includes the TOMRMS code, the box/shelf location, and the disposition date. This insures that anyone from any department entering the storage area only has access to the box number they are seeking. The Records Coordinator is responsible for consolidating these spreadsheets and overseeing disposition. At some point in time, these physical boxes can also be incorporated into Laserfiche to automate this retention management function.

Content Migration

Review legacy systems and databases that hold content to determine which content has value for migration into a currently maintained repository, and actions required to bring content into compliance with life cycle management practices. Plan phases to eliminate redundant, obsolete, or transitory content and merge duplicates. Categorize and assign retention or identify for digital preservation actions.

Corporate Record Cleanup/ Content Migration

- ROT (redundant, obsolete, transitory)
- Deduplication
- Inactive storage security
- Disposition process review

Permanent Records – Long Term Digital Preservation

In order to safeguard digital resources, whether digitized from analog or “born digital”, an aggressive digital preservation program is necessary for records which will be held for ten or more years. Unlike in the case of analog materials, it is not possible to adopt a policy of benign neglect and hope for the best, as this is sure to guarantee that your digital resources will become inaccessible because of format or equipment obsolescence or corruption within the digital files themselves. The goal of digital preservation is not to preserve the original files in the exact form in which they were created, which is impossible, but the accurate rendering of authenticated content over time.

The first step in digital preservation is to ensure that standards and best practices are followed in the creation of the digital files, otherwise all other activities following will be in vain. Thereafter, approaches to digital preservation must include one or more of the following four procedures, as necessary:

- **Refreshing:** transfer of data between two types of the same storage medium so there are no changes or alteration of data
- **Migration:** transferring of data to newer system environments, converting from one format to another or from one operating system to another
- **Replication:** creating duplicate copies of data on one or more systems
- **Emulation:** replication of functionality of an obsolete system

In addition, it is necessary to undertake the following steps at various times in the life cycle of the digital files.

Check and Create a Verifiable Manifest

An organization's capacity to undertake digital preservation can be assessed against its ability to manage storage, file fixity (stability of magnetic media), information security, metadata and file formats. This includes:

- Recording exactly what files are in your possession
- Creating a verifiable manifest (list of files in a particular collection, along with a checksum which acts as a "digital fingerprint"); this process verifies that all files are present and undamaged at any point in the future
- Normalizing; consolidating a range of formats to minimize duplication and eliminate problem formats

Choosing File Formats

- Recognizing requirements of collection content and choosing file formats to preserve those qualities
- Open source formats, such as JPEG2000, PDF/A are seen as good choice
- Proprietary formats, such as TIFF⁵, are very robust; however, they are susceptible to upgrade issues and obsolescence if the owner goes out of business or develops a new alternative
- For many new areas and applications, e.g. Geographical Information Systems or Virtual Reality, only proprietary formats are available
- Looking for a standard which is well-documented and widely implemented
- Choosing compression methods; lossy v lossless compression; one way of deciding is to choose lossless formats for the creation and storage of archival masters, lossy formats for delivery / access purposes
- Identifying a consensus of agreement on target file formats; collaborating with institutions which hold similar collections. For some kinds of content, there is consensus around the choice of preservation format, e.g. audio

Copying

- Stabilize files: make copies
- Keep (at least) one copy easily accessible on non-removable disk. Regularly revisit material to ensure its integrity, so keeping it accessible will make this easier

⁵ Adobe currently holds the copyright for both PDF and TIFF. PDF is currently the standard referenced in the ISO 32000-1 standard. <https://www.adobe.io/open/standards.html>

- Keep one copy in a different geographical location to the others to mitigate against disaster

Check and Recheck

- Revisit and inspect on a frequent basis to ensure no damage or accidental loss has occurred
- If yes to above, recover files from the copies or backups
- If the verifiable manifests are recalculated and the digital fingerprints (or checksums) do not match those originally created, bit loss or damage has occurred
- Perform test recoveries of data backed up by third party services to ensure backups are being performed as agreed

Document

- Document as much as possible of a collection's assets and the tools and workflows used, as well as technical and descriptive metadata
- Document processes involved and keep documentation of workflows and policies
- Retain this information for the purposes of longevity because knowledge base and skillsets that were used in the creation of the collection can be lost

Authenticity of the Digital Files

- How to guarantee the authenticity of digital materials over time
- Number of methods are used including following best practices in data security and backups, metadata generation to track all activities in all phases of the objects' lifecycle and the use of digital signatures and digital certificates for transfer of materials in and out of the digital archive
- Digital objects and records can be subjected to many transformations over their lifecycle as archivists work to keep them accessible to users
- Preservation activities and information about provenance must be well-documented

Planning and Organization

- Establish an organizational preservation strategy and policy
- Establish a digital repository. Technical solutions and tools either on local IT infrastructure or offered as a cloud service will help to understand, manage and preserve digital material for the long term
- Establish long-term storage and action
- Build the necessary staff training, development and skill sets
- Establish a professional network and collaborations. Join a digital preservation membership organization which may be established with local universities, libraries or archives (e.g.

University of Windsor). This allows access to open source software for digital preservation and sharing of expertise with other regional collections requiring digital preservation.

- Keep up-to-date with new developments

It is of the utmost importance that an organization is able to incorporate all of the above requirements into its daily routines otherwise the money spent in creating the digital files will be wasted. If an organization is unable to do this, the best solution is to implement digital preservation through a cooperative model, or join forces with other organizations to share the costs of the activities.

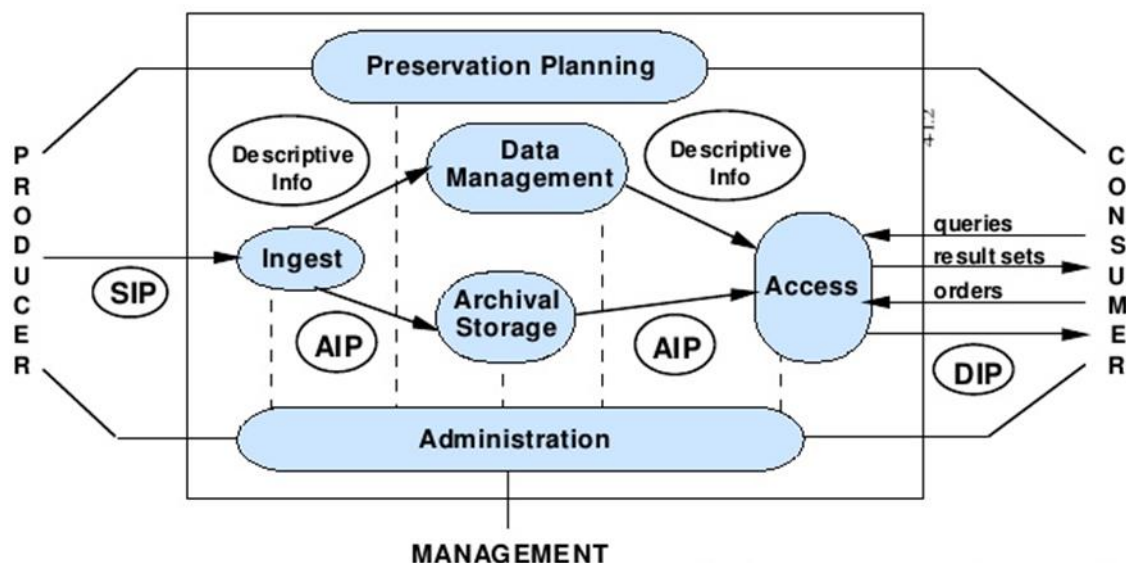
In addition, hopes of discarding originals, whether paper or other media, once digitization is carried out are often dashed, as digital materials are fragile and generally cannot be guaranteed for longer than seven years. The best option is to store the originals offsite or in a more economical way in case they are needed if the digital items fail.

Open Archival Information System Model (OAIS)

Since most of the content that would be produced from existing operations and administrative functions is “Born Digital” it is also important to consider the long term digital preservation requirements and costs to preserve this material over time. Generally, any electronic records that are held for more than ten years require digital preservation processes. These processes protect against:

- Deterioration of electronic data storage and error detection
- Obsolescence of storage media and technology to read media (e.g. 5.24” diskettes)
- Obsolescence of software to read and index documents (e.g. Word processing software)
- Separation of indexing (metadata) from content

A standard model for preservation of electronic data was developed, originally to share data recovered through various international space missions. This model is known as the Open Archival Information System (OAIS) and is illustrated below. The diagram illustrates the steps in the preservation process, which includes ingest – the input of the content, the part of the process which adds storage metadata and access or descriptive metadata, and finally the steps that publish the content. All long term electronic content managed by the Town should be processed through these steps.



The reference model (ISO 14721:2003) includes the following responsibilities that an OAIS archive must abide by:

- Negotiate for and accept appropriate information from information producers
- Obtain sufficient control of the information provided to the level needed to ensure long-term preservation
- Determine, either by itself or in conjunction with other parties, which communities should become the designated community and, therefore, should be able to understand the information provided
- Ensure that the information to be preserved is independently understandable to the designated community. In other words, the community should be able to understand the information without needing the assistance of the experts who produced the information
- Follow documented policies and procedures which ensure that the information is preserved against all reasonable contingencies, and which enable the information to be disseminated as authenticated copies of the original, or as traceable to the original
- Make the preserved information available to the designated community

Principle of Fixity and Duplicate Copies of Electronic Content

Ensuring that the content stays stable over a long period involves creating a “checksum”, or a coded and calculated value for the total file. This is recorded and the test is recalculated at set intervals (e.g. annually). If the totals do not match, then “fixity” is an issue and indicates that the data has been corrupted or unstable. In this case, a second copy of the content is used to replace the first, altered content. This principle led to the concept of “LOCKSS” – Lots of Copies Keep Stuff Safe- and is an essential component of a digital preservation program. These features are often part of digital preservation software but represent an overhead and responsibility for the archive manager.

Recommendation:

- Create electronic files to accepted standards and best practices
- Use software for electronic content that adheres to the OAIS model and provides for duplication of content through the LOCKSS program.

Storage and Security Tasks

The following table includes tasks to address Security and Storage:

No.	Initiative	Year of Implementation	Task
SS 1.1	Security	Year 1	Assess records security issues and establish goals for data protection
SS 1.2	Security	Year 1	Establish privacy and other classifications of records (vital, confidential, sensitive, and historical) of records consistent with IT security policies
SS 1.3	Security	Year 2	Include protection requirements in IM policies, procedures and guidelines
SS 1.4	Security	Year 2	Assess security and integrity capabilities of current records repositories including shared drives
SS 1.5	Security	Year 1	Review and comment on RM requirements for Continuity of Operations and Business Continuity Plans
SS 1.6	Security	Year 1	Develop new procedure for moving paper records to Inactive Storage to improve security and protect privacy
SS 2.1	Content Migration	Year 2	Conduct high-level, unstructured electronic records inventory and assess compliance with RRS
SS 2.2	Content Migration	Year 2	Use file analytic tools to identify electronic records eligible for deletion or migration
SS 2.3	Content Migration	Year 3	Apply retention and purge repositories of ROT, eliminate convenience copies, and records that have met retention including legacy and orphan records
SS 2.4	Content Migration	Year 3	Assess legacy systems and structured records systems, including databases and applications, with continuing value
SS 3.1	LTDP Records	Year 2	Assess digital records that may require LTDP
SS 3.2	LTDP Records	Year 1	Develop long-term preservation strategies for paper
SS 3.3	LTDP Records	Year 3	Long Term Digital Preservation (LTDP) Software Requirements
SS 3.4	LTDP Records	Year 3	LTDP Software Acquisitions and Implementation

Roadmap for Technology

Content Services in Support of an IM Program

The RM Program must encompass all information assets, physical and digital. Content services and management systems are vastly superior to shared drives for digital content management and especially as an official repository for Town records.

Simply using technology will not suffice since these are tactical tools of implementation and not strategic guidance. Within the larger context of the Town the IM program must identify and encompass management of information in all systems and repositories and understand their relationship to business functions.

Records are created or received in support of business processes. Records management best practices require that records are captured and managed in the normal course of business. For any business process, whether within or across business units, there are many ways to capture and store documents. The Town stores records and other content (video, photos, etc.) using paper, shared drives, business systems, and other third-party products.

Content services is the current term used for software that has been developed to meet the Town requirement for a common way to capture, store, manage, view, flow, and disposition content. Content services bring systematic management across the Town, streamlining processes and ensuring content is controlled to meet audit, regulatory and legislative mandates.

With content services, lifecycle management of records becomes an automated function. When content is added to a repository, the end user assigns a document category from a pre-defined list. Business lifecycle and disposition rules are mapped to the document category allowing the content repository to manage records in the normal course of business. Therefore, the one-time, simple act of classifying content eliminates nearly all future activity for its management.

When configuring a content repository, therefore, to ensure user acceptance it is imperative to configure each content services application to meet Town-wide requirements. An analysis of business activities will provide understanding of relationships between business activities and records. Automated processes standardize how and where records are captured, stored and managed; once automated, all activity for a process is tracked and audited.

Access and Control measures such as access monitoring, credential verification, authorized destruction, auditing, and security are implemented with a content repository to prevent unauthorized access, destruction, alteration, or removal of records. Controls can be fully implemented within the content repository; but it's more difficult to implement, and functionality is limited for shared drive structures.

A properly designed content repository will allow an authorized user to apply legal/audit holds on digital records, suspending retention rules and rendering files read-only, and thereby preventing alteration or destruction until the hold is lifted. As part of litigation, investigation, or audit, the Town may need to prove that any system malfunction, upgrade or regular maintenance does not affect

the integrity of electronic records. A content repository audits every aspect of content activity within its control, meeting requirements to prove provenance.

The Town may want to consider auto-categorization software to help automate network drive clean up and migration of network drive content to a content repository or even to a new, network drive structure. Auto-categorization software uses sophisticated semantic algorithms to interpret the meaning and content of documents and then, using that interpretation, to apply a confidence level to the categorization; low confidence results (as defined by the administrator) are reviewed by humans and corrected accordingly. In the past three years, accuracy of auto-categorization software has improved significantly. Ongoing, auto-categorization software helps users accurately and consistently tag and store content in the repository. This software can be purchased as a one-time only cost for content migration or an add-on to existing repository software. Costs vary based on the sophistication of the functionality, and the licence requirements.

Content Services Overview

Content services describes the strategies, methods and tools used to capture, manage, store, preserve, and deliver content and documents related to organizational processes. Content services tools and strategies allow the management of an organization's unstructured information wherever that information exists.

