

January 8, 2010

Jane Wong  
Minnesota Historical Society  
345 West Kellogg Blvd.  
St. Paul, MN 55102-1906

Jason Roy  
University of Minnesota Libraries  
222-21st Avenue South  
Minneapolis, MN 55455

Dear Jason and Jane:

Northern Micrographics (NM) is pleased to respond to the Minnesota Digital Library's Digitization Vendors RFQ.

Northern Micrographics will be able to provide digital conversion services to all areas, except for audio. All information regarding our various services is included in the RFQ response.

If you have any questions regarding our response to the RFQ, please contact Scott Pechacek at 800-236-0850 ext. 107 or at [scott.pechacek@nmt.com](mailto:scott.pechacek@nmt.com).

Sincerely,

A handwritten signature in black ink that reads 'Scott R. Pechacek'. The signature is written in a cursive style with a large, prominent 'S'.

Scott R. Pechacek  
Regional Sales Manager



**Northern Micrographics**  
*A Division of NMT Corporation*

## **Northern Micrographics Response to the Minnesota Digital Library's Digitization Vendors RFQ**

Northern Micrographics (NM) is pleased to respond to the request for qualification to help the Minnesota Digital Library (MDL) locate qualified digital imaging vendors.

### **BUSINESS SUMMARY**

Northern Micrographics' experience in the imaging industry began in 1947 when it was established as the Microcard Corporation in La Crosse, WI. The Microcard Corporation quickly became a pioneer in the field of unit microforms, establishing the first commercial microfiche production facility in the United States. After the sale of Microcard Corporation to the National Cash Register Company in 1966, the same principals founded Gateway Research, which, in turn became Northern Micrographics in 1973. Northern Micrographics and Brookhaven Press specialize in microprinting and micropublishing serving academic, commercial and industrial markets.

In 1986, Northern Micrographics spun off its computer graphics operations to form NMT Corporation specializing in GCOM (Graphic Computer Output Microfilm) services and software development for the engineering graphics and utility industry marketplaces. In 1999, Northern Micrographics, Brookhaven Press and Brookhaven Bindery were merged into NMT Corporation and currently operate as divisions of NMT. NMT is a Wisconsin corporation with headquarters and production facilities in La Crosse, Wisconsin.

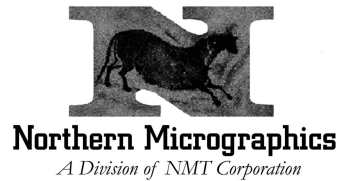
Today, Northern Micrographics is a high volume, high quality imaging firm producing microfiche, rollfilm, and digital images for many commercial, industrial and academic organizations nationwide.

NM is a privately owned, closely held corporation. Financial information is not disclosed. There are approximately 45 full and part time employees. NM's Federal tax ID number is 363454000.

### **VENDOR FACILITIES**

NM corporate headquarters occupies a 36,200 square foot facility. The entire facility is climate controlled, smoke-free and is monitored by a security system. Imaging production areas are restricted to NM personnel only.

The scanning facility was designed for secure and proper handling of original source documents, as well as microfilm/microfiche. The foundation of our facility is steel reinforced concrete to assure vibration-free stability of equipment. The scanning facility is equipped with state of the art hardware and software. Each workstation is properly cleaned and calibrated prior to filming



or scanning to ensure the area is free from dust and other distorting materials. NM uses a mix of internally developed and commercially available hardware and software for all digital processes. Equipment is checked daily in accordance with ANSI/AIIM standards.

Our production facility contains an ANSI-standard storage vault that is fireproof, waterproof, and temperature/humidity controlled conforming to the ANSI/NAPM IT9.11 storage standard. All digital and microfilm masters are stored in our vault for safe keeping as well as work-in-process source documents.

### **STORAGE AND HANDLING OF MATERIALS**

NM trains all staff in the special handling and technical processes required for the digitization and filming of endangered or rare materials. The average technician at NM has 5 or more years of experience in these processes. The department supervisors are responsible for training new employees and assuring that the appropriate processes and techniques required by ANSI/AIIM/RLG standards are adhered to during all phases of production. In addition to formal training, NM technicians have had experience completing both filming and scanning projects for libraries and universities throughout the United States. These projects have ranged from small preservation filming jobs to large digitization projects like the first phase of Making of America performed under contract for Cornell University and the University of Michigan.

