Welcome

BUILDER™ SUMMIT

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Data Integrity: BUILDER™ Reinspection Case Studies

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Background: USMC BUILDER Implementation

- Implementation started in 2007
- All installations worldwide
- Data refreshed every 4 to 5 years
  - Finishing the second refresh of all USMC installations
- **Challenge: changes between refresh assessments**

Today's panel will present 4 case studies taken from our experience supporting the USMC program.

Agenda

- Introduction and Background
- Case Studies
  - Catalog Changes
  - Business Rule Changes
  - Process Adaptation
  - IT Tool Adaptation
- Summary
- Questions

Case Study: Catalog Changes

- Case description – What happened?
  - ASTM 1557 update of 2009
  - Tri-services Uniformat adoption and incorporation in BUILDER™
  - Changes mainly in D40 and D50 classifications
- Impacts
  - Resulted in many useless records in the database.

Case Study: Catalog Changes

- Remedies
  - Change/Update the Uniformat classification
  - Delete and recreate the section
- Lessons Learned
  - Ability to scrub legacy data prior to field work is essential
  - Skills and tools

Case Study: Business Rule Changes

- What are Business Rules?
  - Directions provided to assessors/inspectors pertaining to how data and comments are entered into BUILDER/BRED to provide consistency and integrity of data across all disciplines for each facility inspected.
  - Each Service and Agency has specific Business Rules.
  - They ensure comments provide valuable information for project development.

Case Study: Business Rule Changes

- Sectioning Business Rule Examples:
  - Components are divided into sections when a significant variation exists in material/equipment category, age, or construction history, which materially impacts the life cycle characteristics of the component. If these variations do not exist then the section name should remain the default, “N/A.”
  - An onsite discussion must occur at each building among all team members on how to name building areas for consistent section names. The goal is to avoid one assessor calling an area a toilet, one calling it a restroom, and another calling it a bathroom. Standard section naming is important for a consistent data set.

Case Study: Business Rule Changes

- Inventory Comment Business Rule Examples:
  - Used as guidance for follow-on inspections. Can provide useful additional information such as location or type to help the next assessor understand what was being inventoried. Ex: This component is the stone wall located behind the receptionist station in the lobby area.
  - Should begin with the comment front end timestamp, “[First Last on m/d/yyyy hh:mm]”
  - Used to identify components that were not visible for inspection. Use the following standard comment when a component is not visible for inspection followed by an additional statement describing obstruction to observation.

Case Study: Business Rule Changes

- Inspection Comment Business Rule Examples:
  - Required on all inspections with a DCR of A+ and below. (Potential for Greening)
  - Do not use abbreviations, jargon, or slang.
  - Should give enough information for a follow-on assessor and requirements planners to gauge deterioration and other changes in condition since last inspection.

Case Study: Business Rule Changes

- Impacts
  - Business Rules are different for each Service or Agency. Contracted assessors may perform BUILDER assessments for multiple agencies or services in a short period of time.
  - Without Business Rules, BUILDER data will be inconsistent and will not provide the full value possible, especially in project development and prioritization.

Case Study: Business Rule Changes

- Remedies
  - Require regular calibration training for BUILDER assessors / inspectors and QA/QC staff to ensure a complete and current understanding of the Business Rules they should follow for a specific assessment.
  - Business Rules should be documented in each Service or Agency's BUIILDER Manual or equivalent implementation guidance.
  - Incorporate the implementation of Business Rules in the Quality Control and Quality Assurance processes.

Case Study: Business Rule Changes

- Lessons Learned
  - Have an established process to regularly document, review and update Business Rules.
  - Ensure Business Rules are communicated regularly to FCA inspectors.
  - Incorporate Business Rules into automated and manual QA/QC processes.

Case Study: Process Adaptation

- Case Description
  - Data collection and QC considerations with existing BUILDER inventory
    - Catalog changes
    - Business rule changes
- Impacts
  - Existing data not compliant with current specifications

Case Study: Process Adaptation

- Remedies
  - Identify
  - Verify
  - Modify
    - Update
    - Add
    - Delete
  - Inspect

Case Study: Process Adaptation

- Identifying Legacy Data
  - Does the Component currently exist in BUILDER?
  - Has the previous Component been replaced?