The term “content” in this definition refers to any unstructured information in an organization. It includes documents, photographs, video, audio, maps, drawings, or any other “object” that contains “content” that the Town needs to manage.

The following is an example of the components of Content Services software:



Most of these software components are developed as a single solution by the content services software vendors; however, there are some components that may be procured separately and integrated with the core content services software solution.

Current Use of Laserfiche

Laserfiche has been used by the Town for more than 15 years on the basis of approximately 50 licences for an annual cost of \$14,000. A significant issue is the fact that while retention schedules exist, applying the classification categories to Laserfiche stored records has not been done consistently, and disposition based on retention period has also not been implemented. While the findability and control features are well used and excellent, the inability to manage dispositions is problematic for many reasons. The file size is large and the repository is out of compliance with the records retention bylaw. Attempts to better control the metadata (templates for indexing) within Laserfiche has resulted in multiple Laserfiche repositories with varying degrees of metadata.

Laserfiche does have the capability to process dispositions. Given the familiarity and training invested into Laserfiche and its strong access and audit functions, it makes sense to maximize use of its features prior to moving to an alternative software solution. ThinkDox, the service firm that provides support for Laserfiche provides annual support services which could be utilized to implement the disposition and retention management functions. This should be considered a pre-requisite before any consolidation of the repositories or before additional content is migrated to the repository.

Alternate solutions include use of Laserfiche as a cloud-based service, alternative Content Service vendors (in-house or cloud based) or SharePoint with Add-On Software for Local Governments. Switching to an alternative software solution at this time would not be a good solution until the metadata and disposition functions are implemented and the quality of the incoming content is improved.

SharePoint as Content Services

Content services solutions are offered by many vendors including Microsoft's SharePoint (SP). SP based solutions use SP sites to store content but typically require multiple add-on tools to successfully deploy as a content services solution. However, SharePoint add-ons are developed with Microsoft tools specifically for SharePoint integration or as Web Parts, making them relatively seamless to the end users.

It is important to recognize that SP is a platform. The specific applications (Teams, SharePoint, OneDrive, Exchange, and Compliance Center) available in Microsoft 365 are general purpose tools configured to meet broad industry needs and use cases.

Considerations for using SP are:

- Town resources and expertise required -the basic platform lacks some features that necessitate third party tools

- Costs Less - Organizations often choose SP because it is included when they bought Office, or Servers, or it just came with their enterprise license, but if not, it comes at a much lower price point than other Content Services solutions
- SP provides industry standard content services functionality and plays a central role for the implementation of content services.
- Centralized Storage – Documents are structurally stored in SP repositories for search, retrieval and sharing
- Has Built-in Records Management – the new Compliance Center has greatly expanded the RM capabilities for SP, including
 - Manually apply record labels to apply the correct retention label
 - Automatically apply record labels based on sensitive information types, content types, metadata, and machine learning using sample documents
 - Apply default record labels to content in libraries, folders, or document sets
 - Record versioning
 - Event-based retention
 - Disposition
- Managing metadata and file plans
- Security – full integration with active directory with scalable access controls and permissions across groups
- Integration with Microsoft and Office products, including Teams, One Drive, etc. and most any file or document type
- Multimedia cataloging based on metadata
- Third party support

Migrating to a Single Records Repository

Gaining control of digital content will take a commitment of budget, staff resources and management. Efforts to clean-up and reorganize shared drives will make that content easier to migrate to a managed repository such as provided by Laserfiche. However, without a system, shared drives cleaned-up today will be difficult to keep “clean” as time passes – it is likely users will revert to old habits.

Migrating records to electronic solutions (EDRMS) has many benefits and is considered a “best practice.” Eliminating duplication to reference a “single source of truth” eliminates confusion, mitigates errors caused by use of a wrong version, simplifies eDiscovery, audits document access, and forces secure access.

Requirements (Functional, Technical and User)

The functional and technical requirements for content services (as appears in the Table on Page 53) must be established before issuing an RFP for an enhanced or replacement EDRMS system. User business processes must be analyzed at a high level to determine functional requirements and to maximize benefits by assuring it will meet user needs. IMERGE recommends developing requirements that offer an objective method of evaluating content services vendors. Tasks to

determine the requirements include developing the RFP, creating the evaluation scoring matrix, managing the procurement process, and contract negotiations.

Trends and Best Practices

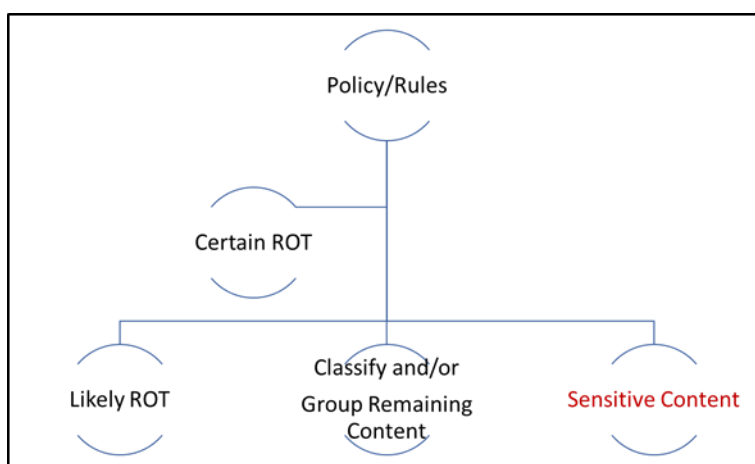
Auto-Classification and File Analysis and Content Remediation (FACR)

The single most important trend, and now quickly becoming a best practice, builds on the evolution of highly accurate auto-classification technologies. This allows the system to analyze a document and based on analysis automatically assign the TOMRMS classification metadata. As they have become more accurate natively and integrated to classification scheme, the accuracy rate has begun to reach into the 90% range.

Analytics

FACR software will allow the Town to analyze its digital content and to locate redundant, outdated, and trivial content (ROT) which can be deleted or quarantined. FACR software can scan all electronic storage and use content inspection to determine duplicates, locate empty files and folders, identify orphaned content, and remediate content or tag content with unique metadata. Remediation actions follow business rules, including retention schedule, and can include migration to a new location or system, quarantine, or deletion. FACR will also monitor shared drives to keep illicit or unneeded content from being stored. This software is available on a lease basis, for the time period required to do a migration, or can be provided by an external vendor.

Automated tools for managing electronic records will reduce the recordkeeping burden on end-users, lead to more consistent, scalable results, and ultimately result in more accessible and usable information.



Effectively using automation to reduce the burden on end users has four positive effects:

- records are more consistently captured and managed and therefore more accessible for support of decision-making and being responsive to client request;

- processes can scale up to handle a higher volume of information;
- staff members have more time available and are more responsive for serving their stakeholders and staff; and
- regulatory requirements can be effectively met.

The most popular and highly regarded tools, as revealed through trend research, are designed to increase productivity, reduce paper, provide robust retrieval and reduce the users' need to classify records. They are:

- FACR and auto-categorization (also known as system assisted classification or auto-classification).
- Multifaceted Automated Metadata Assignment
- Predictive Entry/ Auto-complete
- Drag and drop email filing

Manual classification and searching unstructured digital records are rapidly becoming unviable due to the sheer volume of information being generated in many formats. Based on published research, these tools will do much of the “heavy-lifting” to ease the burden of classification on the users. It has been claimed that with the sophistication of these techniques already available and the speed of processing large amount of content, auto-categorization techniques produce more useful results than manual classification.

These software tools include the following functions:

Auto-categorization

- Programs that scan the metadata and contents of a document and automatically assign classification and keywords based on the document contents.
- Many tools require training document sets for each category (thereby enforcing the need for a simple taxonomy).
- They also use regular expressions and business rules to derive classifications.
- Programs that do not require training document sets rely on semantic engine and word relationships to match expected classification to a classification scheme.

File Analysis, Classification and Remediation (FACR) Software

- Uses auto-categorization technology but extends it to group like content and, migrate the content to a new location such as SharePoint, or other Content Services,
- Create a new, taxonomy designed shared drive or into a holding area to be deleted or to remediate PII.
- Built-in workflow orchestrates the migration of content.
- FACR software will be invaluable for the Town to remediate the user content on shared drives. FACR software vendors estimate that 50% of shared drive content is typically redundant, obsolete or transitory (ROT). The aggressive use of FACR software greatly reduces the time required by departments analyzing and cleaning-up content stores.

Multifaceted Automated Metadata Assignment

- A combination of auto-classification integrated to relevant databases and Active Directory to automate assign of metadata based on user role(s) in the organization.
- Can include auto-classification to further automate classification assignment.
- Any metadata value (automated or entered) derives other metadata values or limits values in a multi-value field. For instance, a user with multiple roles select one role then other document metadata value are limited to the remaining role.
- Eliminates errors, speeds document indexing, automates classification

Drag and Drop for Email Filing

- Users point at email and move/drop it into a folder location within the Outlook interface;
- Outlook folder is linked to Content Services.
- Document can easily be moved from email in-box and placed into a folder where it inherits the predefined metadata and characteristics
- Excellent functionality for ease of classifying individual or bulk emails

Scanning

Scanning is an issue to be addressed, especially when large volume projects are under consideration to deal with as Vital Records, or for digital preservation as discussed in the section on Storage and Security.

Scanning as a one-time process is also an important consideration so that it adheres to the CAN/CGSB Standard ⁶for electronic documents as evidence. The most important aspect of this standard is that the scanned image is to be created and used in the ordinary course of business to attest to the integrity and reliability of the contents of the document.

Technology Tasks

The following reflect the tasks related to Technology to implement the Information Management Strategy:

Task No.	Action	Implementation Year	Task
T 1.1	Electronic Record Disposition	Year 2	Develop central tracking process for electronic records disposition
T 1.2	De-commissioning	Year 3	Develop procedures for decommissioning hardware and software to ensure that all records and data are appropriately migrated or dispositioned and hardware or software is archived as needed (or other equivalent method)
T 2.1	RM Software	Year 1	Begin acquisition planning process for content services and other technology to manage RM processes. Review possible technology options such as Laserfiche cloud based services, Office 365, or some integration of both to improve and simplify all aspects of RM. Review potential technology acquisitions and tools to improve transparency

⁶ [Can CGSB 72.34 standard Electronic Records as Evidence](#)

Task No.	Action	Implementation Year	Task
T 2.2	RM Software	Year 1	Review use of technology (i.e., SharePoint, Office 365) to govern access through privacy settings and functionality by identifying and blocking access to personal information as needed
T 2.3	RM Software	Year 2	Integrate retention and disposition schedules into current and future technology
T 2.4	RM Software	Year 3	Include RM requirements in other technology acquisition decisions
T 2.5	RM Software	Year 3	Include protection requirements in the acquisition process for content services and related technologies
T 2.6	RM Software	Year 3	Review automation and workflows for digital approvals and digital signatures
T 3.1	Migration Software	Year 2	Assess File Analysis, Classification, and Remediation (FACR) tools for cleaning up ROT, discovering protected records (i.e., PII, PHI, PCI), migrating or disposition
T 4.1	Scanning	Year 3	Determine requirements and opportunities for scanning physical records for accessibility
T 4.2	Scanning	Year 3	Analyze department paper records for scanning projects

Communication and Training Plan

Training Methods

Training can take, and should take, a variety of forms to address needs of the various groups. Content can be re-used and adapted to these various user groups with language and depth adjusted based on the training requirements. It is advisable that many modes of delivery be used since adult learners need varying strategies to match their learning levels. Specific tools to be employed should include:

- Classroom
- Online
- Train the Trainer
- New Employee Orientation during on-boarding.

In addition, a variety of training strategies go hand in hand with the implementation plan. These could include:

- a range of awareness briefings to business areas to improve understanding of records and information management processes and technologies;
- training to improve general information management, which might focus, for example, on the use of the classification structures;
- ‘Hands-on’ training on the ECM/Content Services environment itself, and particularly the technology applications using a test site;
- post go-live floor-walking support (have in-house trainer attend in-department to observe use of software and provide hands on corrections) to proactively target and rectify initial problems;
- training of local ‘super-users’ (i.e. Liaisons) to provide first line support; and,
- the provision of a range of job aids or one-sheet how-to handout and references to target particular shortfalls in understanding or using the records management environment in operation.

External Training

External training programs are available that could be taken offsite or online to raise the general electronic records management experience of key staff who are actively involved in managing or administering the Records and Information Management Program. This could involve Technology staff, Records Management staff, and departmental record liaisons. Some of these programs provide greater depth and would provide greater insight to those staff responsible for ongoing maintenance and support of the Records and Information Management Program and customized records management tools (classification system, retention schedules).

Communication Methods

Ideally, a variety of communication products should be used both during the implementation and on an ongoing basis. The communication products to be used should include the following attributes:

- colorful,
- simple to read and understand and if possible humorous, and
- graphic and visual.

An example of user-friendly communication aids include:

- sample calendar
- sample bookmark (naming conventions – best practices)
- sample summary sheet (classification outline)
- sample flowchart page

Other Communication Methodologies

Variety and creativity help retain interest. All available channels to communicate should be considered. These include, but would certainly today not be limited to:

- Town or departmental newsletters;
- the Town's intranet;
- bulletin boards;
- memorandums;
- email blasts to all staff;
- blog posts on senior management's blogs;
- face-to-face meetings and workshops;
- one-on-one meetings; and
- any other creative idea to communicate and generate interest and involvement.
- Change management techniques including gamification strategies

Training Modules during Implementation Phases Targeted to IM/RM Staff, Technology Staff, Liaisons

Separate programs, developed and available for delivery in a number of formats should include short 20 minute automated presentations or videos which include the following topics:

- Introduction to ERM
- Creating and Capturing Records
- Search, Retrieval and Presentation
- Electronic Record Storage
- Physical Record Storage
- Metadata
- Creating and Maintaining Classification Tools
- Classifying Records
- Retention and Disposition

For IM/RM Staff, Technology Staff Only

- Creating and Maintaining Records Retention Schedules
- Controls and Security
- Records Management Technologies
- Archiving and Digital Preservation
- Preparing a 3 Year Departmental Migration Plan
- Records Audit Training

Evaluation and Administration of Training

It is essential that any training be followed by evaluation of the training session, training leader and training materials to fine tune these tools as experience and tools come online. Evaluation can include any of the following:

- Proof of attendance at workshops – sign in sheets and log or electronic report
- Train the trainer evaluation score sheet
- Course evaluation form

Communications Plan and Change Management

This is a critical feature of any initiative, including the IM program. Many departmental users are frustrated with past IM program or assume they relate only to physical records. The new IM program must address historical issues using change management techniques at the individual and department levels. To effect successful change management, senior management must be committed to the effort long-term.