### **SCANNING PROCEDURE**

NM understands and will comply with the digital imaging guidelines as outlined in the RFQ and on the MDL website with respect to scanning procedures, inspection of images and quality assurance.

NM has the capability to scan documents up to and including 8 1/2 size paper documents, as well as microfilm in 16mm, 35mm and 105mm formats. Scanning services are provided using a combination of scanners from manufacturers such as Bell & Howell, Bookeye, Epson, Hewlett Packard, Indus, Panasonic, Ricoh, Sunrise, Vidar, Wicks & Wilson and Zeutschel. No sheet fed scanners will be utilized unless authorized by the MDL and contributing organization.

Each workstation is properly cleaned prior to scanning to ensure the area is free from dust and other distorting materials. No food or drink is allowed in the scanning facility and operators will wear lint-free gloves.



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## **QUALITY CONTROL**

### **[Testing and Calibration]**

NM follows ANSI/AIIM standards with respect to system calibration and will work with contributing organization to refine any scanner settings, scanning techniques, choice of calibration targets, and image standards as needed.

### **[Vendor Inspection of Images – Print Scanning]**

All receipt, scanning, quality control and stamping workstations are networked with password control. Materials received will be logged into a control database that will contain various types of metadata information. Image capture will be performed under database management to assure proper page count. Post processing of the file will also be managed by the same database to insure that file naming and TIFF header stamping is performed correctly. Each image will undergo a binary software check to test the integrity of the individual file and a human visual inspection at designated quality control areas prior to shipment.

Each image is quality checked three times:

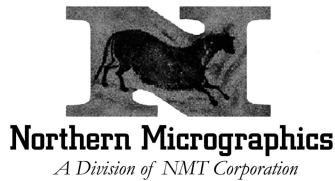
1. While scanning, the imaging technician compares the scanned image to the original source. The sharpness, contrast, and brightness level is adjusted in order to replicate the original source. Each scanned image and derivative file is individually viewed in order to guarantee that the original was captured accurately.
2. Prior to CD/DVD recording, each scanned image is manually viewed to check for proper orientation (image rotation, etc.).
3. After recording, we run a checksum which compares the images on the hard drive to the images on CD/DVD. The CD/DVD is recreated if errors are found.

Any discrepancies in terms of materials received, collation, specifications, etc will be reported directly to the contributing organization in an effort to come to a quick resolution and move the project forward in a timely manner.

### **[Vendor Inspection of Images – Film Scanning]**

All receipt, scanning, quality control and stamping workstations are networked with password control. Each image will undergo a binary software check to test the integrity of the individual file and a human visual inspection at designated quality control areas prior to shipment.

Each image is quality checked three times:



1. The sharpness, contrast, and brightness level is adjusted in order to replicate the original source. Each scanned image and derivative file is individually viewed in order to guarantee that the original was captured accurately.
2. Prior to the loading of the external hard drive, each scanned image is manually viewed to check for proper orientation (image rotation, etc.).
3. After recording, we run a checksum which compares the images on the hard drive to the images on external hard drive. The external hard drive would be reloaded if errors are found.

#### [Warranties/Guarantees]

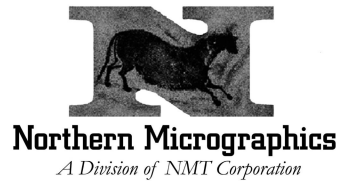
NM will make every effort to insure the quality of all digital images, technical metadata and directory structure. If any products do not meet accepted quality guidelines, NM will work with each contributing organization to make necessary corrections.

#### **EXPERIENCE**

Northern Micrographics produces microfilm and digital images for such organizations as the Optical Society of America, American Chemical Society, American Institute of Physics, American Geophysical Union, Society of Automotive Engineers, Toro Corporation, Polaris Industries, Mitsubishi, and many others.

