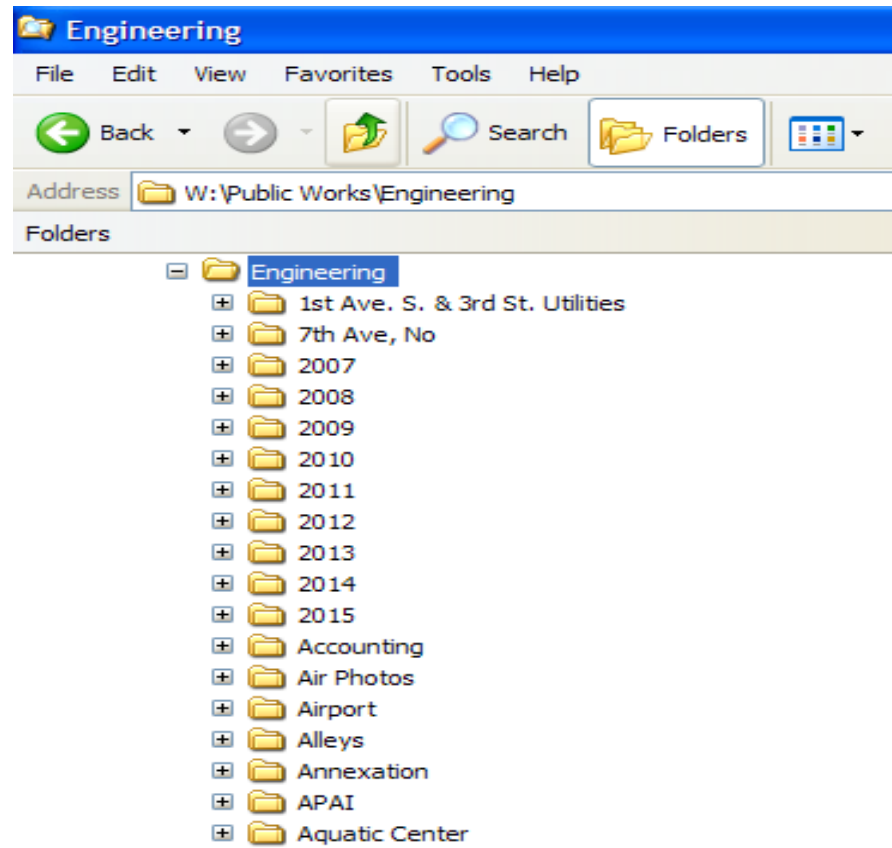# Digital 5S

Agenda

- Introduction, Objectives & Scope

- Why Digital 5S?

- Planning

- Sort

- Set in Order

- Security

- Standardize

- Sustain

- Metrics & Lessons Learned

BRIMEYER**LLC**
Guiding Iowa Organizations to New Heights

- What We Do ▶
- Who We Are
- Who We Serve
- How We Serve
- Where We Serve
- Contact Us

Soar to **new heights.**
▶ Learn how we can help

Photograph by Richard Keeling

More than meets the eye

▶ Questions about choosing a consultant? Read *Choosing a Partner for Change*

Like its landscape, Iowa's economy is often misconstrued by outsiders. But like the many breathless views from the Mississippi River Bluffs to the Loess Hills, Iowa is home to some of the world's most successful businesses, non-profits, and governmental organizations. While typically viewed only as an agricultural state, Iowa ranks fourth in terms of manufacturing's percentage of state GDP at over 20%, almost double the national average. The State of Iowa Government is at the forefront of Lean governance.

Brimeyer LLC is focused on helping Iowa organizations that are serious about using process excellence and strong leadership to compete globally.

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- Read case studies
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Computer | Protected