Case Study: Process Adaptation

- Verifying Legacy Data
  - Is the Install Year correct?
  - Is the Quantity correct?
  - Is the Component sectioned correctly?
  - Does the Section Name follow Business Rules?
  - Are Section Details completed according to Business Rules?

Case Study: Process Adaptation

- Modifying Legacy Data - Taking Ownership
  - Updating previous Component information
    - Section Name
    - Section Comment
    - Quantity
  - Adding new Components

Case Study: Process Adaptation

- Adding Current Inspections
  - Takes into account current Business Rules.
  - Potentially reflects improvement in condition from repairs made since previous assessments.

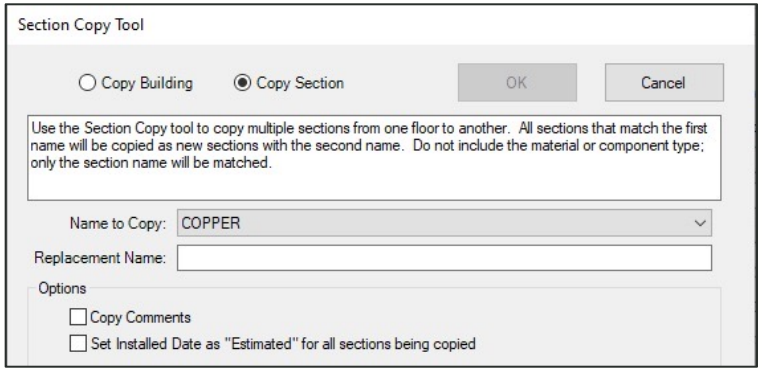
Case Study: Process Adaptation

- Lessons Learned
  - Assessors take ownership of legacy data to bring it up to current standards.
  - QC checks developed to verify legacy data has been updated to meet the same standards as initial assessments.

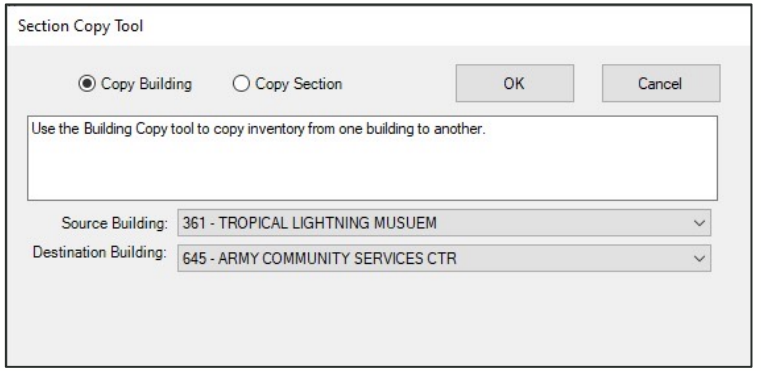
Case Study: IT Tool Adaptation

- Using the Copy Section and Copy Building features of BRED
  - BRED allows you to copy specific sections withing a building. While this can be a helpful tool in some cases, there are a few things you need to know before you use these features.