Technology proficiency levels among users varies a great deal. Ensuring information capture and access is challenging when users do not have the same level of expertise or experience in the use of technology systems. Promoting adoption with reluctant users and providing appropriate and adequate training, feedback and rewards for systems to meet varied needs and aptitudes can be difficult. Managing the change in culture from a paper-centric (or mixed) to a document-centric electronic environment is a significant undertaking.

One of the main difficulties in implementing IM is managing change. IM impacts everyone who creates or receives records (including e-mail). Staff will need to adapt to new ways of working and shift the way records are managed, which can take time to learn. In addition, some staff may experience difficulties in adjusting to the new processes or use of the new technology. The IM team will need to allow time to create a change management plan, deal with issues, and re-assess and possibly re-align the plans often.

User acceptance is essential for successful deployment of any new system or methodology anywhere.

Key success factors will be:

- User participation. Engage users in the review of the IM tools (Classification and Records Retention Schedules) which will impact their daily lives. Classification structures are

updated or revised by the users in facilitated workshops with the IM subject matter experts. People like to know what's going on, and have input into the process, especially if their jobs may be affected. Once IM staff has determined the structure for their records, they then go through a validation process with larger groups. Given the ongoing use of TOMRMS this will not be a significant task in terms of time or budget.

- Focus on “what’s in it for them”. The benefits to the end user must always be first and foremost. Literature suggests a value statement such as “we are constructing a business/functional classification to provide users with a more intuitive browse and search experience. We will construct a system that will allow both internal and external users to navigate and quickly find the most useful and relevant information.”
- Training and communication. Multiple channels should be used for training and communication (email blast, website, newsletters, interactive blogs, and web-based employee town-halls; but most important is a formalized internal training program. Training and education must be tailored to meet the needs of various groups of employees within the Town.
- A strong executive champion and senior management support. Executive support is repeatedly identified as one of the most significant factors for successful change management. They must be visible in their support – “walk the talk”.

Change management issues can involve:

- ensuring that the effort is seen as an integral part of the project, with presentations and staff discussions focusing on both business and records management requirements and solving problems as it relates to specific individual concerns
- having a project sponsor and using members of an IM Steering Committee (including stakeholders) to champion the project
- keeping staff informed about the progress of the project using discussions, meetings, staff newsletters, the Intranet site and other sources to promote its aims and objectives
- having regular consultation sessions with staff, such as informal one-to-one discussions, briefings and training
- setting up suitable feedback mechanisms - such as a system to register issues, workshops, help desk, quality controllers
- assisting in the creation of suitable tools, guidelines, and quick reference guides
- when complete, making tools, guidelines, and quick reference guides accessible via the Intranet
- identifying the need for training on records management tools as part of induction or onboarding training.

Stakeholder Analysis

Stakeholder analysis involves identification of individuals that have some form of stake or interest in the RM program, initiatives, and project outcomes; and assessing the particular needs of each stakeholder group.

This analysis needs to be done in the early stages of any project so that any risks and required communication can be included in the overall project plan. In this respect, stakeholder analysis is closely linked to risk management and change management. Information contained in the analysis helps the RM team engage stakeholders and supports communication around planning and execution.

Managing Expectations

It is sometimes the case that some users expect too much of the final results of the project, particularly if technology is involved. As a result, if the program or solution is not what they expected, they may react negatively. When communicating with staff, make it clear exactly what the new system will and will not do.

The Town requires skilled staff and visibility to socialize IM initiatives. The IM Steering Committee and other senior level executives will need to actively promote and support the initiatives to:

- Get managers on the same page: From all business areas, everyone must focus on a unified goal of maximizing information's business value. The tone from the top matters, and senior leaders should clearly reinforce their expectation of RM's importance.
- Identify Town information management requirements and associated risks to the business. Clearly identify what risks the Town is—and isn't—willing take with its information assets. A formal statement of Town risk threshold provides stakeholders a blueprint to help balance the value of retaining information against the costs and risks. Statements should include concrete examples of difficult decisions and guidance on how to assess information risks in practice.
- Develop training to help employees make good decisions: Employees need to understand information requirements to be able to make smart decisions while on the job. Training and education are required to instill good judgment in situations employees will encounter in their day-to-day work.
- Make the business side accountable for information management decisions: Business leaders should be enabled to make those decisions—and held responsible for them at the same time. Requirements should be clear, and specific business owners of the information must take final accountability for information risk decisions and be accountable for key elements of the information management process. Legal must be available to assist in risk decisions as needed.

Project Management and Oversight

Project management and oversight are an important aspect of change management and will:

- Ensure that IM is seen as an integral part of the Town, with presentations and staff discussions focusing on goals and objectives
- Provide IM sponsors and management to champion the project on an ongoing basis
- Keep staff informed about the progress using discussions, meetings, newsletters, the Intranet, and other sources to promote its aims and objectives
- Have regular consultation sessions with staff, such as informal one-to-one discussions, briefings, and training
- Set up suitable feedback mechanisms to register issues, lessons learned, tips and tricks
- Assist in the creation of usable artifacts to assist in the use of the tools e.g., policies, guidelines, quick reference guides
- Make the IM Tools accessible via the Intranet – e.g., thesaurus, classification scheme and RRS, policy, guidelines, quick reference guides, templates
- Identify the need for remedial training for IM and as part of onboarding

Communications and Training Tasks

The tasks involved in implementing Communications and Training involve the following:

Task ID	Action	Implementation Year	Task
CT 1.1	Communications	Year 2	Develop Communications Plans
CT 1.2	Communications	Year 3	Develop an Extranet to publish frequently requested public documents
CT 2.1	Training	Year 2	Develop Training Plan and Modules
CT 2.2	Training	Year 2	Train on network drive clean up and begin process
CT 2.3	Training	Year 2	Train on classification scheme and file structures
CT 2.4	Training	Year 3	Provide training on cleaning up and restructuring network drives
CT 2.5	Training	Year 3	Train on migration of records to secure repositories
CT 2.6	Training	Year 3	Train staff on integrity and authenticity processes (e.g., version control, convert to TIFF/PDF-A, secure repository)

Accessibility for Ontarians with Disabilities Act (AODA) – Documents on Public Web Site

Document Creation and Processing for AODA Compliance

There is concern about the amount of time and effort is required to make documents that are posted on the publicly accessible web site AODA compliant. While this topic was out of scope for this project, it is an issue since not all documents held in the managed repositories, network shared drives and email are not AODA compliant. This is an issue since documents being processed through the AODA compliance check may be a duplicate of its counterpart before compliance checking and processing is done.

Best practice is to only hold one copy of the document. It is generally the practice that the document creator use in-house compliance checking tools (e.g. in Office 365) to do the compliance process. This resulting document should be the one that is saved as the record in the document repository. This is required so further use of the document is not confused as to which is the authoritative document.

Alternatives include the use of commercial software tools or third party services.

Documents Posted on the Web for Public Access

Guidance from the Office of AODA was referenced from the link below (AODA web site).

The following is an excerpt from the AODA web site referenced below: Key to this approach is the clear notice that further information could be made accessible upon request and a summary of the document is provided.

The Law⁷

The basic requirement is to let the public and your employees know that you will make written information and other forms of communication accessible, upon request. You could include a note on your website or promotional materials, create a sign or post a notice on a bulletin board.

If a person with a disability asks for accessible information or requires communication supports, work with them to figure out how to meet their needs.

⁷ [AODA How to Make Docs Accessible link](#)

You don't have to have accessible formats on hand, but you need to provide the information in a timely manner.

You cannot charge more for accessible formats than you do for other formats.

Exceptions

In some cases you don't need to make information accessible if:

- it is not possible technically to convert a document to an accessible format (you must explain why and provide a short summary of it instead)*
- the information comes from another organization*
- you don't control the information*
- the information is found on products or product labels*

This approach was confirmed by an expert in this area. Steve Murphy has worked in an Ontario. His full background is available on [LinkedIn](#). His contact information is available upon request.

Implementation Roadmap

Roadmap (By Year and Task)

The following roadmap represents requirements projected over a 1-5 year period in the following groupings of tasks:

1. Governance Model (IG)
2. Corporate Practice and Approach (CP)
3. Storage and Security (SS)
4. Technology (T)
5. Communication and Training (CT)

All tasks by category are listed in Appendix 1.

Task No.	Action	Implementation Year	Tasks
IG 1.1	Planning and Oversight	Year 1	Develop working group to review and approve IM program requirements, initiatives and IM Tools (policies, classification schemes, file structures and retention schedules).
IG 2.1	Roles and Responsibilities	Year 1	Formalize roles and responsibilities of the Records Management and departmental staff
IG 2.2	Roles and Responsibilities	Year 1	Review and assess department IM responsibilities and staff capability for management of electronic records, physical records, technology and policies
IG 2.3	Roles and Responsibilities	Year 1	Formalize new RM roles and responsibilities, and prepare budget adjustments and recruitment plans
IG 3.1	Monitoring and Auditing	Year 1	Identify metrics for electronic records volumes by repository. Establish base line metrics for records held in repository under compliance with policies (retention/disposition)
CP 1.1	IM Procedures	Year 1	Review business processes to ensure records are managed and stored securely

Task No.	Action	Implementation Year	Tasks
CP 3.2	Disposition	Year 1	Develop an implementation policy for disposition processes for electronic records
SS 1.1	Security	Year 1	Assess records security issues and establish goals for data protection
SS 1.2	Security	Year 1	Establish privacy and other classifications of records (vital, confidential, sensitive, and historical) of records consistent with IT security policies
SS 1.5	Security	Year 1	Review and comment on RM requirements for Continuity of Operations and Business Continuity Plans
SS 1.6	Security	Year 1	Develop new procedure for moving paper records to Inactive Storage to improve security and protect privacy
SS 3.2	LTDP Records	Year 1	Develop long-term preservation strategies for paper
T 2.1	RM Software	Year 1	Begin acquisition planning process for content services and other technology to manage RM processes. Review possible technology options such as Laserfiche cloud based services, Office 365, or some integration of both to improve and simplify all aspects of RM. Review potential technology acquisitions and tools to improve transparency
T 2.2	RM Software	Year 1	Review use of technology (i.e., SharePoint, Office 365) to govern access through privacy settings and functionality by identifying and blocking access to personal information as needed

YEAR 2

Task No.	Action	Implementation Year	Tasks
IG 1.2	Planning and Oversight	Year 2	Develop three year plan for compliance with each department
IG 2.4	Roles and Responsibilities	Year 2	Recruit/ Train for new roles
IG 2.5	Roles and Responsibilities	Year 2	Develop legal hold policy and procedures and formalize role/responsibilities
IG 2.6	Roles and Responsibilities	Year 2	Detail roles and responsibilities of departmental records liaisons assign responsibilities
IG 3.2	Monitoring and Auditing	Year 2	Identify metrics for records disposition in shared drives and at the user level establish goals for streamlining
IG 3.3	Monitoring and Auditing	Year 2	Verify retention requirements meet business needs and compliance with operational and regulatory requirements
CP 1.2	IM Procedures	Year 2	Consolidation and simplification of policies and procedures for RIM, including electronic records disposition, legal hold, and email management policies
CP 2.1	Classification	Year 2	Extend use of TOMRMS classification to electronic records not held in Laserfiche through metadata fields

Task No.	Action	Implementation Year	Tasks
CP 2.2	Classification	Year 2	Audit Laserfiche content to assess volume of records not attached to TOMRMS category.
CP 2.3	Classification	Year 2	Devise process to update TOMRMS based on input from Records Liaisons for those records not covered by TOMRMS
CP 3.1	Disposition	Year 2	Develop procedures and processes for automating updates from TOMRMS into Laserfiche
CP 3.4	Disposition	Year 2	Update inventories with details of the destruction, use review sheets, or keep a record of when destruction or deletions were carried out in compliance with retention schedules
CP 3.6	Disposition	Year 2	Develop procedures and guidelines on deletion of duplicates and obsolete electronic records
CP 4.1	Metadata	Year 2	Add metadata for security, privacy and other business process related classifications to RRS
SS 1.3	Security	Year 2	Include protection requirements in IM policies, procedures and guidelines
SS 1.4	Security	Year 2	Assess security and integrity capabilities of current records repositories including shared drives
SS 2.1	Content Migration	Year 2	Conduct high-level, unstructured electronic records inventory and assess compliance with RRS

Task No.	Action	Implementation Year	Tasks
SS 2.2	Content Migration	Year 2	Use file analytic tools to identify electronic records eligible for deletion or migration
SS 3.1	LTDP Records	Year 2	Assess digital records that may require LTDP
T 1.1	Electronic Record Disposition	Year 2	Develop central tracking process for electronic records disposition
T 2.3	RM Software	Year 2	Integrate retention and disposition schedules into current and future technology
T 3.1	Migration Software	Year 2	Assess File Analysis, Classification, and Remediation (FACR) tools for cleaning up ROT, discovering protected records (i.e., PII, PHI, PCI), migrating or disposition
T 4.2	Scanning	Year 2	Analyze department paper records for scanning projects
CT 1.1	Communications	Year 2	Develop Communications Plans
CT 2.1	Training	Year 2	Develop Training Plan and Modules
CT 2.2	Training	Year 2	Train on network drive clean up and begin process

Task No.	Action	Implementation Year	Tasks
CT 2.3	Training	Year 2	Train on classification scheme and file structures

YEAR 3

Task No.	Action	Implementation Year	Tasks
IG 2.7	Roles and Responsibilities	Year 3	Conduct analysis to identify key records owners and establish skill sets and needs
IG 2.8	Roles and Responsibilities	Year 3	Assign Department liaisons to develop plan for applying retention to legacy paper and electronic records past retention requirements
IG 3.4	Monitoring and Auditing	Year 3	Conduct an audit of records compliance with RM policies and RRS
CP 1.3	IM Procedures	Year 3	Review and revise RM policies and procedures to include transparency statements
CP 3.7	Disposition	Year 3	Develop plan for applying retention to legacy and orphaned electronic records
CP 4.2	Metadata	Year 3	Develop metadata management framework and file naming convention or standards
CP 4.3	Metadata	Year 3	Improve organization of information with uniform metadata standards
CP 4.4	Metadata	Year 3	Establish departmental thesauri, file arrangement and metadata
SS 2.3	Content Migration	Year 3	Apply retention and purge repositories of ROT, eliminate convenience copies, and records that have met retention including legacy and orphan records
SS 2.4	Content Migration	Year 3	Assess legacy systems and structured records systems, including databases and applications, with continuing value

SS 3.3	LTDP Records	Year 3	Long Term Digital Preservation (LTDP) Software Requirements
SS 3.4	LTDP Records	Year 3	LTDP Software Acquisitions and Implementation
T 1.2	De-commissioning	Year 3	Develop procedures for decommissioning hardware and software to ensure that all records and data are appropriately migrated or dispositioned and hardware or software is archived as needed (or other equivalent method)
T 2.4	RM Software	Year 3	Include RM requirements in other technology acquisition decisions
T 2.5	RM Software	Year 3	Include protection requirements in the acquisition process for content services and related technologies
T 2.6	RM Software	Year 3	Review automation and workflows for digital approvals and digital signatures
T 4.1	Scanning	Year 3	Determine requirements and opportunities for scanning physical records for accessibility
CT 1.2	Communications	Year 3	Develop an Extranet to publish frequently requested public documents
CT 2.4	Training	Year 3	Provide training on cleaning up and restructuring network drives
CT 2.5	Training	Year 3	Train on migration of records to secure repositories
CT 2.6	Training	Year 3	Train staff on integrity and authenticity processes (e.g., version control, convert to TIFF/PDF-A, secure repository)

Implementation Costs

Budget, Funding and Sustainability

All costs identified as “Internal” are based on the assumption that the Town will require either:

- 1 FTE at a Level 2 skill level (See Appendix 3)
- 0.5 FTE to assist with Technology support of EDRMS tasks

Additional vendor support or software/service costs are estimated at \$80,000 over three years. All costs are based on current dollars.

