City of Hartford - Document Scanning Project

Northeast Arc User Group – October 2016
Outline

• How we got Involved

• Image Indexing

• Accessing / Viewing Documents

• Storage and Backup

• Document Retention/Archiving

• Disposing of Original Documents
How we got Involved

• Initially asked About Subdirectory Naming by Date

• Originally Told they were Scanning 10,000 sets of Drawings

• Initial Thought was Images could be “Just put on the Network”

• No Thought was Given to Data Backup

• Initial Thought was Originals could be Destroyed after Scanning
Permits:
Four racks containing twenty-eight sections each. One hundred and twelve sections with an estimated 8,000 originals per section. Estimated 896,000 originals, black and white and color. Estimated 89,600 documents.

Scan estimated 896,000 pages @ $.09 each........................................ $80,640.00
Index each document @ $.06 .................................................. $5,376.00
Document Prep; whatever is necessary to ensure optimum scan ................................ Included

Housing Code Violations:
Four racks containing twenty-eight sections and one half rack containing fourteen sections.
One hundred and twenty-six sections with an estimated 8,000 originals per section.
Estimated 1,008,000 originals and 100,800 documents.

Scan estimated 1,008,000 pages @ $.09 each........................................ $90,720.00
Index each document @ $.06 .................................................. $6,048.00
Document Prep; whatever is necessary to ensure optimum scan ................................ Included

Building Code Violations:
Three racks with a total of eighty-four sections containing an estimated 6,000 pages each.
Each section contains approximately 20 folded, large format drawings. Estimated 504,000 originals with approximately 1,680 large format drawings. Estimated 50,400 documents.

Scan estimated 504,000 pages @ $.09 each........................................ $45,360.00
1,680 plans scanned @ $.85 each................................................. $1,428.00
Index each document @ $.06 .................................................. $3,024.00

continued
How we got Involved cont...

Planning and Zoning:
Two hundred and forty-two standard boxes with an estimated 2,500 pages per box.
Estimated 605,000 pages and 60,500 documents
Twenty barrels containing an estimated 800 large format drawings each.

Scan estimated 605,000 pages @ $.09 each.......................... $54,450.00
Index each document @ $.06 ........................................... $3,630.00
Scan 16,000 large format drawings @ $.85 each..................... $13,600.00
Index 16,000 drawings @ $.06 .......................................... $960.00
Document Prep; whatever is necessary to ensure optimum scan........ Included

License and Inspection:
✓ Sixty drawers of building inspection applications with approximately 1,000 originals each.
  60,000 small format originals in color and black and white.
✓ Twenty seven cubes with an estimated 200 large format drawings each. 5,400 drawings.
✓ Fifteen large cubes with an estimated 700 drawings each. 10,500 drawings.
✓ 1,575 Drawing boxes with an estimated 600 drawings per box. 945,000 drawings.
✓ 400 specification books with an estimated 300 8.5x11 pages each. 120,000 pages.
Estimated 960,900 large format architectural drawings.
Combined, estimated 180,000 8.5x11 pages.

Scan estimated 960,900 drawings @ $.85 each......................... $816,765.00
Index each document ...................................................... Included
Scan estimated 180,000 pages @ $.09 each............................ $16,200.00
Index 18,000 documents @ $.06 ....................................... $1,080.00
Document Prep; whatever is necessary to ensure optimum scan........ Included

Housing Codes:
Seven boxes with an estimated 3,000 8.5x11 pages each. Estimated 300 documents.

Scan estimated 21,000 pages @ $.09 each........................... 1,890.00
Index each document @ $.06 ........................................... $18.00

TOTAL $1,111,189.00
How we got Involved  cont…

- **Large Number of Documents being Scanned**

- **Unsure of the Size of the Finished Scanned Documents**

- **Based our Storage Size Estimate on 4,000 Document Pilot**

- **Estimate includes Approx. 1.3 Million Large Format Drawings**

- **3.2 Million Small Format Documents**

- **Server Folks were Concerned with Amount of Storage Needed**
Image Indexing

- Used a Database instead of Dates of Maps
- Developed Database Design
- Developed Image Naming Convention
- Decided to Geocode Documents as they were Delivered
- Used GIS instead of Purchasing a Document Management System
Image Indexing cont...

- **CO** – Certificate of Occupancy
- **S** - Specifications
- **P** - Permits
- No Prefix – for Drawings & Plans
- **B** - Architectural Drawings for Buildings

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ACCESSING / VIEWING DOCUMENTS

Scanned Document Viewer
City of Hartford - GIS Services

Identification:
Use the Navigation Tools to the left to Zoom into the Map.
Select the Identification by Point Tool at the bottom to identify the blue crosses on the map.
Once a blue cross is identified, select the PDF link at the bottom of the Attribute dialog box to view associated scanned documents.

NOTE:
You can also use the Identification by Polygon tool to select multiple points surrounding a property. This is best way to assure you have selected all the images for a given area.

Search Layer: Document Scans
Search by any part of the Address.
Example: 525 main or just enter main.
Accessing / Viewing Documents cont...
Accessing / Viewing Documents  cont...

[Image: Map showing scanned documents - permits for City of Hartford with a pop-up window displaying permit scans including address 100 Pearl St and more info link.]
Accessing / Viewing Documents  cont...

