Oregon Secretary of State
Archives Division

*Version 1, February 2026*

# Digitization Guidance

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## PURPOSE

The following is intended to provide guidance, and is not a requirement, unless otherwise specified. For requirements related to digitizing records, please see *OAR 166-017-0035*. This document is not intended to supplant any agency-specific policies and procedures related to the digitization of records and should be consulted in conjunction with those.

# Pre-Scanning Considerations

## PURPOSE

After reviewing this section, the reader will have a better sense of whether digitization is advisable for their particular situation.

## TO SCAN OR NOT TO SCAN

There are advantages and disadvantages of digitizing records that should be considered when deciding if digitization is appropriate for your agency:

### *Advantages of Scanning*

- Consolidates records storage spaces
- Potential for increased organizational productivity
- Records become more easily accessed agency-wide
- Reviewing records won't cause damage to physical materials
- Records are preserved in instances of physical disaster
- Records can be full-text searchable and easier to locate

### *Disadvantages of Scanning*

- Increased need for digital storage spaces
- Planning for effective and efficient workflows and file management can be a time-consuming process
- May require significant staff time to produce scans and review them for quality assurance/control
- Outsourced scanning with vendors can be costly
- If file plans and digital workflows aren't properly established, chances of file loss may increase

The above are just some of the possible advantages and disadvantages and it's important to note other practical considerations that may help guide your decision.

## ADDITIONAL CONSIDERATIONS

Have the records met their retention length?

- *It's important to perform review and destruction of eligible records before starting any scanning project to avoid unnecessary costs. If records have met their scheduled retention and have no other legal holds they should be destroyed as per the approved records retention schedule.*

Is the goal to dispose of all physical copies and only maintain these files in a digital space?

- *If only retaining digital copies, there may be additional requirements to consider*

Will these files be frequently accessed or requested?

- *High-use files will gain more value by digitization than those which are seldom accessed*

Does the business, historic, or disaster recovery value exceed the cost to scan?

- *This is a subjective judgement, but conducting a risk assessment can be helpful in making this determination*

Will multiple people need to access these files simultaneously?

- *This both makes a stronger case for digitization and helps you determine your storage/system strategy for the digital files*

## DECISION TREE

To help aid your decision you may also want to review this *Decision Tree*, which walks through the key decisions involved in deciding to digitize records.

# The Process of Digitizing

## PURPOSE

This section is intended to guide the reader through the process of digitizing records.

## DECIDING WHICH FILES TO SCAN – PROJECT PRIORITIZATION

Here are some strategies for implementing digitization projects:

### *Start small*

Choose one cohesive record series and let that record series serve as a pilot for your digitization efforts. Common examples include meeting minutes, contracts and agreements, and annual budget reports. This provides the opportunity to gauge the intensity of the workload, establish digital workflows, decide on and apply consistent naming conventions, and fine-tune your storage strategy. Following this process with a single record type will provide perspective on the resources necessary for this type of project from beginning to end.

### *Retention Length*

Prioritizing records with a long-scheduled retention can help make the best use of agency resources. Starting with records that have a permanent retention length can be a great place to begin because those records will get maximum value from being made more accessible over time. For records with relatively short retention periods (10 years or less), agencies should consider whether it's worth the time and effort to digitize records which will soon be eligible for destruction.

### *Frequently requested or accessed records*

Digitizing files provides for ease of access, including by multiple people at one time. It also simplifies fulfilling public records requests. Are there frequently requested records that multiple people need simultaneous access to? This can be a great starting point.

## PREPARING FOR SCANNING

Properly preparing for digitization ensures a smoother scanning and filing process.

### *Preparing the documents*

Preparing the documents means physically gathering the files you'd like to scan and combing through each one, removing any staples, sticky notes, and paperclips, and breaking apart pages that are stuck together. Additionally, you want to make sure records are not intermingled, with each one clearly identifiable and complete, and with pages in the correct order. If necessary, use cloth gloves to handle fragile documents.

### *Preparing scanning technology*

OAR 166-017-0035 details the standards for digitization to ensure the production of high-quality digital files which will serve the same purpose as paper originals. Many of these standards can be configured in your scanning technology settings. Make sure to follow the requirements listed in the rule and perform scanning tests often to ensure proper configuration.

### *Preparing the destination system*

Whether you will be utilizing an electronic records management system (ERMS), shared network drives, or other records repositories, make sure a space has been designated and allocated in the chosen environment to host these records. Otherwise, it's easy to have "temporary" storage spaces become unintended "permanent" storage spaces, without the planning and management that goes into a properly identified system.

When preparing the destination system, this is the perfect time to establish the folder structure of your records. It is important to decide how these records will be organized in their digital space. Some questions you may ask yourself regarding the folder structure of your records could include:

- Will records be organized by retention length?
- How many folders/subfolders will be needed?
- Will records be grouped by year, project, contract, etc.?

Once you've decided on a folder structure that fits your organizational needs, make sure to create that structure in the appropriate electronic

recordkeeping system so that once records are scanned, they are immediately ready to be moved into that space.

*Deciding on metadata to capture*

Metadata is the information surrounding a file which allows us to utilize, understand, and preserve it. There isn't a one-size-fits-all approach to metadata for every document. Common elements include title or description, date of the document, record type or category; but the specific metadata you capture may vary depending on the record type and project needs. Use your discretion to determine what's most appropriate for your records.