Staff cost assumptions are based on the following:

- One FTE Level 2 at Salary of \$70,000 plus 10% benefits for a total of \$77,000 per year.

Ideally, to meet the recommendations proposed, the roles would be filled by:

- One FTE Level 2 at salary of \$70,000 plus 10% benefits for a total of \$77,000 per year

And

- One half (0.5) FTE for technology support at a contract rate of \$80,000 per year, for a total of \$40,000 plus HST or benefits for a total of \$45,200
- These two roles would cost \$122,200 per year

Year	Cost
Year 1	\$77,000
Year 2	\$122,200
Year 3	\$122,200
Total 3 Year Cost	\$321,400

Cost Notes (*) below indicate those tasks that will incur external costs for consultants, vendor services, software or SAAS (Software as a service).

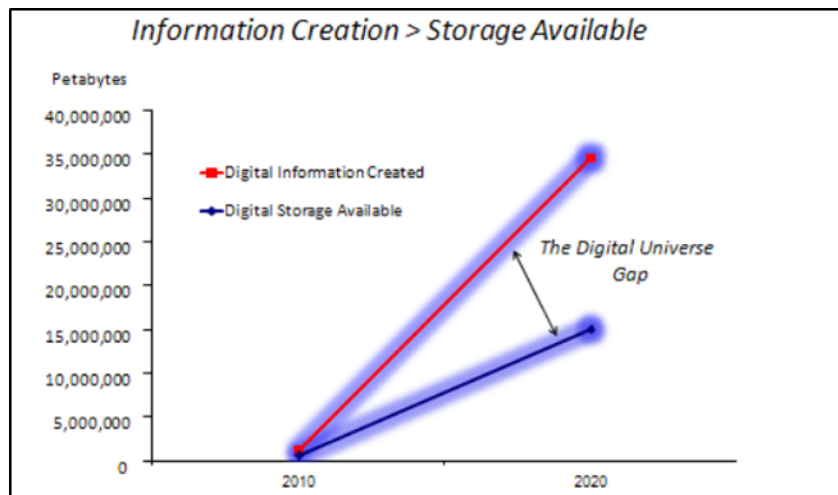
Actions	Estimated Cost Range for External Consultants, Contractors, Vendors, SAAS **	Year 1	Year 2	Year 3	Total
IG Information Governance					
Planning and Oversight	\$	Internal	Internal		\$
Roles and Responsibilities	\$	Internal	Internal	Internal	\$
Monitoring and Auditing	Internal	Internal	Internal	Internal	\$
Subtotal	Internal	\$	\$	\$	\$
IM Corporate Practice					
IM Procedures	\$	Internal	Internal	Internal	\$
Classification	**\$10,000	Internal	\$10,000		\$10,000
Disposition	**\$20,000	\$	\$20,000	Internal	\$20,000
Metadata	**\$5,000		\$5,000	\$5,000	\$10,000
Subtotal		\$	\$35,000	\$5,000	\$40,000
Storage and Security					
Content Migration	**\$10,000	Internal	\$10,000	\$10,000	\$20,000
Security	\$	Internal	Internal		\$
Long Term Digital Preservation	**\$15,000	Internal	Internal	\$15,000	\$15,000
Subtotal		\$	\$10,000	\$25,000	\$35,000
Technology					
RM Software	**\$30,000	Internal	\$	\$35,000	\$35,000
Migration Software	**\$15,000		\$15,000		\$15,000
Scanning	**\$15,000			\$15,000	\$15,000
Subtotal		\$	\$15,000	\$50,000	\$65,000
Communication and Training					
Communications	\$		Internal	Internal	\$
Training	\$	\$	Internal	Internal	\$
Total Vendor Cost (**)	**\$130,000	\$	\$60,000	\$80,000	\$140,000
*One Additional FTE to coordinate and support implementation @\$77,000/yr		\$77,000	\$77,000	\$77,000	\$231,000
*One half FTE or contractor to provide technology support to coordinate and sustain IM Program and implementation @ \$45,200/yr			\$45,200	\$45,200	\$90,400
Sub Total:		\$77,000	\$122,200	\$122,200	\$321,400
All figures in current (C\$) dollars					
* One FTE Level 2 - Salary and Benefits (10%): \$77,000					
* One half 0.5 FTE Technology Support (Contract or Staff +13% HST or Benefits): \$45,200					
** Vendor or Contractor Services					
Total Cost Over 3 years for incremental Internal Staff and Vendor or Contractor Costs		\$77,000	\$182,200	\$202,200	\$461,400

Information Management Benefits

Growth in Electronic Information and the Cost of Managing this Growth

The Figure below shows that the volume of current information creation is exceeding the storage capacity to save and manage that information. Buying more storage is not a solution because resources are not available to protect and quickly find the information in the growing number of storage silos. We can no longer afford to keep everything, so we must have tools and infrastructure to determine how long information is retained and to provide improved access and protection for that information. Equally important is that we must trust the records that are found and be confident that the source is the most current and authoritative version. The study indicates that the average number of files to be managed by an organization will grow annually by a factor of 67; storage capacity will grow annually by a factor of 30. In contrast, IT staff and IT investment to manage these files will grow by a factor of only 1.4.

Gap between Growth in Information and Digital Storage



This growth in information and the resulting gap pose challenges for service delivery staff. Files to support operational policies, procedures, and services must be protected, secure, and authentic.

Individuals and corporations are becoming more digitally oriented in their day to day lives through banking, shopping and information search and they expect digital services from their Town government. Initiatives to move towards data interchange between government jurisdictions (Federal, Provincial and Municipal Service Reference Models) are proceeding. Industry initiatives promoting “Smart City” opportunities are emerging. All of these seemingly futurist information management functions may not materialize in a manner that impacts the Town for five to ten years. To prepare for these opportunities, the basic infrastructure on which these directions can be considered must be put in place now.

A recent study on “content chaos⁸” indicated that 56% of management are not confident that “emails documenting commitments and obligations made by their staff are recorded, complete and retrievable”. The same survey indicates that 41% are not confident that their electronic information (excluding email) is “accurate, accessible and trustworthy”. A simple example to understand the impact of the growth of data is to look at the process involved in managing a single email that has been designated as a record of a business decision or operation.

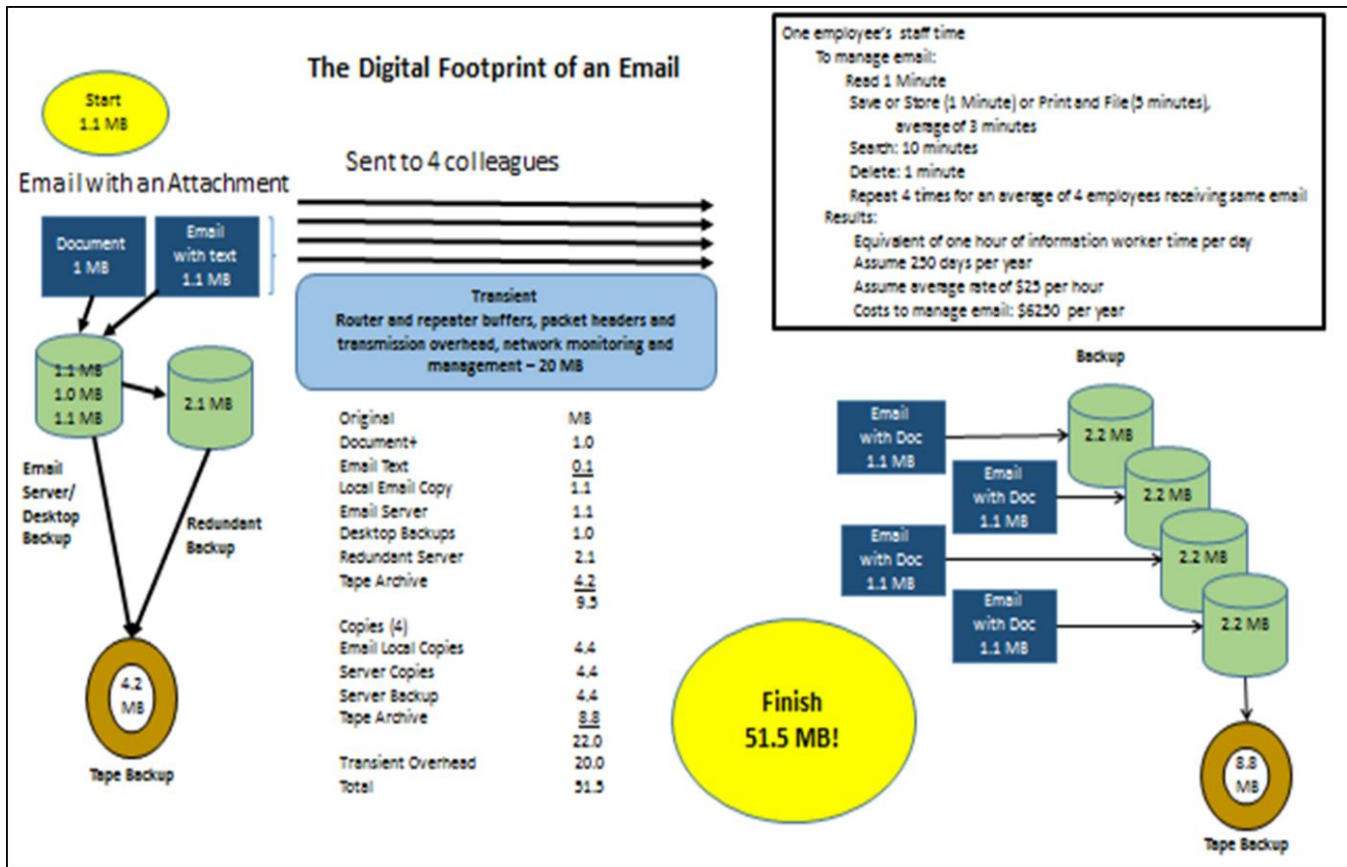
The digital footprint of an email is represented in the Figure below. An email which starts as 1.1 MB of storage finishes the process at 50 times its original size. Along the way, four additional staff make decisions about how and where to store it, review it later for deletion, or print and file the email and attachments. While simple de-duplication software can reduce the impact on storage, the impact on staff time is not changed. Managing only those emails that are actually business records – estimated at 5%⁹ of emails, would result in employee productivity gains of approximately 18% or the equivalent of \$9000 per employee per year, for an employee earning \$50,000 per year. While these numbers do not always translate into direct reductions in staff, the productivity gains allow for service delivery scaling that will accommodate growth in the organization’s services and customers.

Based on these industry reports, it has been demonstrated that the proliferation of content undermines the effectiveness of organizations and presents long-term risks associated with reduced ability to respond to business changes, lack of agility to support innovation and poor productivity.

⁸ AIIM 2011 ECM Survey, Capitalizing on Content www.aiim.org/pdfdocuments/MIWP_Capitalizing-on-Content-2011.pdf

⁹ Bruce Miller, Implementing EDMS in SharePoint, 2013.

Digital Footprint of an Email and Impact on Staff Time



Benefits of an EDRMS System

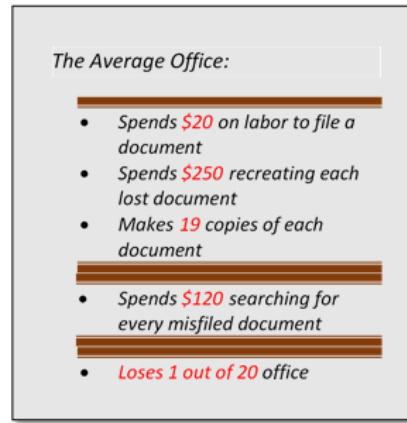
Costs of Manual Recordkeeping Processes

In addition to addressing the productivity gains, improving the access, control and management of electronic information reduces printing and storage of paper and disk storage costs by 40-60%¹⁰.

Another significant impact to be gained from use of an EDMRS system is the reduced risk of compliance and security breaches. Poor or no document control has been proven to be costly for litigation and legal discovery, Access to Information obligations, protection of privacy, and audit processes.

¹⁰ AIIM 2012 ECM Survey, Capitalizing on Content www.aiim.org/pdfdocuments/MIWP_Capitalizing-on-Content-2012.pdf

Finally, sharing content across departments provides opportunities for business process change and benefits from collaboration opportunities.



Implementation of an EDRMS and the development of an Information Governance framework, along with consistent electronic and paper recordkeeping policies and procedures will provide numerous tangible benefits. While most municipalities have not realized direct dollar reductions through implementation, they have received significant benefits in terms of staff productivity and the opportunities for innovative and effective services.

Illustrations of Industry standard estimates for the current costs resulting from manual based recordkeeping processes are provided the Figure on the left.

Using conservative estimates staff productivity is negatively impacted by uncontrolled, distributed, and personalized paper records or electronic records methodologies.