As a natural extension to our existing microforms business, Northern Micrographics has specialized in electronic imaging since 1985. Northern Micrographics' Digital Preservation services are utilized by a number of libraries throughout the United States including the University of Minnesota, Cornell University, University of North Texas, University of Illinois at Urbana-Champaign, University of Pittsburgh, University of California-Berkeley, United States Military Academy, Combined Arms Research Library, Stimson Library, the National Center for Atmospheric Research (NCAR), State Historical Society of Wisconsin and many others.

Northern Micrographics has been involved in several large projects. NM scanned over 2 million images for the Making of America Project for Cornell University. NM has also provided imaging services to the Minnesota Historical Society to put a large portion of their photograph database on the Internet, <http://www.mnhs.org/collections/index.htm>. Photographs up to 8" x 10" dating to the late 1800s, as well as a large number of 4" x 5" negatives were digitized for web display. Northern Micrographics' services have also been provided to the State of Wisconsin Office of the Secretary of State, Oklahoma Department of Libraries, Saint Louis University and many others. We regularly participate in imaging seminars, conferences, and educational workshops. Each project is unique, allowing us to understand and offer a broad range of imaging services.



NM not only provides the service, but also the experience and expertise required to make your project a success.

[Reference #1]

Organization: University of Illinois at Urbana-Champaign      Contact: Nathan Yarasavage  
Address: 246 Main Library  
1408 West Gregory Drive  
Urbana, IL 61801  
Telephone: 217-265-0941      Email: [nwy@uiuc.edu](mailto:nwy@uiuc.edu)

Description of work performed:

Northern Micrographics has provided microfilm scanning services for UIUC and the Illinois Digital Newspaper Project since mid-2007. This project included the duplication of 35mm source reels for 15+ newspaper titles. Each reel was bitone scanned with appropriate post processing (splitting, cropping and deskewing) applied to each image. Each TIFF file was named according to UIUC specification.

[Reference #2]

Organization: State Historical Society of Wisconsin      Contact: Amy Wyatt  
Address: 816 State Street  
Madison, WI 53706  
Telephone: 608-264-6506      Email: [amy.wyatt@wisconsinhistory.org](mailto:amy.wyatt@wisconsinhistory.org)

Description of work performed:

In 2007, the Wisconsin Historical Society contracted with Northern Micrographics to digitally capture a collection of 20,000 photographic prints and 35mm slides. Images were captured as grayscale and color and saved as uncompressed TIFF files. Four sets of JPEG derivatives were created from each archival master.

The second phase of this project began in 2009 that would allow us to capture another 175,000 images.



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[Reference #3]

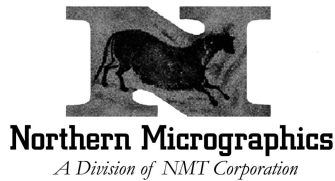
Organization: Case Western Reserve University  
Address: University Library  
Preservation Department  
11055 Euclid Avenue  
Cleveland, OH 44106-7151  
Telephone: 216-368-6465  
Contact: Sharlane Gubkin  
Email: [sxg7@po.cwru.edu](mailto:sxg7@po.cwru.edu)

Description of work performed:

The Kelvin Smith Library at Case Western Reserve University selected Northern Micrographics to digitize a collection of linguistic and philosophy pamphlets.

These pamphlets, written in English, Latin, German, and French, were scanned to TIFF file format, rendered text searchable through OCRing in the original language, and then converted to PDF Image + Text and full ASCII text output.

This project is one of several projects on which Northern Micrographics and Case Western have collaborated. Others include a joint project with Northern Micrographics, Case Western, and Vanderbilt University for scanning books to be mounted on the Electronic Tools and Ancient Near Eastern Archives (ETANA) website and the scanning of various titles for Case Western's Digital Library.