Guiding Iowa Organizations to New Heights

Objectives

- Introduce Digital 5S

- Enable participants to envision Digital 5S within your org

- Highlight differences w/traditional 5S

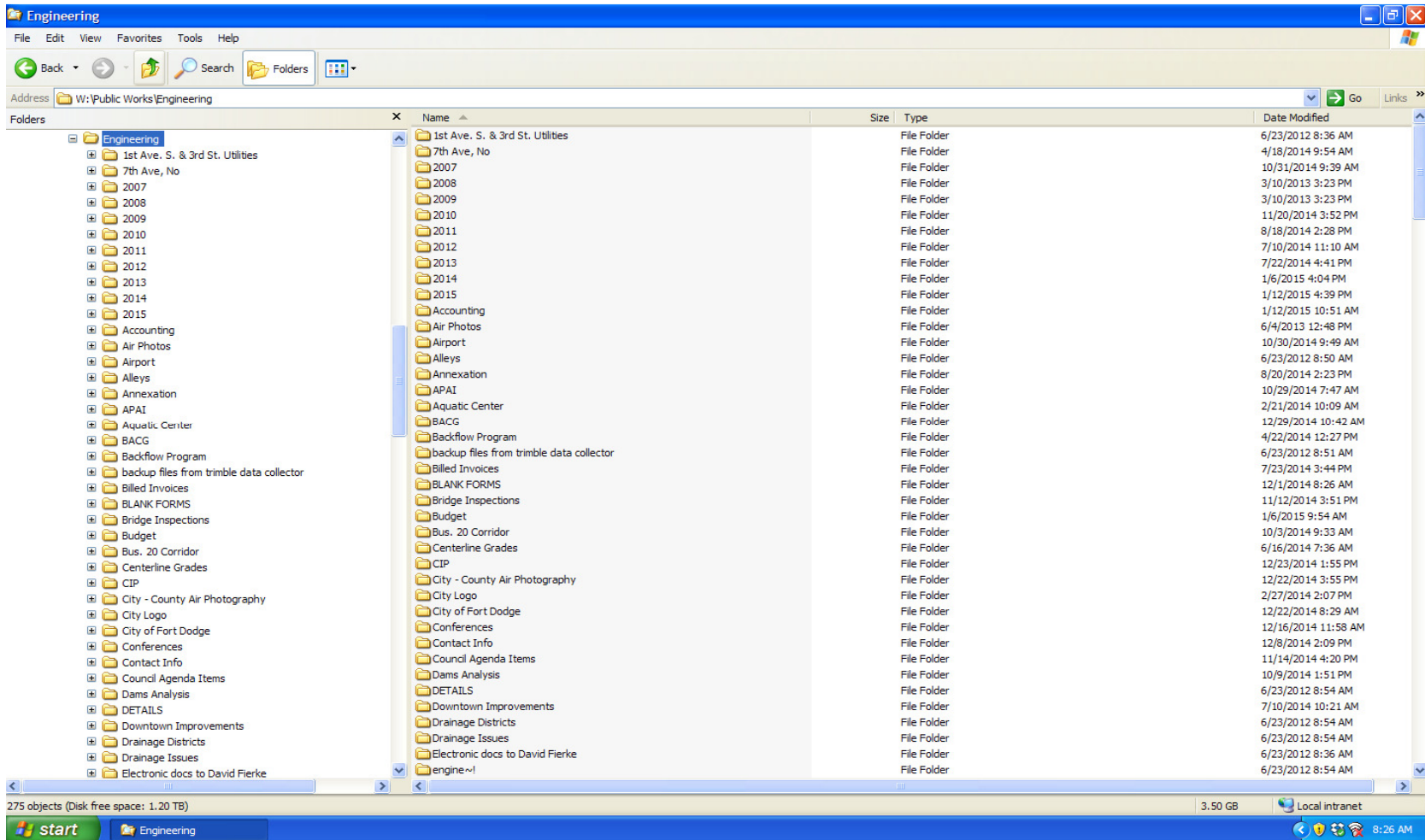- Share case study and lessons learned

Out of Scope

Out of Scope

Before

After

In Scope

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Brimeyer LLC

Disclosure

I am not a technocrat! (Nerd ... maybe.)

WHY? WHAT?