Tangible benefits include:

- Staff Productivity

Time to file, organize, find, retrieve or reproduce lost documents, determine most current and identify the authoritative version of a document.

- Opportunity for Work Flow Automation and Process Improvements

Opportunities are available to reduce service time and customer responsiveness through improved access to records and movement of electronic records through automated processes.

- Reduced Administrative Day to Day Management of Records

Staff productivity costs in sharing and finding information in all formats, improved availability and search of all records (paper and electronic).

- Accountability for Information Management

Efficiencies are created by assigning responsibility for management of the record to the record creator and not every staff who holds a copy for reference use.

- Protection of Personal Information

Security of personal information is protected through controlled and automated access rights.

- Reduced Electronic Storage of Duplicate Records

Responsibility of records storage and life cycle management remains with the creator of a document which reduces cost and improves the quality and integrity of the record.

- Efficient Access and Retrieval of Correct Versions of Records

Reduced staff time to find the correct version and improve the quality and integrity of services by knowing who has worked on which version of a record.

- Preservation and Protection of Electronic Records

Ensured long-term availability and security of authentic, reliable records results in enhanced efficiency and reduced risks. Risk reduction occurs as records may be needed during a legal process and integrity of the record must be documented resulting in improved integrity and availability compared to identifying and reviewing personalized silos.

- Timely Disposal of Records no Longer Required

Reduced storage costs, search time and compliance with records retention by-law are possible.

- Ability to Respond to Information Requests

Ability to find records to satisfy information requests is faster and more comprehensive, resulting in staff efficiencies, and reduced legal risks.

- **Basis on Which to Improve Customer Service Delivery**

Many opportunities for work flow and process improvements with electronic service, electronic signatures and approvals, workflows and electronic data exchange to end users.

- **Reduced Legal Risk**

Ability to become more compliant through timely record disposal and improved access to records increases compliance and reduces legal risk. Authenticity and audit trails on records document system integrity (that is, the record is what it purports to be).

- **Reduced Onsite File Storage Cost**

Potential to reduce file cabinet costs, floor space costs, paper and toner costs, excess electronic storage costs.

- **More Comprehensive and Efficient Response to Access to Information Requests**

Ability to search emails and electronic records identifies required records more effectively.

Financial Benefits

The impact of these benefits can be projected into numbers that are meaningful using industry standard parameters¹¹¹²,

Working with the following assumptions, we can calculate the magnitude of these benefits:

- Assume 100 employees involved in office based work;
- Assume 250 working days per year;

¹¹ AIIM 2011 ECM Survey, Capitalizing on Content www.aiim.org/pdfdocuments/MIWP_Capitalizing-on-Content-2011.pdf

¹² AIIM Association <http://www.thepaperlessproject.com/what-are-the-facts-about-paper/>

- Assume average salary of \$25 per hour;
- 17,600 new documents created per year, or 176 documents per employee per year; and,
- Assume average document is 10 pages long and costs .10 per page to print (consumables). \$1.00 per document

Productivity Issues with Managing Email:

Managing only 5% of email as records, rather than 100%, results in productivity gains of 18%, or \$9000 per employee for a total productivity gain of \$90,000 per year.

Productivity Issues with Filing Documents:

17,600 paper documents (which were created electronically) and filed at a cost of \$20/document for a total productivity gain of \$352,000 per year.

Productivity Issues Searching for Misfiled Documents:

1,000 misfiled or lost documents at cost of \$120 per document for a total productivity gain of \$120,000 per year.

Productivity Issues Searching for any Electronic Documents:

18 minutes per day per employee, for 100 employees is equivalent to a total of 30 hours per day for all employees, multiplied by 250 days per year, multiplied by \$25 per hour for a total productivity gain of \$187,500 per year.

Using these four simple examples, the potential gain in staff productivity would be approximately: **\$749,500 per year.**

This number does not include other benefits relating to the storage costs of paper, photocopies, consumables, file cabinets and floor space for cabinets.

With a realization of only 10% of these benefits, a productivity gain in staff efficiency of almost \$75,000 per year can be realized.

Economic Benefits

Doing Business in a Digital Environment

As the community and business environment transitions to one based on digital transactions and services, the Town must have the information infrastructure to operate in a digital business environment. Business expects to exchange documents and transactions online, 24/7. This cannot be effectively done when transactions are paper

based, and electronic records are not easy to find, protected and trusted as an authoritative record. An EDMRS is a basic prerequisite to business transformation that will allow a shift to enhanced digital services. Given that the majority of documents created and used in the Town are born digital, a transition to working with the digital records rather than printing and filing will only be viable with information governance and an EDMRS tool.

Using Electronic Records and Related Processes to Increase Transaction Velocity

Using electronic records has impacts beyond staff productivity and compliance. As records become available and accessible from remote locations, the Town gains the agility of where staff may be located. The records can be portable and easily replicated thus reducing risk and providing flexibility. Availability of records electronically can reduce the service delivery cycle by allowing residents and businesses to access Town services at their convenience. Shortening the service cycle increases the velocity of financial transactions providing economic benefits to the Town. The availability of more Town records electronically also has been shown to encourage entrepreneurial applications of Town held information which in turn can result in economic benefits to the Town.

Enabling Business Transformation

An EDMRS can be transformational when it is paired with workflows and digital authorization/signatures. It allows the Town to build managed processes that deliver the appropriate type and version of information to the correct person in the required sequence to make informed decisions. As with other automated processes that may exist, it can be designed to route information dynamically, process information in parallel, and notify the appropriate person when a task is delayed so action can be taken. This type of system can help ensure that requests occur within the mandated service time. They also provide audit trails which detail objective and measureable information on bottlenecks. It differs from many other types of workflows because it attaches and transforms unstructured data. More complex workflows can be developed to push/pull information to/from other applications and across departments. For example, Building Permits electronic review processes would remove the need for staff to physically carry paper between the Building Standards, Engineering, Fire and Community Planning departments to seek approval. It would also eliminate the need for multiple photocopies of the same document for each approver, and could allow the document to move in parallel through the approval process. It would also prevent the loss of all or some of the documents at any step. Finally, any changes to a document would be instantly available to all at the current or future process steps or users.

Intangible Benefits

These remain consistent with the Town's strategic objectives and focus strongly on the opportunities that an EDMRS presents for service modernizations. These benefits included in priority order:

- search and retrieval functions;

- document classification (meta-data);
- document access and viewing;
- document security;
- concept of master document or authoritative version;
- email management;
- reduction in paper;
- long term preservation;
- internal compliance;
- external compliance;
- increased staff efficiency;
- improved workflow;
- improved business agility;
- complex documents (document packages);
- improved data integration;
- improved collaboration;
- web content management; and,
- IT system improvements (consolidated disk space, back up impact).

In addition to the specific tangible goals, the EDMRS provides the opportunity to address the following intangible benefits:

- Maintain Assets and Infrastructure

Specifically related to the management, security, accessibility, and preservation of Town information assets, EDMRS will be a key enabler. EDMRS will ensure that the Town is compliant with legislation and can achieve this in a way that adds value to and ensures the long-term sustainability of these assets. An EDMRS will also reduce risk of loss, and increase the level of compliance with existing legislated recordkeeping requirements. This will reduce risk of loss and increase compliance.

- Lead and Promote Environmental Sustainability

EDMRS will be fundamental in the reduction of paper within the Town as it drives and supports new processes for collaboration, storage and access to Town documents. EDMRS can ensure that the growth of the Town in the coming years is not matched by an equivalent and unsustainable growth in the use and required storage of paper.

- Pursue Excellence in Service Delivery

EDMRS will provide a critical platform for widespread enhancement to the delivery of services within the Town. EDMRS will support open data strategies by ensuring accessibility to qualifying documents and information in a timely, reliable manner.

- Enhance Productivity, Cost Effectiveness and Innovation

EDMRS will support changes to business processes across the Town by pairing information required with workflow and automated approval process flow. These changes will yield significant benefits in terms of the speed and efficiency of these processes but will also enable the Town to adopt new innovative processes that allow better and more cost efficient services to the community and internally. As the Town grows, EDMRS will support the organization in addressing the expanding needs of the community and enable powerful integration of processes and systems used by the Municipality.

- Value and Encourage a Highly Motivated Workforce

As the demands on Town resources increase and diversify, an EDMRS solution will allow the workforce to focus on ‘value added’ activities and alleviate administrative, repetitive and frustrating activities associated with finding, validating and copying documents and records. Resulting staff productivity gains will offset demand growth. Business process opportunities through collaboration and workflow will allow for value added services.

- Demonstrate Leadership and Promote Effective Governance

The Town is committed to maintaining its position as a leading and dynamic Town. It is critical that these efforts are not only effective but meet the expectations of the population served by the organization. EDMRS will support the Town in driving efficiencies and supporting regulatory compliance through the organization and as a result of these initiatives, will demonstrate strong leadership and ‘value for money’.

Compliance with Policies and Legislation

A compelling benefit of an EDMRS is the requirement that the Town must be in compliance with policies and procedures for recordkeeping of both electronic and paper records. In addition, there must be compliance with legislated requirements and By-laws. An EDMRS tool – with functions including disposition – that is fully implemented, will facilitate both staff compliance and audit capabilities to monitor compliance on an ongoing basis.

Appendix 1: All Implementation Tasks by Category

Task No.	Action	Implementation Year	Tasks
IG 1.1	Planning and Oversight	Year 1	Develop working group to review and approve IM program requirements, initiatives and IM Tools (policies, classification schemes, file structures and retention schedules).

Task No.	Action	Implementation Year	Tasks
IG 1.2	Planning and Oversight	Year 2	Develop three year plan for compliance with each department
IG 2.1	Roles and Responsibilities	Year 1	Formalize roles and responsibilities of the Records Management and departmental staff
IG 2.2	Roles and Responsibilities	Year 1	Review and assess department IM responsibilities and staff capability for management of electronic records, physical records, technology and policies
IG 2.3	Roles and Responsibilities	Year 1	Formalize new RM roles and responsibilities, and prepare budget adjustments and recruitment plans
IG 2.4	Roles and Responsibilities	Year 2	Recruit/ Train for new roles
IG 2.5	Roles and Responsibilities	Year 2	Develop legal hold policy and procedures and formalize role/responsibilities
IG 2.6	Roles and Responsibilities	Year 2	Detail roles and responsibilities of departmental records liaisons assign responsibilities
IG 2.7	Roles and Responsibilities	Year 3	Conduct analysis to identify key records owners and establish skill sets and needs
IG 2.8	Roles and Responsibilities	Year 3	Assign Department liaisons to develop plan for applying retention to legacy paper and electronic records past retention requirements
IG 3.1	Monitoring and Auditing	Year 1	Identify metrics for electronic records volumes by repository. Establish base line metrics for records held in repository under compliance with policies (retention/disposition)
IG 3.2	Monitoring and Auditing	Year 2	Identify metrics for records disposition in shared drives and at the user level establish goals for streamlining
IG 3.3	Monitoring and Auditing	Year 2	Verify retention requirements meet business needs and compliance with operational and regulatory requirements

Task No.	Action	Implementation Year	Tasks
IG 3.4	Monitoring and Auditing	Year 3	Conduct an audit of records compliance with RM policies and RRS
IG 3.5	Monitoring and Auditing	Year 4	Develop corrective action plans to improve compliance
CP 1.1	IM Procedures	Year 1	Review business processes to ensure records are managed and stored securely
CP 1.2	IM Procedures	Year 2	Consolidation and simplification of policies and procedures for RIM, including electronic records disposition, legal hold, and email management policies
CP 1.3	IM Procedures	Year 3	Review and revise RM policies and procedures to include transparency statements
CP 2.1	Classification	Year 2	Extend use of TOMRMS classification to electronic records not held in Laserfiche through metadata fields
CP 2.2	Classification	Year 2	Audit Laserfiche content to assess volume of records not attached to TOMRMS category.
CP 2.3	Classification	Year 2	Devise process to update TOMRMS based on input from Records Liaisons for those records not covered by TOMRMS
CP 3.1	Disposition	Year 2	Develop procedures and processes for automating updates from TOMRMS into Laserfiche
CP 3.2	Disposition	Year 1	Develop an implementation policy for disposition processes for electronic records
CP 3.4	Disposition	Year 2	Update inventories with details of the destruction, use review sheets, or keep a record of when destruction or deletions were carried out in compliance with retention schedules
CP 3.6	Disposition	Year 2	Develop procedures and guidelines on deletion of duplicates and obsolete electronic records
CP 3.7	Disposition	Year 3	Develop plan for applying retention to legacy and orphaned electronic records

Task No.	Action	Implementation Year	Tasks
CP 4.1	Metadata	Year 2	Add metadata for security, privacy and other business process related classifications to RRS
CP 4.2	Metadata	Year 3	Develop metadata management framework and file naming convention or standards
CP 4.3	Metadata	Year 3	Improve organization of information with uniform metadata standards
CP 4.4	Metadata	Year 3	Establish departmental thesauri, file arrangement and metadata
SS 1.1	Security	Year 1	Assess records security issues and establish goals for data protection
SS 1.2	Security	Year 1	Establish privacy and other classifications of records (vital, confidential, sensitive, and historical) of records consistent with IT security policies
SS 1.3	Security	Year 2	Include protection requirements in IM policies, procedures and guidelines
SS 1.4	Security	Year 2	Assess security and integrity capabilities of current records repositories including shared drives
SS 1.5	Security	Year 1	Review and comment on RM requirements for Continuity of Operations and Business Continuity Plans
SS 1.6	Security	Year 1	Develop new procedure for moving paper records to Inactive Storage to improve security and protect privacy
SS 2.1	Content Migration	Year 2	Conduct high-level, unstructured electronic records inventory and assess compliance with RRS
SS 2.2	Content Migration	Year 2	Use file analytic tools to identify electronic records eligible for deletion or migration
SS 2.3	Content Migration	Year 3	Apply retention and purge repositories of ROT, eliminate convenience copies, and records that have met retention including legacy and orphan records