## APPENDIX A: DIGITIZATION STANDARDS

### PHOTOGRAPHS AND OVERSIZED PHOTOGRAPHS

Northern Micrographics can scan all objects as bitone, grayscale or color with a spatial resolution of 3000 to 5000 pixels along the long edge and save all resulting images as an uncompressed TIFF. NM uses a variety of equipment and software to capture the original source material. Manufactures include: Xerox, Hewlett Packard, Epson, Nikon, Vidar, Zeutschel, Indus and Minolta. NM may also utilize custom-made scanning software depending specific project requirements.

The use of a slot scanner allows NM to capture items that measure up to 42ö along the short edge. If materials are too delicate for a slot scanner, then objects up to 32ö along the long edge can be captured to specification. A Tiffen Separation Guide can be provided as requested.

### MAPS AND PLAT BOOKS

Northern Micrographics can scan all objects as bitone, grayscale or color with a spatial resolution of 3000 to 5000 pixels along the long edge and save all resulting images as an uncompressed TIFF. NM uses a variety of equipment and software to capture the original source material. Manufactures include: Xerox, Hewlett Packard, Epson, Nikon, Vidar, Zeutschel, Indus and Minolta. NM may also utilize custom-made scanning software depending specific project requirements.

The use of a slot scanner allows NM to capture items that measure up to 42ö along the short edge. If materials are too delicate for a slot scanner, then objects up to 32ö along the long edge can be captured to specification. A Tiffen Separation Guide can be provided as requested.

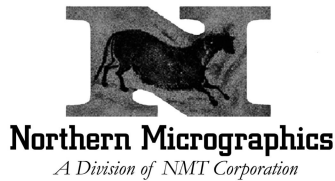
### TEXTUAL DOCUMENTS ó BOOKS, MAGAZINES, JOURNALS, ETC.

Northern Micrographics can scan all objects as bitone, grayscale or color with a spatial resolution of 3000 to 5000 pixels along the long edge and save all resulting images as an uncompressed TIFF. NM uses a variety of equipment and software to capture the original source material. Manufactures include: Xerox, Hewlett Packard, Epson, Vidar, Zeutschel, Indus and Minolta. NM may also utilize custom-made scanning software depending specific project requirements.

The use of a slot scanner allows NM to capture items that measure up to 42ö along the short edge. If materials are too delicate for a slot scanner, then objects up to 33ö along the long edge can be captured to specification. A Tiffen Separation Guide can be provided as requested.

### GRAPHICS

Northern Micrographics can scan all objects as grayscale or color with a spatial resolution of 3000 to 5000 pixels along the long edge and save all resulting images as an uncompressed TIFF. NM uses a variety of equipment and software to capture the original source material.



Manufactures include: Xerox, Hewlett Packard, Epson, Vidar, Zeutschel, Indus and Minolta. NM may also utilize custom-made scanning software depending specific project requirements.

The use of a slot scanner allows NM to capture items that measure up to 42ö along the short edge. If materials are too delicate for a slot scanner, then objects up to 32ö along the long edge can be captured to specification. A Tiffen Separation Guide can be provided as requested.

#### **ARTWORK**

Northern Micrographics can scan all objects as bitone, grayscale or color with a spatial resolution of 3000 to 5000 pixels along the long edge and save all resulting images as an uncompressed TIFF. NM uses a variety of equipment and software to capture the original source material. Manufactures include: Xerox, Hewlett Packard, Epson, Vidar, Zeutschel, Indus and Minolta. NM may also utilize custom-made scanning software depending specific project requirements.

The use of a slot scanner allows NM to capture items that measure up to 42ö along the short edge. If materials are too delicate for a slot scanner, then objects up to 32ö along the long edge can be captured to specification. A Tiffen Separation Guide can be provided as requested.

#### **AUDIO**

Northern Micrographics will not be able to provide audio conversion services.

#### **NEWSPAPERS SCANNED FROM PAPER OR MICROFILM**

Northern Micrographics can scan all objects as bitone or grayscale with a minimum resolution of 300ppi (aiming for 400ppi) and save all resulting images as an uncompressed TIFF. Objects that were microfilmed at two images per frame (2-up) can be split and saved as separate TIFF images. NM uses a variety of equipment and software to capture the original source material. Manufactures include: Xerox, Hewlett Packard, Epson, Nikon, Vidar, Zeutschel, Indus and Minolta. NM may also utilize custom-made scanning software depending specific project requirements.