Digital 5S

Eight Forms of Waste

Transportation

Waiting

Over-Production

Defects
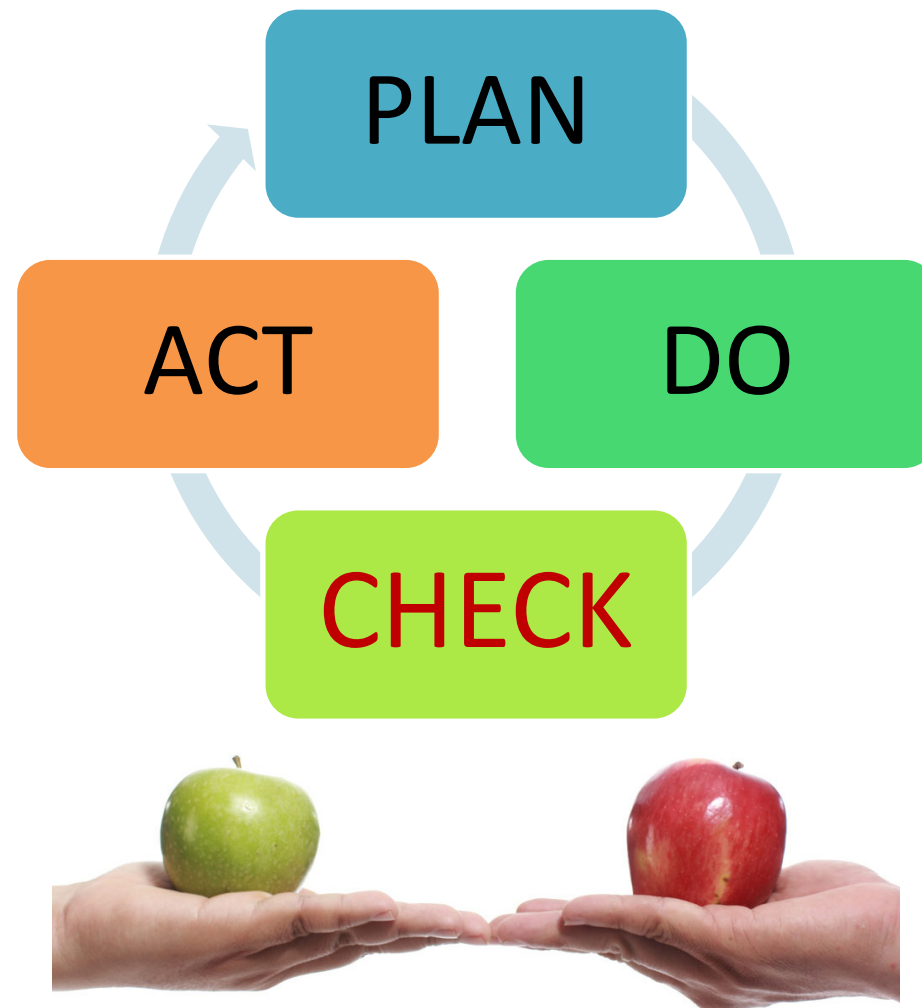
Inventory

Motion

Extra Processing
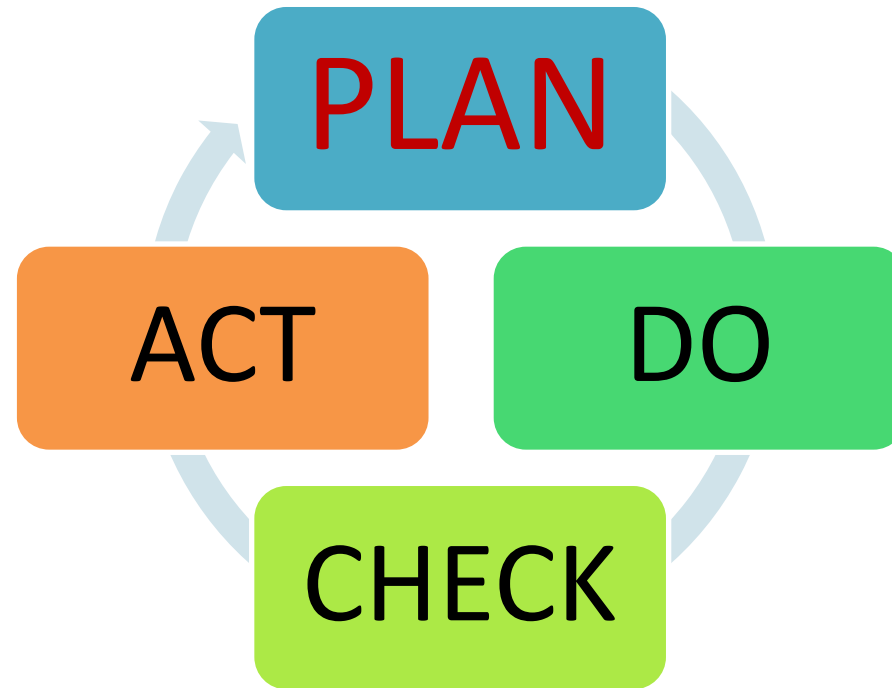
Squandered Creativity (Skills)

Wastes Due to Disorganized Data

- Searching

- Interrupting co-workers

- Recreating

- Updating an obsolete version

- Purchase of unnecessary storage space

Valuing the Standard

PLAN

DO

ACT

CHECK

Planning for Success

PLAN

ACT

DO

CHECK

What should you do *before* an event to ensure its success?

Pre-Work Doc & Meeting

Server 5S Pre-Work

Identify key leaders and stakeholders
- Chad Schaeffer – BACGEI Director
- Dave Odor – GIS Specialist

Summarize Objectives/Goals
- Demonstrate a significant improvement in organization of electronic information within BACGEI
- Realize a large decrease in storage space
- Identify the standards & actions required to sustain the improvement
- Create a benchmark and standards for implementing Server 5S throughout the City of Fort Dodge

Scope the Event

In	Out
Electronic data	Paper data (unless obvious)
Archive (U), Work (W), Hard Drive (C)	Beehive (L Server), GIS (Q), Archive (U), Photography (V)
File retention (what stays & what goes)	
File structure	
File naming conventions	
File revision control	
File & folder security	
Proposed solution aligned with other departments	
Implementation within BACGEI	Implementation within other departments
Standard work documents	
Audits	
5S training	Process improvements kaizen

Identify the Type of Event
- Kaizen – 5S

Duration
- How much time is allotted for the event? 3 days
- Is this consistent with the Objectives and Scope?
  - No sure. Implementation of new file naming may require more time.

Who will represent the Voice of the Customer?
- David - External customer(s) rep(s)
- Chad - Internal process partner(s) rep(s)

Identify Participants
- Rick Brimeyer - Facilitator
- Chad Schaeffer - BACGEI Director (Process Owner)
- Dave Odor - GIS Specialist (network owner)
- Tony Trotter - Engineer III (engineering owner)
- David Fierke – City Manager
- Vickie Reeck - Community Development Manager (development office owner)
- Carissa Miller - Senior Planner (planning owner)
- Maggie Carlin - Associate Planner? Not an owner
- Melissa Bock – Dept. Secretary (support staff owner)
- Troy Brandt - Building Official (inspections owner)
- Dawn Larson - Business Affairs Specialist (business economics owner)
- Do participants have the know-how and authority to implement change? Yes
- Are ALL potentially impacted areas represented? Yes
- Do any participants have known scheduling constraints? Participants have been scheduled to avoid conflicts.
- Are there known issues with any of the participants which could hinder the performance of the event or the on-going success of the impacted area? No

Scope

In	Out
Electronic data	Paper data (unless obvious)
Work (W), Hard Drive (C)	Beehive (L Server), GIS (Q), Archive (U), Photography (V)
File retention (what stays/what goes)	
File structure	
File naming conventions	
File revision control	
File & folder security	
Proposed sol'n aligned w/other depts.	
Implementation within BACGEI	Implementation within other depts.
Standard Work documents	
Audits	
5S training	Process improvements kaizen

Participants

City Engr.

IT Sys. Admin.

City Mgr.

Process Owner

Identify right participants

Guiding Iowa Organizations to New Heights

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Before Stats

	Master Server (W & Q Drives)	Archive Server (U Drive)
Total Space (TB)	1.55	2.68
Free Space (TB)	1.20	2.04
Used Space (TB)	0.36	0.66
Percent Used	23%	25%
Cost ($)	$8000	$600
Cost/GB	$5.16	$0.22