Task No.	Action	Implementation Year	Tasks
SS 2.4	Content Migration	Year 3	Assess legacy systems and structured records systems, including databases and applications, with continuing value
SS 3.1	LTDP Records	Year 2	Assess digital records that may require LTDP
SS 3.2	LTDP Records	Year 1	Develop long-term preservation strategies for paper
SS 3.3	LTDP Records	Year 3	Long Term Digital Preservation (LTDP) Software Requirements
SS 3.4	LTDP Records	Year 3	LTDP Software Acquisitions and Implementation
T 1.1	Electronic Record Disposition	Year 2	Develop central tracking process for electronic records disposition
T 1.2	De-commissioning	Year 3	Develop procedures for decommissioning hardware and software to ensure that all records and data are appropriately migrated or dispositioned and hardware or software is archived as needed (or other equivalent method)
T 2.1	RM Software	Year 1	Begin acquisition planning process for content services and other technology to manage RM processes. Review possible technology options such as Laserfiche cloud based services, Office 365, or some integration of both to improve and simplify all aspects of RM. Review potential technology acquisitions and tools to improve transparency
T 2.2	RM Software	Year 1	Review use of technology (i.e., SharePoint, Office 365) to govern access through privacy settings and functionality by identifying and blocking access to personal information as needed
T 2.3	RM Software	Year 2	Integrate retention and disposition schedules into current and future technology
T 2.4	RM Software	Year 3	Include RM requirements in other technology acquisition decisions

Task No.	Action	Implementation Year	Tasks
T 2.5	RM Software	Year 3	Include protection requirements in the acquisition process for content services and related technologies
T 2.6	RM Software	Year 3	Review automation and workflows for digital approvals and digital signatures
T 3.1	Migration Software	Year 2	Assess File Analysis, Classification, and Remediation (FACR) tools for cleaning up ROT, discovering protected records (i.e., PII, PHI, PCI), migrating or disposition
T 4.1	Scanning	Year 3	Determine requirements and opportunities for scanning physical records for accessibility
T 4.2	Scanning	Year 2	Analyze department paper records for scanning projects
CT 1.1	Communications	Year 2	Develop Communications Plans
CT 1.2	Communications	Year 3	Develop an Extranet to publish frequently requested public documents
CT 2.1	Training	Year 2	Develop Training Plan and Modules
CT 2.2	Training	Year 2	Train on network drive clean up and begin process
CT 2.3	Training	Year 2	Train on classification scheme and file structures
CT 2.4	Training	Year 3	Provide training on cleaning up and restructuring network drives
CT 2.5	Training	Year 3	Train on migration of records to secure repositories
CT 2.6	Training	Year 3	Train staff on integrity and authenticity processes (e.g., version control, convert to TIFF/PDF-A, secure repository)

Appendix 2: Glossary

Content Services

Software that can be used to extract analytics from documents such as date, size, subject or content. Also identifies duplicates, or finds documents containing personally identifiable information.

EDRMS / ERMS / CMS

Electronic Document and Records Management System. Software to manage the life cycle storage, access and deletion of documents from the time they are created to the time they are destroyed. Also referred to as ERMS (Electronic Records Management System) or CMS (Content Management Services)

FACR

Acronym for File Analysis Classification and Remediation Software. This includes identifying duplicate records, analyzing frequency of words and relationships between words to set the framework for automating the assignment of classifications or categorization to documents.

Functional Classification

A schema for organizing documents on the basis of the function, activity or task performed by an organization to fulfill its mandate, instead of by department, name or subject.

LOCKSS

The **LOCKSS** ("Lots of Copies Keep Stuff Safe") project, under the auspices of Stanford University, is a peer-to-peer network that develops and supports an open source system allowing organizations to collect, preserve and provide their readers with access to material published on the Web. Its main goal is digital preservation.

Lossy / Lossless

During Long Term Preservation process data is manipulated and compressed to preserve electronic storage space. Lossy compression eliminates additional data that does not impact content. Lossless preserves all data whether required or not. Generally Lossless is more reliable.

LTDP

Long Term Digital Preservation is the software and processes required to preserve digital or electronic content for more than ten years. This is needed due to data loss by degradation of electronic media and software or hardware obsolescence.

OAIS

An **Open Archival Information System** (or **OAIS**) is an archive, consisting of an organization of people and systems, which has accepted the responsibility to preserve information and make it available for a Designated Community. The OAIS model can be applied to various archives, e.g., open access, closed, restricted, “dark”, or proprietary.

PDF

Portable Document Format (PDF), standardized as ISO 32000, is a file format developed by Adobe in 1992 to present documents, including text formatting and images, in a manner independent of application software, hardware, and operating systems. PDF was standardized as ISO 32000 in 2008. The last edition as ISO 32000-2:2020 was published in December 2020.

RIM / IM

Records and Information Management also referred to as Information Management (IM). A set of policies, procedures and technologies consistently managed across an organization to manage and protect information as an organizational asset and to insure compliance with regulations for compliant management of information, records and documents in all formats.

RRS

Record Retention Schedule. A list of file categories and the length of time the records are to be held based on laws, regulation, operational or archival requirements. When the time is expired the records are to be disposed or archived.

Semantic Analysis

An automated process to determine the presence or meaning of terms in text to allow for automated determination of functional classification, a form of artificial intelligence software.

TIFF

A computer file format for storing images, supported by scanning, faxing, word processing, optical character recognition, image manipulation, desktop publishing, and page-layout applications. The latest version 6.0 was published in 1992, and updated with an Adobe Systems copyright after the latter acquired in 1994.

TOMRMS / RRS

The Ontario Municipal Records Management System is a published schema that includes a hierarchical outline of categories of records managed by municipalities based on function, and the length of time for those records to be held prior to disposal. It also includes reference to the legislation that mandates the time for retention. Often referred to as a Records Retention Schedule (RRS).

Appendix 3: Job Description – RIM Practitioner Level 2 Knowledge and Skills

Published by ARMA, 2017

PDF Document Attached

Level 2: This level RIM practitioner will have prior RIM knowledge, skills, and experience. At this level, the person understands more than the basic techniques and technologies, has managed or developed records management projects, and has knowledge of information management lifecycle concepts. In addition, the practitioner may be developing specialty skills (e.g., analysis, auditing, warehousing, and application technologies) and may have experience supervising other RIM staff. Practitioners at this level generally hold an undergraduate degree, usually in a RIM-related field.

Domain: Business Functions

Business Functions: This domain pertains to the knowledge and skills necessary to administer, implement, or maintain the non-RIM specific functions an organization performs, or needs to perform, to achieve its objectives. Examples of business functions include the supervision of RIM staff, budgeting, providing customer service, identifying and mapping work processes, providing input to management, and strategic planning.

Level 2

Identify and document problems in work processes and suggest improvements to support the organization's strategic plan. (020101)

Knowledge of:

- RIM program and structure
- How the RIM program relates to relevant tasks
- Current work processes, procedures, and their rationale
- Organizational processes, policies, and procedures
- Operating budget
- Staffing requirements and expectations for output of employees

Skills:

- Identify, collect, and record appropriate data
- Assess and identify procedures that require updating
- Identify alternatives, analyze potential benefits and risks, and provide justification for the recommended solution
- Prepare reports for management review
- State objectives and strategies to support recommendations
- Demonstrate innovation and initiative in proposing solutions
- Communicate findings effectively
- Conduct statistical analysis on RIM operational efficiencies

Conduct a business process analysis to develop a conceptual model of how records relate to the organization's business and its business processes. (020102)

Knowledge of:

- Data gathering
- Process-mapping strategies
- Relevant legal and regulatory requirements
- Organizational operational environment
- Management principles and techniques
- ISO 15489-1:2016, *Information and documentation – Records management – Part 1: Concepts and principles*
- Gap analysis techniques
- Business analysis techniques

Skills:

- Interview users and stakeholders regarding business processes
- Collect and analyze data
- Organize and document findings in a systematic process
- Map business requirements to records processes
- Apply business process analysis to make decisions about records creation, capture, control, storage, and disposition
- Define, evaluate, clarify, and communicate requirements
- Identify records to be captured into the system
- Make recommendations for the length of retention periods, based on operational, fiscal, legal, and historical needs (as described in ISO 15489-1:2016, *Information and documentation – Records management – Part 1: Concepts and principles*)

Research technologies and products to recommend changes to meet business needs. (020103)

Knowledge of:

- RIM vendors and solutions
- RIM industry and professional resources
- RIM industry requirements, standards, best practices, and trends
- Relevant business functions and processes
- Relevant legal and regulatory requirements

Skills:

- Communicate appropriately for the task, orally and in writing
- Research relevant technologies, tools, and techniques
- Collect, analyze, and assimilate data
- Summarize and report findings

Help develop appropriate functional and technical requirements by interviewing stakeholders, analyzing and prioritizing their responses, and reviewing the business processes to meet the business needs. (020104)

Knowledge of:

- Data-gathering techniques
- Relevant legal and regulatory requirements
- Relevant business functions and processes
- Business operating environment
- Relevant IT practices

Skills:

- Document processes used to develop requirements
- Communicate with end users, managers, and stakeholders regarding business processes and information requirements
- Conduct testing to determine the expected vs. actual performance
- Collect, analyze, and assimilate data
- Apply RIM knowledge to practical issues
- Map findings into RIM practices and business processes

Identify recordkeeping requirements to document the business functions. (020105)**Knowledge of:**

- Mandatory characteristics of reliable and authentic records
- Theory and practice of design and management of RIM systems
- Organizational business functions and RIM practices
- Requirements to ensure comprehensive, adequate, reliable, authentic records

Skills:

- Construct appropriate research methodology and processes
- Review and analyze data
- Develop recordkeeping requirements to document the functions
- Review and research the functions and RIM practices
- Communicate effectively with key stakeholders, orally and in writing

Lead and direct RIM staff work activities. (020106)**Knowledge of:**

- Assigned duties of direct reports
- Outcomes and expectations of assigned projects
- Performance review process

Skills:

- Establish metrics and audit to evaluate progress
- Communicate appropriately for the task, orally and in writing

Produce status reports by assessing, reviewing, and analyzing project outcomes. (020107)**Knowledge of:**

- Project management tools and techniques
- Principles of statistical analysis
- Industry trends and requirements for the organization's line of business
- Basic auditing practices

Skills:

- Conduct benchmarking against RIM best practices
- Analyze qualitative and quantitative data
- Use charts and graphs
- Collect project or program data
- Make recommendations for projects or programs to management
- Identify possible issues during the project
- Communicate effectively with stakeholders, orally and in writing
- Conduct project risk analysis

Provide input for organizational policies and guidelines by analyzing the processes. (020108)**Knowledge of:**

- Workflow
- Software applications used in business processes
- RIM best practices
- RIM program requirements
- Current policies and practices

Skills:

- Research and collect project or program data
- Make policy and guideline recommendations to management
- Assess process effectiveness with respect to the program goals and requirements
- Create clear documentation of the policy and process

Monitor and report changes in the organizational business environment that have an impact on the creation and use of records. (020109)

Knowledge of:

- RIM principles and best practices
- Organizational and RIM program policies and procedures
- Business functions and changes
- Survey and evaluation techniques
- Auditing techniques

Skills:

- Monitor RIM systems and organizational changes with a view to identifying significant impacts in a RIM context
- Communicate effectively with key stakeholders, orally and in writing

Provide customer service for the organization, including for requests for information, analysis, and RIM services to meet the business objectives. (020110)

Knowledge of:

- Customer service goals and delivery
- Organizational business products and services
- Communication tools and techniques
- Staffing hierarchy and corporate culture
- Conflict resolution tools and techniques
- Interpersonal dynamics
- Privacy and security standards for RIM
- Records access requirements

Skills:

- Communicate appropriately for the task, orally and in writing
- Manage time
- Resolve conflicts
- Collaborate with colleagues and customers to meet business needs
- Maximize use of technology for information access

Respond to complex requests that require research. (020111)

Knowledge of:

- Tools and techniques used for records retrieval and other end user services
- RIM program policies and procedures
- Records research principles and strategies
- Organizational requirements for security, classification, and access
- Advanced search techniques and processes
- Reference interview techniques
- Data processing and controlling requirements for protected information
- Privacy requirements that affect release of information

Skills:

- Identify and locate records
- Use RIM program systems to identify and produce records in response to user requests
- Use RIM program systems and records to provide users with information
- Solve problems
- Perform detailed research into records
- Search, find, and deliver records
- Track and monitor records in circulation
- Identify closed records and prevent their unauthorized access
- Document record use

Classify and process incoming information according to RIM procedures to meet organizational compliance requirements. (020112)

Knowledge of:

- Distribution requirements
- Security and privacy requirements for processing incoming information
- Customer service practices
- Appropriate distribution technologies
- Applicable time requirements affecting information processing or compliance

Skills:

- Document processes used to meet compliance requirements
- Create distribution schedules
- Coordinate special delivery practices to clients

Domain: RIM/IG Practices

RIM/IG Practices: This domain pertains to the knowledge and skills required to systematically manage information assets from creation or receipt through processing, distributing, sharing, using, accessing, organizing, storing and retrieving, and disposing of them. Information is a vital organizational asset, and organizations depend on accurate, complete, and readily available information to assist in making decisions; providing litigation support; improving organizational efficiency; documenting compliance with legislative, regulatory, contractual, and audit requirements; and providing historical reference.