Scanned Documents - Certificate of Occupancy

Certificates of Occupancy:
- Address: 942 MAIN ST
- Image Link: More info

Zoom to
Storage and Backup

• We Estimated 5-10 Terabytes of Disk Storage

• Amount of Data too Large to Backup using Tapes

• Decided to use Second Server as a Backup

• Purchased 2 – 40 Terabyte Servers for $20,000

• Purchased an Application called SyncBackPro - $54.95
Storage and Backup cont...
Where we are now

• We started Receiving Scans from our Vendor July 2013

• Currently have 105,000 Files, Using 342 GB of Storage

• We have Geocoded 47,000 Plans, Permits, Certificate of Occupancy

• Our Project is 25% Complete

• We are still using the first $300,000 of our Project Money

• Additional Scanning is on hold until we resolve storage issue
Document Retention / Archiving
Document Retention / Archiving cont...
Document Retention / Archiving cont...

- Boxes are Labeled with what Bins are Inside

- 100 Sets of Drawings per Box / 1 Box per Pallet

- Space for 300 Pallets Long Term Storage = 3000 Sq Ft

- Storage Cost $8 per Sq Ft or $24,000 per year
# Records Disposition Authorization

This form is to be used by Connecticut Towns, Municipalities, and Boards of Education to obtain approval for the disposition (destruction or transfer) of public records pursuant to CGS §57-166.

## Instructions:
1. Use this form to obtain approval for disposition of public records.
2. If the form is used, please ensure that all sections are completed and signed.
3. If necessary, use the form completely and legibly and submit to the address below.
4. Approval must be obtained from the Office of the Public Records Administrator.
5. The signature of the record retention schedule must be retained in the Office of the Town Clerk.

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<td>CUSTODIAN OF RECORDS</td>
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I hereby certify that the records listed below have met the retention requirements established by the Office of the Public Records Administrator in the form of approved record retention schedules. No records listed, in our opinion, pertain to any pending case, claim, or action.

### Government Authorization

| CUSTODIAN OF RECORDS (type or print): | SIGNATURE (Custodian of Records): | DATE: |
| HEAD OF MUNICIPALITY (type or print): | SIGNATURE (Head of Municipality): | DATE: |

### Education Authorization

| SUPERINTENDENT OF SCHOOLS (type or print): | SIGNATURE (Superintendent of Schools): | DATE: |

## Schedule & Series 

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## Approved

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<th>PUBLIC RECORDS AUTHORIZATION</th>
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<th>DATE:</th>
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| PUBLIC RECORDS NOTES: | |

City of Hartford - GIS Services
Municipal Records Management Program

Contact: LeAnn Power, 860-757-6540

Retention and Disposition

- PRP 05: Disposition of Public Records
- Municipal Records Retention Schedules
- Form RC-075: Records Disposition Authorization
- Volume of Records Measurement Guide
- Form RC-076: Request for Removal of Public Records Personal Data Files
- State Archives Memorandum of Transfer
- Form RC-073: Post-1921 Probate Records Disposition Authorization

Email Management

- GL 2009-2: Management and Retention of Email and other Electronic Messages
- Email Management Guidance
- Email FAQ

Digital Imaging (Scanning)

- PRP 02: Digital Imaging
- Digital Imaging Standards

Microfilming
Office of the Public Records Administrator  
Connecticut State Library  
State of Connecticut

Digital Imaging Standards, 2014

These standards shall be read together with Public Records Policy 2: Digital Imaging to ensure a full understanding of the Office of the Public Records Administrator (OPRA) policy regarding the use of digital imaging technology for the reformating of analog public records and regarding the retention and disposition of original and digitized records.

For the purposes of this document, the term “shall” indicates a requirement and the terms “should” and “may” indicate a recommendation or best practice.

1. Legal Issues

1.1. Any agency contemplating using digital imaging technology for the reproduction of public records shall be aware of all applicable statutes or regulations and any legal issues. Consultation with appropriate legal counsel regarding rules of evidence and any other legal issues is advisable.

1.2. References to electronic records or digital imaging can be found in many sections of the Connecticut General Statutes, including but not limited to, sections contained within Chapter 3, Public Records: General Provisions; Chapter 15, Connecticut Uniform Electronic Transactions Act; Chapter 92, Town Clerks; and Chapter 899, Evidence.

2. Digital Imaging Defined

2.1. For the purposes of this document, digital imaging is the process of converting original records on paper or film into electronic images. The process typically requires a document scanner or digital camera, a computer, and software to capture the image, as well as labor needed for preparing the documents for imaging, indexing of the digitized images and performing quality control steps to ensure the proper conversion of the record. This document uses the terms “imaging” and “digitizing” interchangeably to refer to this process.

2.2. It is recommended that agencies implement and use an electronic content management system (ECMS) to properly manage digitized images and other electronic records. An ECMS provides the ability to capture, store, retrieve, display, and transmit records electronically. An ECMS uses a database to manage descriptive information about the images that aid in the retrieval of records contained in the ECMS repository. Storing digitized records outside of an ECMS is not recommended due to the greater chance of accidental deletion of these records and lack of an audit trail to ensure a record’s authenticity. State agencies shall consult with the Department of Administrative Services (DAS)/Bureau of Enterprise Systems and Technology (BEST) regarding appropriate ECMS technology.

City of Hartford - GIS Services

- 25 Page Document
- Lots of Legal Terms and References
- Hard to Understand Meanings and Intent
- Need to Use this Document to Write a Plan
- State will read the document prepared
- State will not sign off on Procedures and Plan

Developed to say they meet their Guidelines.
Questions

Brett Flodine
Metro Hartford Information Services
bflodine@hartford.gov
http://www.hartford.gov/mhis/hartford-gis
https://data.hartford.gov
Twitter: @HartfordData