Before
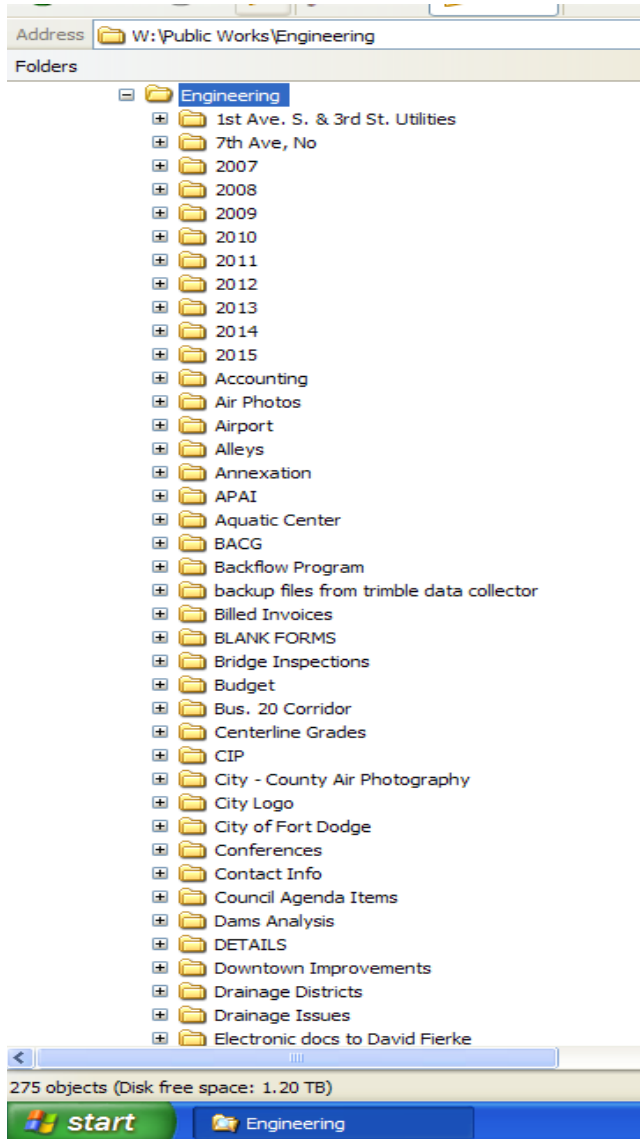
Engineering

Planning

Data Policies

1. What data is/is not stored on org's servers, C drives, etc.

2. Role of various data locations

3. Document and revision control

4. Access to read/write

Back-Up Current State!!!

Sort

Sort

- Duplicates (software available to help)

- "Outdated"

- "Obsolete"

- Personal (non-work related)

- System files (e.g., shortcuts, executable)

- Poor quality or untitled photos

- Personnel sensitive (move to HR drive)
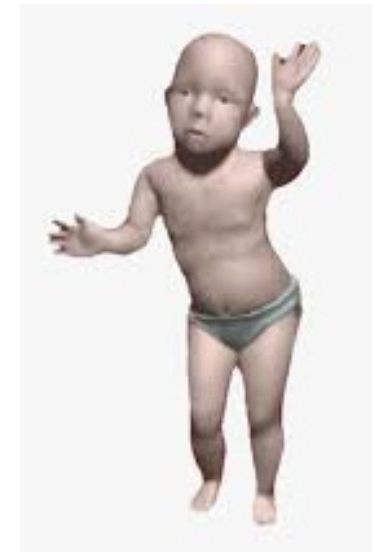
Sort – Definitions

	Outdated	Obsolete
Definition	Not current version or active but has historical value	No historical value (irrelevant)
Examples	Replaced/updated plans	Old templates
	Budget sheets from prior years	Files for software no longer available
	Supporting data (including calculations from prior projects)	
	Unsigned docs that are later signed and have value in searching content	Unsigned docs that are later signed and have NO value in searching content
Action Taken	Move to Archive Drive	Delete

Sort

Challenged team to ID behaviors that caused waste

Sort - Key Lessons

- City data, not departmental or personal data

- ONE copy

- When sharing info via email
  - LINK the document's network location
  - Not an ATTACHMENT

Set in Order

Product Development > GPM File Structure > GPM 3

Name	Date modified	Type
3.010-Detailed Design Concept	11/21/2018 4:16 PM	File folder
3.015 Design FMEA	11/21/2018 4:16 PM	File folder
3.020-Layout Completed	11/24/2007 9:13 AM	File folder
3.030-Planning BOM Completed	11/24/2007 9:13 AM	File folder
3.040-DFM	11/24/2007 9:13 AM	File folder
3.045 Design Review	11/24/2007 9:13 AM	File folder
3.050-Mach and Ass'y Concept	11/24/2007 9:13 AM	File folder
3.060-Process and Supplier Select	11/24/2007 9:13 AM	File folder
3.070-Detail Drawings Avail	11/24/2007 9:13 AM	File folder
3.080-Master Code	11/24/2007 9:13 AM	File folder
3.090-Breadboard and Shakeout	11/24/2007 9:13 AM	File folder
3.100-Market Plan and Price Book	11/24/2007 9:13 AM	File folder
3.110-DCF	11/24/2007 9:13 AM	File folder
3.120-AFE Ready	11/24/2007 9:13 AM	File folder
3.130-AFE Approved	11/24/2007 9:13 AM	File folder
3.140-Project Schedule Update	11/24/2007 9:13 AM	File folder
3.150-Resources Available	11/24/2007 9:13 AM	File folder
3.160-Cost Roll-up	11/24/2007 9:13 AM	File folder
3.170-Customer Verification	11/24/2007 9:13 AM	File folder
3.180-Refined Forecast	11/21/2018 4:16 PM	File folder