Level 2

Assess and recommend appropriate media and practices for the RIM/IG program. (020201)

Knowledge of:

- Legal and policy frameworks governing the organization and IG
- RIM program requirements
- Current and evolving technologies and their applications
- End-user expectations and business needs
- Concepts, techniques, technologies, and roles associated with IG

Skills:

- Identify and communicate to stakeholders and end users the benefits associated with adopting IG principles and solutions
- Analyze methods to meet evolving end-user expectations and business needs
- Communicate appropriately for the task, orally and in writing
- Present findings to key stakeholders

Conduct research to provide input into the design of ECM systems. (020202)

Knowledge of:

- Organizational structure and infrastructure
- Business mission, objectives, and strategy
- Industry standards
- Research techniques
- Sources of information and standards on RIM/IG
- Laws, regulations, and compliance requirements
- Business and end-user requirements

Skills:

- Identify relevant sources of information
- Determine functional needs of the stakeholders
- Apply theories and concepts to support a compliant enterprise content management systems design
- Organize, analyze, and interpret information
- Design research strategies
- Provide feedback to IT, orally and in writing

Help design RIM/IG programs by correlating business processes and legal and operational issues to the RIM/IG requirements. (020203)

Knowledge of:

- Organizational legal and regulatory environment
- Laws, regulations, and compliance requirements
- RIM / IG programs and policies
- Organizational operational environment
- Management principles and techniques
- Organizational e-discovery procedures
- Business group functions
- Data processing and controlling requirements

Skills:

- Revise policies and procedures as directed
- Analyze the impact of recommended changes on staff and staffing requirements and on compliance
- Document the electronic and physical workflows
- Communicate effectively with peers and stakeholders, orally and in writing

Survey the RIM/IG program by business unit function and requirements to ensure compliance. (020204)

Knowledge of:

- Business functions and organizational information assets
- RIM/IG standards, best practices, and industry trends
- Business processes
- RIM/IG program and related applications
- Organizational legal and regulatory requirements
- Generally Accepted Recordkeeping Principles® and best practices
- Auditing practices

Skills:

- Analyze data and translate it into useable information
- Benchmark practices with similar organizations
- Identify program gaps and recommend program improvement
- Recommend changes to comply with legal/regulatory, contractual, and audit requirements; business needs; and RIM/IG best practices
- Document process used and lessons learned

Make recommendations on drafting RIM/IG policies and procedures by reviewing and analyzing RIM/IG systems and requirements in line with RIM/IG best practices. (020205)

Knowledge of:

- Current RIM/IG theory, standards, and best practices
- Organizational RIM/IG practices and requirements
- Organizational legal and regulatory environment and compliance requirements
- IG best practices

Skills:

- Communicate appropriately for the task, orally and in writing
- Communicate RIM/IG requirements to stakeholders, orally and in writing
- Document recommendations and supporting rationale for future reference

Develop procedures for describing information assets and the systems and environments that create or receive them. (020206)

Knowledge of:

- RIM/IG theory, standards, and best practices
- Archival description theory and best practices
- Archives collections policy
- Context of records to organizational functions and history
- Methodology development and procedure writing

Skills:

- Communicate appropriately for the task, orally and in writing
- Document the context of the physical archival environment
- Research and apply to the business best RIM practices and procedures, as feasible
- Document the context of the RIM/IG systems
- Draft procedures

Lead and direct help desk responses for RIM/IG applications and programs. (020207)

Knowledge of:

- Customer relationship management
- Technologies specific to the RIM/IG applications that are supported
- RIM/IG program and practices

Skills:

- Communicate appropriately for the task, orally and in writing
- Collect and analyze end user service requests
- Think critically
- Provide customer service
- Ability to explain RIM concepts and terminology to non-specialists

Develop and maintain professional, industry, and organizational knowledge to serve as a subject matter expert. (020208)
Knowledge of:

- Applicable industry and professional organizations
- Industry and professional resources
- Industry trends and best practices
- RIM industry trends and requirements
- Business functions and processes
- Legal and regulatory requirements
- Knowledge management program and functions

Skills:

- Communicate appropriately for the task, orally and in writing
- Research applicable technologies, tools, and techniques
- Collaborate with teams and communities of practice
- Collect, synthesize, and assimilate data
- Apply theory and knowledge to practices
- Think critically and clearly
- Identify changes in business operations, regulatory requirements, and technology

Develop specific task instructions to enable end users to follow established RIM/IG procedures. (020209)
Knowledge of:

- Daily tasks and proper sequence
- Generally Accepted Recordkeeping Principles[®] and best practices
- RIM/IG organizational practices

Skills:

- Communicate appropriately for the task, orally and in writing
- Communicate the task sequence of RIM/IG processes effectively
- Understand user needs while applying RIM/IG principles and best practices
- Implement RIM/IG processes effectively

Provide RIM/IG program and policy training. (020210)
Knowledge of:

- Training methodologies and techniques
- Group and interpersonal dynamics
- Research techniques and strategies
- Learning styles and strategies
- Compliance requirements
- Audit requirements

Skills:

- Develop and deliver training presentations to end users
 - Give and accept constructive feedback
 - Use self-directed learning techniques
 - Assess training quality and feedback
 - Implement ongoing improvement strategies for training development
 - Provide customer service
 - Coordinate with the compliance officer to ensure legal requirements are met
 - Coordinate with the internal audit team to ensure audit requirements are met
-

Provide input for template revisions, oversight, and guidance to end users. (020211)**Knowledge of:**

- Fundamentals of template design, structure, function, and usage
- IT principles and applications
- Business documentation processes
- Organizational regulatory, legal, and contractual environment and requirements
- User interface design
- Graphic design

Skills:

- Analyze template usage
- Communicate appropriately for the task, orally and in writing
- Summarize information
- Help develop a template policy and guidelines
- Conduct surveys and employ feedback related to end user experience
- Use graphics design applications
- Maintain a repository of templates and a template history

Help develop RIM/IG system specifications by using best practices, assessing business needs, and clearly documenting requirements. (020212)**Knowledge of:**

- Mandatory characteristics, design, and management of RIM/enterprise content management (ECM) systems
- IG
- Organizational business functions and RIM/IG practices
- Compliance requirements
- End-user requirements and expectations

Skills:

- Review, research, and analyze data and metadata requirements
- Articulate the requirements for RIM/ECM systems
- Help design RIM/ECM systems
- Communicate the compliance requirements
- Design, test, redesign, and implement RIM/ECM systems

Help develop an information assets classification scheme and associated file plans. (020213)**Knowledge of:**

- File classification schemes and file plans
- Organizational taxonomies, controlled language, and file-naming conventions
- Organizational RIM/IG requirements
- Organizational business strategy, tactics, and priorities
- Organizational business functions
- Business needs and RIM/IG best practices

Skills:

- Construct and document classification schemes
- Develop and document file plans
- Gather data on information assets and business functions and translate them into subject hierarchies and sets of rules

Help develop, implement, and use the information assets classification scheme. (020214)**Knowledge of:**

- Organizational structure, infrastructure, and workflow
- Information governance trends
- Organizational RIM/IG requirements
- Information management/ECM system design
- Classification processes, schemes, and techniques
- Legal and policy frameworks governing the organization and its information management
- RIM/IG principles and best practices

Skills:

- Apply a classification design scheme
- Communicate effectively with stakeholders, orally and in writing
- Communicate compliance requirements
- Consult with business groups and end users on the design of classification schemes
- Apply technical knowledge to develop and maintain easily accessible systems and procedures

Research, develop, revise, and monitor a controlled vocabulary (e.g., thesauri, taxonomies). (020215)

Knowledge of:

- Thesaurus construction and taxonomy
- Organizational business functions and information assets
- RIM/IG principles and best practices
- Taxonomy software, enterprise content management system taxonomy, and thesaurus capabilities

Skills:

- Develop, maintain, revise, and document thesauri and taxonomies
- Gather and translate data on information assets and business functions into subject hierarchies and sets of rules
- Review anomalies to determine the changes that are needed
- Communicate appropriately for the task, orally and in writing
- Consult with end users to analyze information assets and business requirements and processes

Direct the processing of information assets involved with mergers, acquisitions, divestitures, and reorganizations by applying classification and taxonomy schemes so information assets are handled using established controls and processes. (020216)

Knowledge of:

- Organizational structures
- Inventory processes for information assets, both electronic and physical
- Vital records classifications of all involved organizations
- Legal and regulatory requirements of all involved organizations
- Database programs and appropriate forms
- Software applications in use
- Terminology used in classification, taxonomies, and schemes for information assets
- Physical records transportation and logistics
- Data mapping
- Security of records containing protected information

Skills:

- Analytical thinking
- Organize and analyze collected data
- Document classification and taxonomy schemes
- Solve problems
- Communicate appropriately for the task, orally and in writing
- Communicate compliance requirements
- Relate with stakeholders and end users
- Recognize and resolve conflicting data prior to data entry or merging
- Organize record center relocation and office moves
- Manage stakeholder requirements for protected information

Help develop policies and procedures for version control within and across media. (020217)

Knowledge of:

- Issues surrounding the management of versions in business environments
- Contractual requirements
- Strategies, policies, and procedures to control version creation and maintenance
- Organizational RIM/IG practices for copying and maintaining duplicate records
- RIM/IG theory and best practices
- Workflow and collaboration methodologies
- Compliance requirements and protection of information from unauthorized access

Skills:

- Analyze data
- Communicate appropriately for the task, orally and in writing
- Train end users on policy adherence and practical application

Appraise information assets for inclusion in a RIM/IG/archives program. (020218)**Knowledge of:**

- Appraisal principles and techniques
- Organizational RIM/IG program requirements, procedures, and retention schedules
- Organizational archives collections policy
- Organizational classification scheme

Skills:

- Accession records according to RIM/IG/archival program procedures
- Facilitate the electronic and/or physical transfer of records to archives
- Assess information assets to assign their classification metadata
- Document process followed during the appraisal

Appraise and analyze recorded information for retention purposes, as directed. (020219)**Knowledge of:**

- Classification schemes and record series used in retention scheduling
- RIM/IG program and all its components
- Organizational appraisal and collection policies and practices
- Current repositories and archival holdings
- Structure of records retention schedule
- Criteria used to identify records with archival value

Skills:

- Think analytically
- Organize and analyze collected data
- Document analysis findings and resulting decisions
- Communicate findings to stakeholders effectively, orally and in writing

Identify duplicate records across media by reviewing workflow, current practices, and record content. (020220)**Knowledge of:**

- Theory and practice of duplicate creation and management
- RIM/IG program requirements, policies, and procedures for duplicate management
- Deduplication software functionality

Skills:

- Apply software applications to identify potential duplicates
- Monitor and analyze findings to identify problems and non-compliance issues
- Comply with duplicate management procedures
- Report records duplication issues and suggest solutions
- Communicate findings to stakeholders

Identify retention series and create descriptions after analyzing the information assets to be incorporated into the RIM/IG and archives programs. (020221)**Knowledge of:**

- Advanced principles of records and archives documentation, collection, and description techniques
- Organizational business functions
- RIM/IG and archives programs' requirements with respect to the description of information assets
- Context of information assets to organizational functions

Skills:

- Create metadata profiles for electronic and physical information assets
- Conduct electronic and physical inventories of organizational information assets

Develop retention schedules by evaluating records and non-records series according to business function. (020222)

Knowledge of:

- Business functions and organizational information assets
- Organizational legal and regulatory environments and requirements
- Archival collections policy and appraisal practices
- RIM/IG principles and best practices
- Privacy and security standards for records
- Evidential, informational, and historical value of records
- Organizational contractual and audit obligations

Skills:

- Collect and analyze data
- Evaluate records and non-records against business, legal, regulatory, and archival requirements
- Communicate appropriately for the task, orally and in writing
- Develop clear and concise retention schedules
- Distinguish systems of record from locations with incomplete or obsolete document versions
- Research federal, state, and local laws and regulations that address recordkeeping requirements

Gather information from stakeholders and end users during periodic updates of retention schedules. (020223)

Knowledge of:

- RIM/IG principles and best practices
- Business needs for retention beyond legal and regulatory requirements
- Various models for structuring retention schedules and the pros and cons of each mode (e.g., granular series, “big bucket,” departmental, functional schedules)
- Potential historic, intrinsic, or enduring value of information
- Legal research techniques

Skills:

- Calculate trigger events for records series
- Identify ends of retention periods and disposition
- Communicate effectively with stakeholders, orally and in writing
- Identify changes in business operations and compliance and audit requirements specific to the organization
- Document rationale for changes made to the schedule

Review retention schedules prior to implementing disposition actions. (020224)

Knowledge of:

- Information assets appraisal
- Business processes and requirements
- Privacy and security standards for information assets
- Statutes, regulations, and contractual considerations
- Media composition and destruction/recycling industry standards and processes
- Evidential, informational, and historical values of information assets

Skills:

- Create concise and comprehensive documentation on the disposition review and approval process
- Communicate effectively with stakeholders, orally and in writing
- Research, interpret, and apply laws, regulations, and contractual obligations
- Identify, certify, and track information assets for destruction and other disposition actions
- Follow the destruction authorization process
- Implement, maintain, and release legal holds and other preservation orders
- Match records and non-records to the series that are detailed in retention schedules
- Identify, document, and resolve anomalies and exceptions

Identify records having potential archival value. (020225)**Knowledge of:**

- Principles and practices of archives management
- RIM/IG program and practice with respect to the management of archives
- Organizational archives collections policy

Skills:

- Understand the rationale for the preservation of archival records and artifacts (including pictures and videos)
- Understand rationales for access, and access restrictions, to archival records

Review and update records retention schedules on a routine basis. (020226)**Knowledge of:**

- Record appraisal
- Business processes and requirements
- Organization's regulatory and legal requirements and environment
- Organization's structure and functions
- Privacy and security standards for information assets
- Research and information collection methodology
- Organizational contractual obligations
- Archival theory and practices

Skills:

- Identify and document new retention schedule series and their disposition
- Identify obsolete retention schedule series for decommissioning
- Review and update existing records and non-records series and retention requirements
- Analyze and identify record and non-record characteristics
- Create concise and comprehensive documentation on the review schedule and process
- Research and interpret industry standards, case law, regulations, statutes, and contractual obligations
- Appraise and establish records and non-records retention periods and dispositions
- Conduct an inventory of information assets in all storage media

Identify records containing PII, SPII, or PHI. (020227)**Knowledge of:**

- Jurisdictional privacy laws and requirements
- Use of personally identifiable information (PII), sensitive personally identifiable information (SPII), and protected health information (PHI) in organizational information assets
- Online data storage solutions
- Organizational policies related to the protection of information
- Organizational location and the use of PII
- De-identification and redaction procedures
- Risk assessment

Skills:

- Manage stakeholder requirements for PII, SPII, and PHI
- Evaluate storage technology and system access controls
- Integrate special access restrictions within repositories
- Document steps taken to comply with the requirements

Comply with information security classification policy and procedures. (020228)**Knowledge of:**

- Organization's legal and regulatory environment and jurisdictional requirements
- Organizational security and privacy policies and procedures
- Location(s) in which confidential information is stored

Skills:

- Evaluate information assets in accordance with security and privacy classification procedures
- Communicate records security and security classification incidents to management
- Communicate policies and procedures of the security classification regime to RIM/IG stakeholders
- Identify records that contain protected information
- Document findings for future reference

Provide guidance in centralized and decentralized file management operations to improve access and control. (020229)**Knowledge of:**

- File management systems
- File management operations
- Facility capacity for weight loads and high-density storage
- File weights and floor load-bearing engineering studies
- Needs projections for future expansion
- Filing systems and equipment
- Staffing needs
- Safety requirements for operations
- RIM/IG information asset tracking and management software
- Requirements for the protection and preservation of various storage media

Skills:

- Comply with human resources requirements
- Comply with inventory control and records retrieval
- Use RIM/enterprise content management applications to manage information assets
- Apply metrics to forecast and decide on space requirements
- Manage active and inactive records
- Use retention schedules
- Recommend equipment for storage and management of records

Domain: Risk Management

Risk Management: This domain pertains to the knowledge and skills necessary to proactively mitigate and manage the potential for damage, loss, or unauthorized access to information assets. Two risk management components – risk analysis, which identifies the probabilities that information will be damaged or lost, and risk assessment, which examines known or anticipated risk to information – are key concepts to systematically controlling the level of risk exposure of an organization. Additional risk management components from an operational perspective are business continuity, disaster preparedness and recovery, information privacy and security requirements, and auditing.