The use of a slot scanner allows NM to capture items that measure up to 42ö along the short edge. If materials are too delicate for a slot scanner, then objects up to 32ö along the long edge can be captured to specification. A Tiffen Separation Guide can be provided as requested.

### **APPENDIX B – FILE NAMING CONVENTIONS**

All electronic files created as a result of the scanning process will conform to the naming convention outlined within the RFQ. All file names will consist of an institutional ID and unique sequential number series.



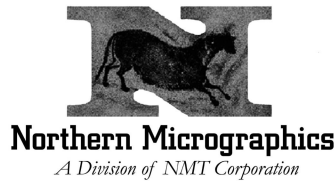
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## **APPENDIX C – TECHNICAL METADATA GUIDELINES**

NM will be able to provide appropriate technical metadata for all master digital files as outlined within the RFQ. The spreadsheet will be delivered as a tab-delimited CSV file. All spreadsheet file names will consist of the institutional ID and year, month, and day in which scanning was completed.

## **APPENDIX D – SCANNING SERVICES AND EQUIPMENT WORKSHEETS**

Please see next page for the completed worksheet.



## Appendix D – Scanning Services and Equipment Worksheets

**Please identify the scanning services your firm is able to provide. All scanning services must be done in accordance with the specifications addressed in this Request for Qualifications.**

Standard Flatbed scanning (color & B/W) up to   18   x   24   inches

Oversized scanning (color & B/W) up to   42   x   ~   inches

Color & B/W scanning of textual materials (bound) up to   22   x   32   inches

Color & B/W scanning of textual materials (unbound) up to   22   x   32   inches

Bitonal scanning of textual materials (bound) up to   22   x   33   inches

Bitonal scanning of textual materials (unbound) up to   22   x   33   inches

35mm slide transparencies   X   yes    no

Other film transparencies (negative and positive) up to   11   x   17   inches

Audio conversion (per one hour of original recording)

    Audio cassette    yes   X   no

    Reel-to-reel (any type)    yes   X   no

    Other sound recordings    yes   X   no

    List other supported types: \_\_\_\_\_

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### Newspapers

Grayscale scanning of paper originals up to   22   x   32   inches

Grayscale scanning from 35mm positive microfilm   X   yes    no

Grayscale scanning from 35mm negative microfilm   X   yes    no

Grayscale scanning from 16mm positive microfilm   X   yes    no

Grayscale scanning from 16mm negative microfilm   X   yes    no

Please note your ability to deliver to the MDL the digitized asset

Gold CD   X   yes    no

Gold DVD   X   yes    no

External Hard Drive   X   yes    no

SFTP   X   yes    no



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Please provide a comprehensive list of all hardware and software used in the digitization process. Identify which equipment will be used for each of the scanning services requested in this RFQ.

**Hardware:**

The Northern Micrographic [NM] scanning facility is equipped with state of the art hardware and software. NM uses a mix of internally developed and commercially available hardware and software for all digital processes. Equipment is checked daily in accordance with ANSI/AIIM standards. NM has the capability to scan documents up to and including 11x17 size paper documents, as well as microfilm in 16mm, 35mm and 105mm formats. Scanning services are provided using a combination of scanners from manufacturers such as Bell & Howell, Bookeye, Epson, Hewlett Packard, Indus, Panasonic, Ricoh, Sunrise, Vidar, Wicks & Wilson and Zeutschel.

**Software:**

See above



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Additional Peripherals:

See Above

Firm Name

\_\_Northern Micrographics\_\_

Firm Address

\_\_2004 Kramer Street; PO Box 2287\_\_

City, State, Zip

\_\_La Crosse, WI 54602-2287\_\_

Telephone

Federal Identification Number

\_\_608-781-0850\_\_      \_\_36-3454000\_\_

Signature

Name and Title of Authorized Signer

\_\_Tom Ringdahl, VP of Sales and Marketing\_\_