Guiding Iowa Organizations to New Heights
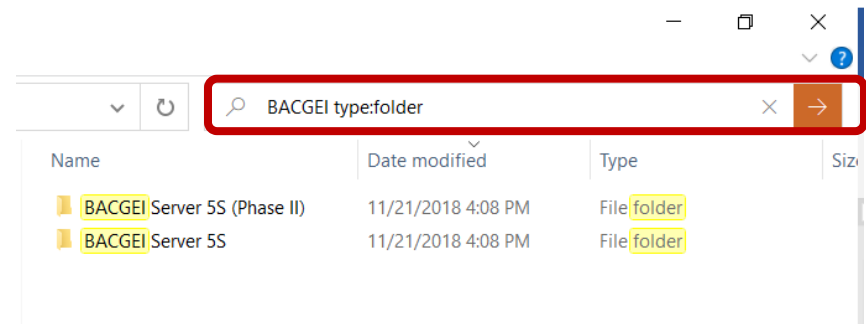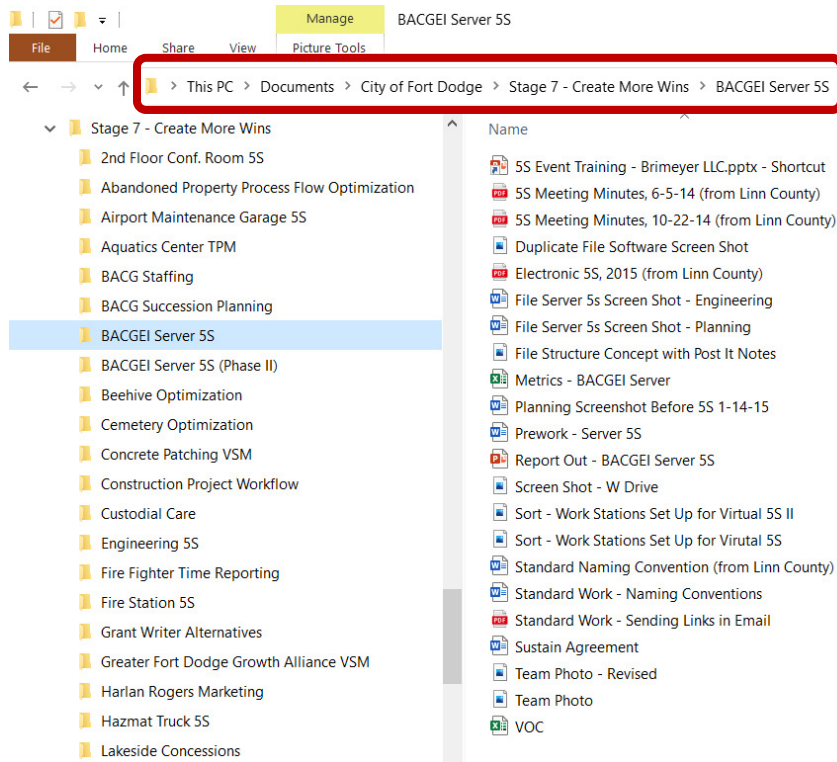
Set in Order