Level 2

Help perform a risk assessment by identifying and prioritizing risks relating to records. (020301)

Knowledge of:

- Organizational business continuity plans (i.e., for disaster prevention, response, recovery, and resumption of business)
- Disaster recovery techniques
- Risk management principles
- Organizational risk assessment principles
- Organizational auditing practices and principles
- Legal research methodologies
- Basic statistical analysis principles
- Advanced spreadsheet functions
- Controls to preserve the security and protection of all information assets

Skills:

- Evaluate legal guidelines
- Collect, analyze, and assimilate relevant data
- Communicate findings and recommendations with managers and stakeholders
- Identify and evaluate risk
- Identify and develop risk mitigation techniques and strategies
- Identify program gaps and make recommendations for program improvement
- Document steps taken during the risk assessment process

Provide input to disaster planning efforts by assessing and documenting critical business processes and identifying vital records. (020302)

Knowledge of:

- Organizational business continuity plan (i.e., for disaster prevention, response, recovery, and resumption of business)
- Disaster recovery techniques and vendors
- Inventory and repository contents
- Vital records management principles
- Organizational business continuity systems and tools
- Security and protection of vital records

Skills:

- Collaborate with IT to plan and execute business continuity plans
- Schedule and prioritize recovery steps and processes
- Enter business continuity plan data in business continuity systems and tools
- Negotiate and resolve conflicts
- Communicate appropriately for the task, orally and in writing
- Assess the applicability of solutions to specific needs
- Identify and inventory vital records
- Identify the requirements for vital records management, protection, handling, storage, and reconstitution

Participate in emergency plan preparation and drills. (020303)**Knowledge of:**

- Emergency planning strategies and techniques
- Disaster recovery processes
- Training methodologies and techniques
- Vital records management program
- Business continuity principles (i.e., for disaster prevention, response, recovery, and resumption of business)
- Gap analysis methodology
- Facilities and logistics
- Local and regional emergency action plans
- Team-building and motivational processes

Skills:

- Participate in disaster recovery training and drills
- Perform assigned roles and conduct role playing
- Report on the drill results
- Coordinate disaster teams and explain team responsibilities for RIM
- Identify program gaps and make recommendations to management for program improvement

Assist with security classification policies and procedures. (020304)**Knowledge of:**

- Security classification theory and principles
- Security classification requirements for the organization's records
- Security classification administration principles and practices
- Privacy issues that affect the organization
- Organization's privacy policy

Skills:

- Communicate appropriately for the task, orally and in writing
- Apply the appropriate security classification to information
- Educate RIM stakeholders on the policies and procedures and monitor their compliance
- Maintain privacy checklists
- Collect information for privacy impact assessments
- Identify and update policy and procedures impacted by security classification

Help implement the records security classification policy and procedures. (020305)**Knowledge of:**

- Security classification
- RIM program policy, practices, and procedures
- Security classification requirements for the organization's records
- Privacy issues that affect the organization
- Privacy requirements for records that contain protected information

Skills:

- Communicate appropriately for the task, orally and in writing
- Apply the appropriate security classification to information
- Educate RIM stakeholders on the policies and procedures and monitor their compliance
- Maintain privacy checklists
- Collect information for privacy impact assessments
- Monitor, evaluate, and promote the use of security classification schemes
- Report on incidents, triggers, and the maintenance of the security classification framework
- Incorporate privacy data handling and controlling requirements into the security classification procedures

Protect the integrity and authenticity of records. (020306)**Knowledge of:**

- Security, protection, and access controls
- Data quality practices and procedures
- Access control policies and principles
- Information security requirements
- Business continuity plan (i.e., for disaster prevention, response, recovery, and resumption of business)
- Confidentiality requirements

Skills:

- Audit and review access to records
- Maintain confidential and sensitive information
- Help maintain the appropriate environmental and safety controls
- Review access list and determine if changes are needed
- Train users on steps needed to ensure records integrity and authenticity in their business processes

Assist legal counsel and management with the legal hold process. (020307)**Knowledge of:**

- Organizational policies and procedures related to legal holds
- Legal and policy frameworks governing information management
- Electronic devices that may contain data
- Previous and current RIM compliance issues
- Security and protection controls for records in a legal hold
- *The Sedona Conference® 2010 Commentary on Legal Holds: The Trigger & The Process*
- Forms and documentation related to disposition
- Legacy and orphaned systems that may contain information assets
- Data storage practices and media
- Organizational security and privacy policies and procedures
- Document production and document discovery/e-discovery requirements
- Training methodologies and techniques

Skills:

- Provide internal and external customer service
- Create status reports
- Identify the scope of the records affected
- Process the affected records
- Assist with the resumption process for removing the legal hold
- Create disposition reports
- Train the staff on legal hold processes and procedures
- Apply legal holds
- Communicate effectively the needs and compliance requirements of the legal hold, orally and in writing
- Process the legal hold checks for offboarding staff

Safeguard vital records identified within the vital records program. (020308)**Knowledge of:**

- Vital records management program
- Backup tools and techniques
- Related IT principles and applications
- Safeguarding recordkeeping systems
- Business objectives and requirements
- Business continuity principles (i.e., for disaster prevention, response, recovery, and resumption of business)
- Disaster preparedness and recovery methodologies

Skills:

- Interpret business processes and functions
- Identify gaps and redundancies in vital records storage
- Collaborate with IT to identify systems containing vital records that may require special protection
- Train end users on how vital records are protected

Domain: Communications and Marketing

Communications and Marketing: This domain pertains to the knowledge and skills necessary to effectively exchange thoughts, messages, or information by speech, writing, or behavior and to effectively champion the benefits of a RIM program within an organization or to external stakeholders. The domain covers training and education of users about the RIM program. The Communications and Marketing domain is vital to developing successful business relationships to maximize RIM support and compliance, communicate the importance of RIM, and promote the value of RIM principles and best practices.

Level 2

Communicate with stakeholders to determine RIM needs. (020401)

Knowledge of:

- Organizational structure, business strategy, policies, and objectives
- Information management system design
- Legal and policy frameworks governing the organization and its information management
- Survey and focus group techniques
- RIM program goals, systems, and procedures
- Records center policies and practices

Skills:

- Communicate appropriately for the task, orally and in writing
- Develop and deliver presentations using various media for target audiences
- Organize, analyze, and interpret information
- Present and defend viable recommendations from data collections, research, and analysis
- Motivate others during organizational change processes
- Document RIM needs and stakeholder input

Collaborate with stakeholders to achieve compliance with the RIM program. (020402)

Knowledge of:

- Business partners and stakeholders' goals and objectives
- Organizational mission, vision, goals, and objectives
- RIM program system, goals, strategy, and benefits
- Strategic planning
- Concerns of oversight bodies
- Internal resources
- Public relations
- Industry issues for which IG facilitates organizational governance
- Value of RIM to other organizational activities

Skills:

- Explain the value of the RIM program to the organization
- Control the quality of RIM processes
- Assess, analyze, and correct data in line with RIM program best practices and requirements
- Accept mediation decisions
- Demonstrate honesty and act according to ethical principles
- Develop and deliver presentations using various media for the target audiences
- Organize, analyze, and interpret information
- Communicate appropriately for the task, orally and in writing

Develop, maintain, and improve relationships with information technologists, internal customers, and other stakeholders. (020403)

Knowledge of:

- Communication tools and techniques
- Industry trends and RIM profession requirements
- Staffing hierarchy and corporate culture
- Conflict resolution tools and techniques
- Customer relationship management
- Interpersonal dynamics
- Related IT principles and applications
- Business objectives and requirements

Skills:

- Communicate effectively with stakeholders, verbally and in writing
 - Analyze personalities and team dynamics
 - Analyze the organization chart to understand management accountability and decision-making
 - Model and analyze the business processes
-

Domain: Information Technology

Information Technology: This domain pertains to the knowledge and skills at the intermediate level necessary to develop, maintain, and use information processing systems, software applications, and supporting hardware and networks for the processing and distribution of data. Examples of information technology tasks in this context include the RIM software application, developing IT requirements for managing electronic repositories, information security, digitization, identifying technology options, and understanding stakeholder functions within the scope of one or more business unit and / or business processes.

Level 2

Help design information management systems by translating records processes into functional requirements. (020501)

Knowledge of:

- Available information management systems and technology
- Advanced best practices in RIM processes
- Principles for information-gathering requirements
- Business process analysis techniques
- Organizational legal and regulatory environment, including the drivers that require the organization to control and audit its information assets, and any multi-jurisdictional privacy requirements
- Scoring techniques to evaluate technology vendors
- Gap analysis methodology
- Policy and procedure writing for knowledge transfer initiatives
- RIM industry standards (e.g., DoD 5015.2, VERS, MoReq2010)
- Cross-functional team strategies and behaviors
- Automation solutions and functions for declaration and classification

Skills:

- Analyze records and business processes
- Determine the metadata necessary for records retrieval and authentication
- Conceptualize and visualize complex processes into practical solutions
- Perform workflow analyses
- Perform gap analyses
- Organize information into a systematic process
- Map the business and records processes
- Define, evaluate, and clarify functional and technical requirements for a gap analysis
- Create a communication plan for initiatives and projects
- Create a change management plan for RIM awareness that is aligned with the communications plan
- Incorporate privacy requirements into the system configuration

Collaborate with IT to incorporate recordkeeping requirements into systems design or upgrade. (020502)

Knowledge of:

- Business processes and functions, including use cases for common business process scenarios
- Management principles and techniques to initiate and complete projects
- Broad range of RIM practices and procedures that will achieve business goals and objectives, including archival preservation
- Organizational goals and strategic direction
- ISO 15489-1:2016, *Information and documentation – Records management – Part 1: Concepts and principles*
- RIM awareness and change management best practices
- Retention and privacy requirements unique to protected information
- Software design methodologies (e.g., agile, waterfall)

Skills:

- Communicate effectively with stakeholders, orally and in writing
- Present and market recommendations to peers and stakeholders
- Apply theory and knowledge to RIM practices
- Organize information into stages of a business process workflow
- Negotiate and resolve conflicts and priorities within and between lines of business
- Determine appropriate software design methods in response to rapidly changing technology
- Communicate the RIM business requirements to IT
- Facilitate business process re-engineering workshops

Monitor the processes for transferring or migrating records and information. (020503)

Knowledge of:

- Quality control techniques
- Records integrity and authenticity characteristics
- Record validation techniques
- Methodologies for updating, copying, and migrating information
- Privacy data processing and controlling requirements
- Legacy and current electronic document management and electronic document and records management systems
- RIM migration technologies and requirements
- Metadata standards
- Taxonomy structures and techniques
- Relevant operating systems and software

Skills:

- Utilize appropriate media
- Design and build testing criteria
- Analyze test results
- Analyze and identify record characteristics
- Recognize and reconstruct taxonomies
- Create concise and comprehensive documentation on validation and testing methods
- Perform RIM awareness and change impact analysis related to migrating records and information
- Identify quality control gaps in the extract, transform, and load (ETL) process
- Develop an ETL process for migration, based on business processes and requirements
- Perform quality reviews
- Communicate with stakeholders regarding the transfer or migration of records and any findings that require corrective action

Support and train others in the use of technology to accomplish tasks that support RIM program objectives. (020504)
Knowledge of:

- Information management systems and technologies that support RIM programs
- Technology to exchange and communicate business goals
- Methods for interacting while using technology
- Advanced search techniques and processes
- RIM training and needs assessment
- Safeguarding recordkeeping systems

Skills:

- Diagnose and solve common technology problems
- Identify areas in need of additional training
- Provide training
- Interface with regularly used applications and tools
- Interpret and analyze business problems using available technology
- Develop graphic presentations using various media
- Communicate effectively
- Evaluate input and output of others to determine accuracy
- Perform needs assessment analysis based on RIM awareness
- Develop and document a training plan

Provide input for selecting software to best support the RIM program. (020505)
Knowledge of:

- IT platform and applications, including solution functionality for access to cloud repositories and support for RIM in the cloud
- Terminology used in records classification, taxonomies, and schemes
- End user needs and expectations for search applications for multiple repositories and platforms and for the integration of applications such as enterprise resource planning and archival
- Basic RIM principles
- RIM program requirements

Skills:

- Communicate appropriately for the task, orally and in writing
 - Compare and analyze software products
 - Analyze end user needs for information
 - Communicate the value of the system or application to the end user and to IT
 - Gather and provide software, record and information classification, categorization, and disposition requirements specific to the RIM program and its end users
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Domain: Leadership

Leadership: This domain pertains to the knowledge and skills necessary to increase RIM awareness and motivate groups of people toward the achievement of the RIM program goals within the context of the organization's overall goals. Effective leaders must positively influence others by using leadership skills such as guiding, motivating, mentoring, and promoting continuing education and learning; interpersonal skills such as empathy and sensitivity; creative thinking skills such as brainstorming and thinking untraditionally; and change management skills such as trust building and networking.

Level 2

Remain effective during changes in responsibilities, work environment, or other conditions affecting the organization. (020601)

Knowledge of:

- Organizational change
- Organizational environment and culture
- Organizational policies and procedures
- Conflict management styles and strategies

Skills:

- Adapt behavior and work methods when faced with changes
- Communicate positively with staff about the change
- Cooperate and collaborate during the change
- Document changes and rationale for them

Recognize conflicts and manage relationships. (020602)

Knowledge of:

- Effects of conflict
- Cross-cultural considerations when dealing with conflict
- Conflict management styles and strategies
- Personality types
- Mediation
- Ethical principles

Skills:

- Listen to facilitate understanding and prevent conflict
- Identify and recommend courses of action if the conflict should be escalated to management
- Sustain cooperative working relationships

Participate in team building to achieve organizational goals. (020603)

Knowledge of:

- Goal setting
- Teamwork
- Organizational policies and procedures
- Organizational goals
- Personal strengths and weaknesses

Skills:

- Develop cooperative working relationships
- Treat customers and co-workers with dignity, respect, and fairness
- Objectively consider others' ideas and opinions
- Demonstrate commitment, team spirit, pride, and trust
- Change individual behavior in response to constructive criticism
- Demonstrate quality work
- Demonstrate honesty and act according to ethical principles
- Take responsibility for delivering on commitments