## NAMING CONVENTIONS

Similar to having a well-planned folder structure, having good naming conventions is crucial for any digitization project. Having proper naming conventions will ensure that records can be identified even if removed from their file structure. Below are some ways to create good naming conventions for your records.

*Be concise but descriptive*

Short, clear names make it easier to manage, search, and identify records, reducing the risk of errors and ensuring consistency.

*Avoid using special characters in a file name (&!#@%$_)*

By using simple alphanumeric characters and common symbols like hyphens (-), you make it easier to search for and retrieve records. Special characters can interfere with search functions and cause unexpected behaviors, as different software interprets them differently.

*Keep dates and format consistent*

If including dates, use a consistent format. Best practice is to use a "YYYYMMDD" or "YYYY-MM-DD" format to aid in sorting and retrieving files. Consistency is the hardest part of applying naming conventions. Decide which format you'll be using and stick with it.

For more guidance on proper naming conventions and file organization, view the *File Naming & Organization Best Practices Guide*.

## DIGITIZATION STANDARDS AND REQUIREMENTS

As mentioned in the "preparing scanning technology" section of this document, digitization requirements can be found in *OAR 166-017-0035.* Here are some of the requirements to bear in mind while digitizing records:

### *Dots per inch (DPI)*

DPI measures the resolution of a scan. How grainy or crisp scanned files appear will heavily depend on how high the DPI is. The minimum DPI requirements for scanned files are as follows:

- **200 DPI** – Documents containing ten-point font or larger and containing no signatures
- **240 DPI** and grayscale – Cancelled checks
- **300 DPI** – Documents containing fonts smaller than ten-point, documents containing signatures, architectural and engineering drawings, maps, and line art

### *Scanning technology and quality control*

Scanners must be monitored for quality control and digitized documents must be verified for accuracy and completeness against the original paper or microfilm version. Sometimes the minimum requirements don't produce a usable record due to a variety of factors (degraded original, corruption in the output file, etc.). A good question to ask is, "Can this digital version fulfill all of the same purposes as the original paper copy?" If the answer is "no" you will need to adjust settings to find one that will produce the desired output.

# Post-Scanning Procedures

## PURPOSE

This section is intended to guide the reader through the procedures following a digitization effort.

## POST-SCAN WORKFLOW AND ORGANIZATION

After records have been digitized, it's important that they are prepared for proper storage, retrieval, and are of an acceptable quality. Here are a few steps to follow once records have been scanned:

### *Quality check*

Once an initial batch of documents has been scanned, review each file, page by page. Make sure the text is legible, no pages were skipped, there aren't any lingering sticky notes, pages are properly aligned and oriented, and everything looks accurate and complete. Additionally, confirm that the scanned images are in the correct file format. Once an initial batch review has been completed and you've confirmed that your scanning technology has been configured correctly, you may proceed with scanning more records. You may want to sample small batches of scanned records periodically to ensure that settings are still properly configured. Each agency must decide how frequently to conduct these batch samples to ensure continued quality of the scans.

### *Apply proper naming conventions*

Next, name the files according to the naming conventions you've established for these documents. Make sure the name of each file looks consistent. If scanning is being outsourced, naming conventions must be identified and communicated to the vendor in advance.

### *Text recognition*

Text recognition (Optical Character Recognition, or OCR) is a setting that allows a file to be converted into a readable document with searchable text. Typically, when files are scanned, they are recognized by a

computer as images. Running OCR on documents allows them to transform from images to readable documents that you can copy/paste from and search within. Please note that OCR isn't 100% accurate and can be affected by the clarity of the source. Even if type-written text has good clarity, text recognition on these types of documents may only be somewhat reliable.

### *File into proper repository*

Once you've quality-checked, applied naming conventions, and recognized text, make sure to place all pertinent files into the digital space you've designated for them.

## DESTROYING PHYSICAL RECORDS AFTER DIGITIZING THEM

Many agencies pursue digitization projects with the intention of destroying the physical copies (paper or microfilm) once the records have been digitized. This section aims to address questions surrounding the eligibility of destroying such physical materials upon scanning them into a digital space. For simplification, this section is split into two categories: records with a retention length of less than 100 years; and records with a retention length of longer than 100 years and those whose retention period is reasonably expected to exceed 100 years (such as records related to physical infrastructure and other series where retention is tied to the life span of a person or structure/object).

### *Retention length of less than 100 years*

If the retention period of the records you've scanned is less than 100 years, they may be stored exclusively in a digital space once the scans have been reviewed for quality and completeness. The physical files may then be disposed of. Please note that it is your responsibility to ensure that records are accessible for the entire duration of their retention period and the digital environment in which you store these records meets the requirements found in OAR 166-017, Rules 55, 65, and 75.

### *Retention length of more than 100 years or reasonably expected to exceed 100 years*

If the retention period of the records you've scanned is expected to be 100 years or greater than they may be stored exclusively in an electronic

format only if their digital storage environment complies with the requirements in *OAR 166-017* and the State Archives' *Electronic Recordkeeping Requirements*.

Such records must also be maintained in specific file formats depending on the content of the record. For a complete list of acceptable file formats, please see *OAR 166-017-0045(4).*



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