Hunters & Gatherers

Gearheads
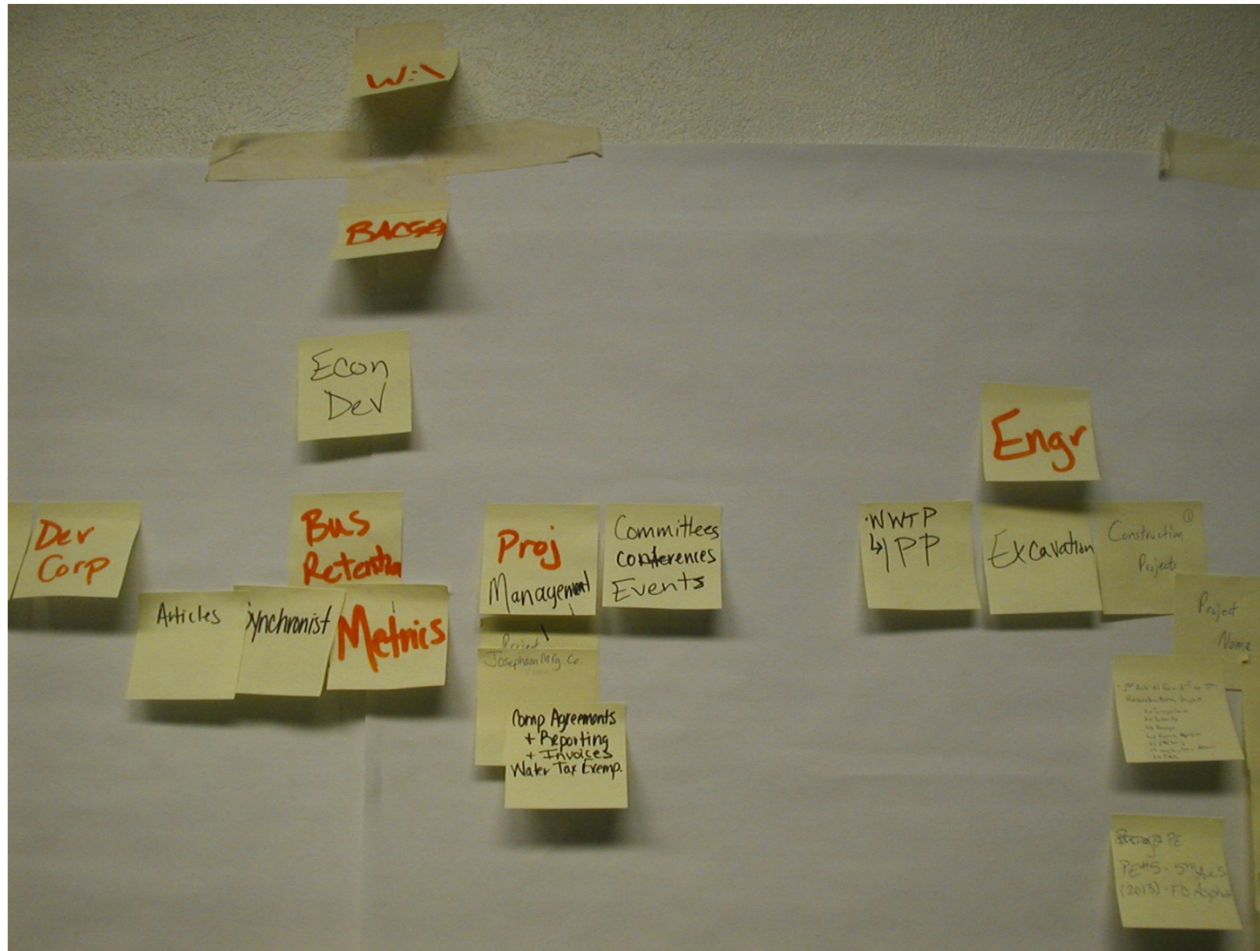
Set in Order

Develop new, logical folder structure

Set in Order

> ⌄ 📁 Leading Change
>
> 📁 Stage 1 - Establish Compelling Case
>
> 📁 Stage 2 - Create the Core Team
>
> 📁 Stage 3 - Develop a Vision & Strategy
>
> 📁 Stage 4 - Communicate the Vision
>
> 📁 Stage 5 - Enable People to Do the Right Thing
>
> 📁 Stage 6 - Generate Short Term Wins
>
> 📁 Stage 7 - Produce More Wins
>
> 📁 Stage 8 - Ground Everything in the New Culture

- Create folder structure template for repetitive work
- Populate folders with useful templates, examples

Set in Order

- Build new *redundant* folder structure

- COPY (not cut) & paste Sort survivors to new folders

- Delete older folder structure

Security

- Shine, Sweep, Showcase not applicable
- Read access for everyone; modify access as required by job

Security

5S Algebra

3S
Sort
Set In Order
Security

+

2S
Standardize
Sustain

=

5S
Success
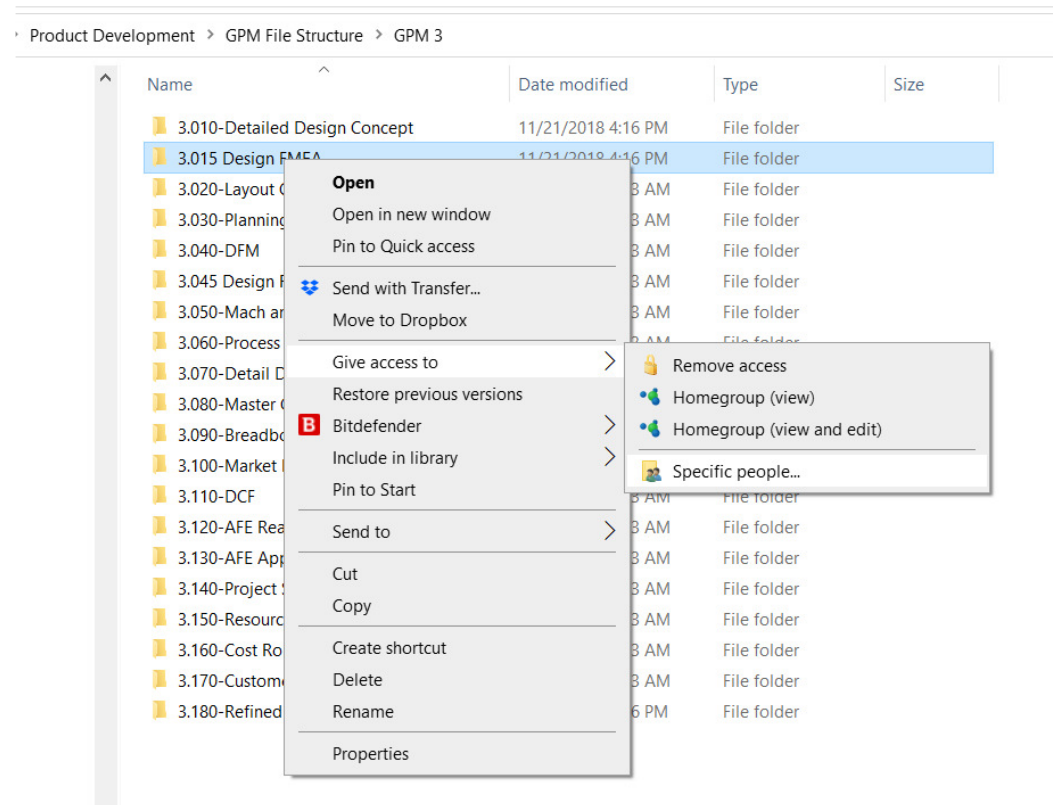
Standardize

Standardize Sort
Data Expiration Date

Standardize Set in Order File/Folder Names

- Sequence (generic to specific)

- Dates

- Abbreviations

- Acronyms

- Spaces

- Names

- Addresses

Standardize

- New file names required for new and revised files

- Renaming all legacy files typically not practical

Standardize

BACGEI Data Storage Standard Work   Updated: 4/16/2020

This Standard applies for all folders and files stored on the W (Work) drive. Files created or modified after January 19, 2015 are expected to follow this format.

The intent of this Standard is to make data easier to find regardless of whether the individual is an expert search engine use or navigates the folder structure.

General:
- When sharing a file with other City employees via email, send a link to the network location instead of attaching the file
- Photos/Pictures will be labeled as "Photos" not pictures
- Project names would be set by the 1st person who touches the potential project. That person will inform others interested in a huddle or in an email.
- A "File Map" would be created and resides under BACGEI
- Security: See separate standard work
- Information will move to the U (Archive Drive) as follows:
  - **Engineering Projects:** completely closed
  - **Inspections:** five years after the inspection (kept on U drive for one year after property is eliminated)
  - **P&Z and Board of Adjustment Cases:** older than previous calendar year (perform move at the end of each calendar year) where a project has multiple requests (P&Z, BOA, Site Plan) provide a shortcut to the other request's folders, even if in U drive
  - **Site Plan Annual Folders:** all cases contained have been closed
  - **Economic Development Projects:** when agreements expire or projects/funding is completed
  - **Grants:** after the final audit
  - **Long Range Plans/Study:** upon approval the folder should be moved (the final plan document should be moved to Plans folder on W)
  - **Preliminary Sign Reviews:** upon approval
  - **Any other data:** as it becomes outdated
- Information will be deleted if/when it becomes obsolete (no historical value)

General Naming:
- **Names** (personnel or citizens) will be [(Last name), (First name)] (e.g., Schaeffer, Chad)
- **Dates** will be formatted as[mmddyyyy] (e.g., 07152014 for July 15, 2014)
  - **Years** only will be [yyyy] (e.g, 2014)
- **Addresses** will be [(Street)(Number)] (e.g., 5th Ave S 2516)
  - Abbreviations consistent with parcel data
    - 1st = all street numbers will be followed by the suffix (1st, 2nd, 3rd, 4th, etc)
    - Ave = Avenue
    - Blvd = Boulevard
    - N = North
    - St = Street

Page 1 of 3

Standardize

Minutes - 20 Feb 2018
Minutes - 20 July 2017
Minutes - 20 Nov 2014
Minutes - 21 Aug 2014
Minutes - 21 Jul 2016
Minutes - 21 Jun 2018
Minutes - 21 May 2015
Minutes - 22 Apr 2014
Minutes - 22 Aug 2013
Minutes - 22 Jun 2017
Minutes - 22 Mar 2017
Minutes - 22 Mar 2018
Minutes - 22 May 2014
Minutes - 22 Oct 2013

Minutes - Dec 2019
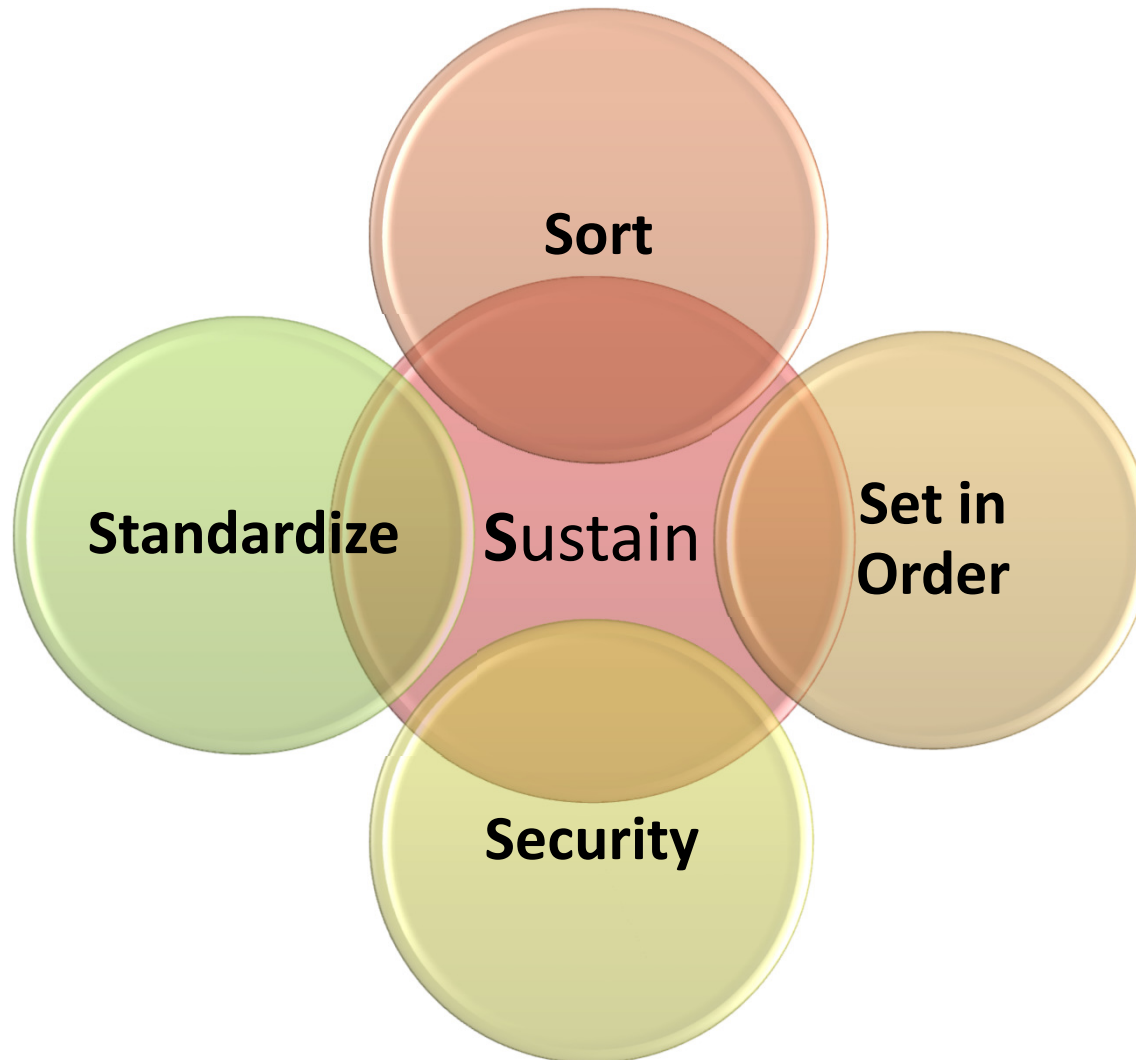Minutes - Feb 2019
Minutes - Feb 2020
Minutes - Frank's Takeaway
Minutes - Jan 2019
Minutes - Jan 2020
Minutes - Jul 2019
Minutes - June 2019
Minutes - Mar 2019
Minutes - Mar 2020
Minutes - May 2019
Minutes - Oct 2019

Before

After

Sustain

Sustain

BACGEI Server Sustainment Actions

- **SUSTAIN SORT by**
  - Scheduling time to clean up data on the last day of the calendar & fiscal year
  - Update a graph of BACGEI data size monthly and share with team

- **SUSTAIN SET IN ORDER by**
  - Assign an owner for each of the six departmental folders
    - Administration – Chad Schaeffer
    - Community Development - Vickie Reeck
    - Economic Development – Dawn Larson & Vickie Reeck
    - Engineering – Melissa Bock
    - Inspection – Troy Brandt
    - Planning – Carissa Miller
  - Changes to the folders immediately below the departmental folders require the owners' input
  - Owners will schedule a quarterly 30-minute audit of their departmental files

- **SUSTAIN STANDARDIZE by**
  - Review the Standard Work monthly for first three months, then quarterly

Dashboard

Area	Item	Before	After
Engineering	Folders	6307	178 (3%)
	Files	49,980	1606 (3%)
	Size (GB)	52.4	1.1 (2%)
Planning	Folders	6311	167 (3%)
	Files	77,071	2149 (3%)
	Size (GB)	70.2	2.3 (3%)
Total	Folders	12,618	6500 (52%)
	Files	127,051	59,324 (47%)
	Size (GB)	122.6	55.1 (45%)

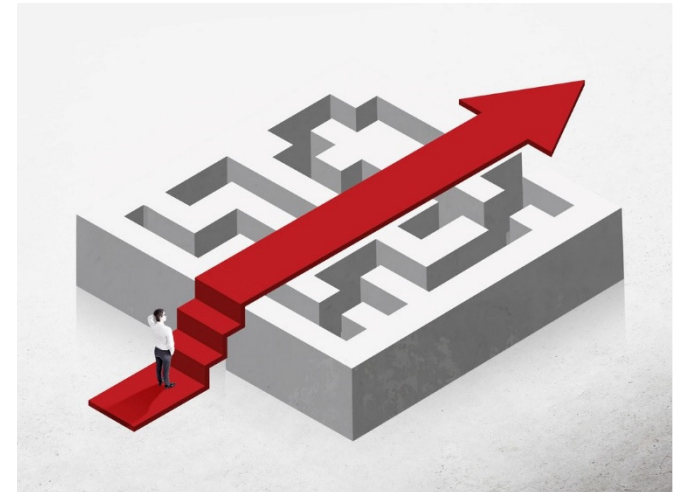*Guiding Iowa Organizations to New Heights*

Lessons Learned

- Use cable (not wireless) when moving big data (10X faster)

- Co-locate during Sort & Set in Order phases

- Rename "active" Sort survivor folders only; files as created or modified

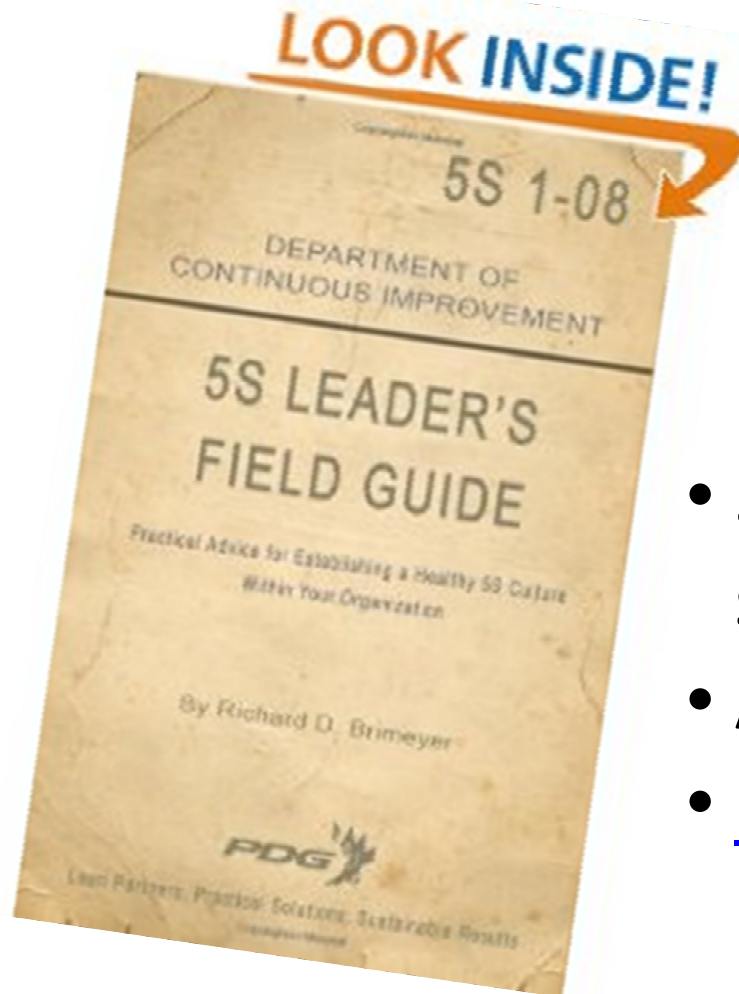- Admin create folders

- Time well-spent!

Lessons Learned

- Digital shortcuts & tips are powerful!
    - Email link to master file
    - Shortcut to file/folder rather than duplicate
    - Search techniques!!!
    - Use pin, favorites for easy access
    - Cut/Paste available when naming
- Develop a 5S *process* to share
- Recognize contributors!

Want to Learn More?

LOOK INSIDE!

5S 1-08

DEPARTMENT OF CONTINUOUS IMPROVEMENT

5S LEADER'S FIELD GUIDE

Practical Advice for Establishing a Healthy 5S Culture Within Your Organization

By Richard D. Brimeyer

PDG

- $30 (includes tax + shipping/handling)
- Accept credit cards
- rick@brimeyerllc.com

Guiding Iowa Organizations to New Heights