Copy Section

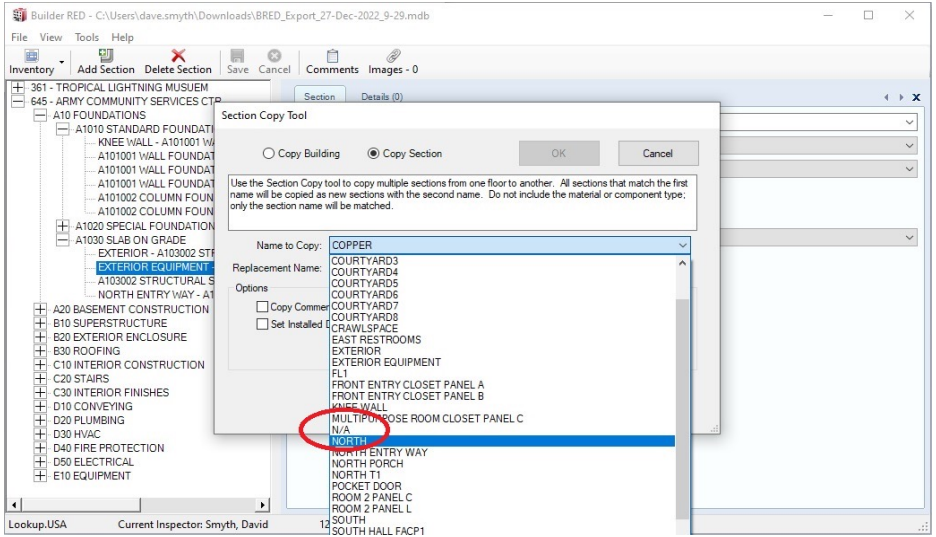


Copy Building



Case Study: IT Tool Adaptation

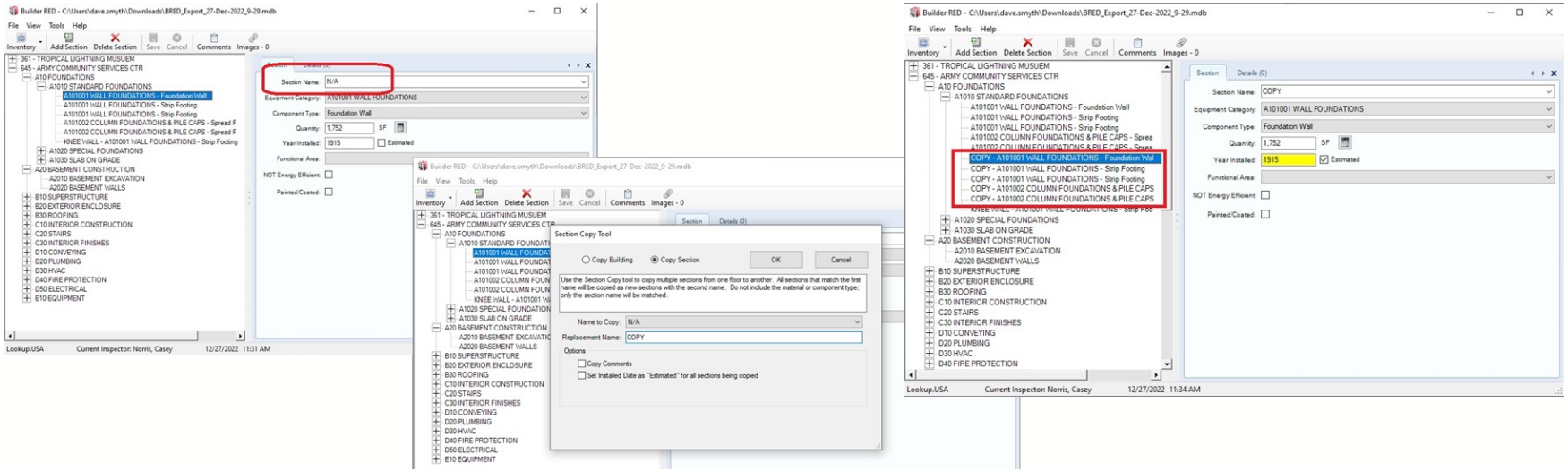
- Using the Copy Section feature of BRED
  - Selecting the Right Section to Copy



You will be given a pulldown of available Section Names in BRED when you choose the Copy Section option. This is a unique list of Section Names and includes generic names like N/A, FL1 and Exterior that can represent multiple sections.

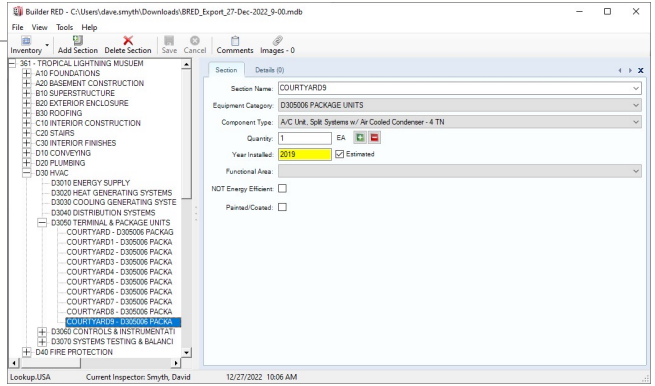
Case Study: IT Tool Adaptation

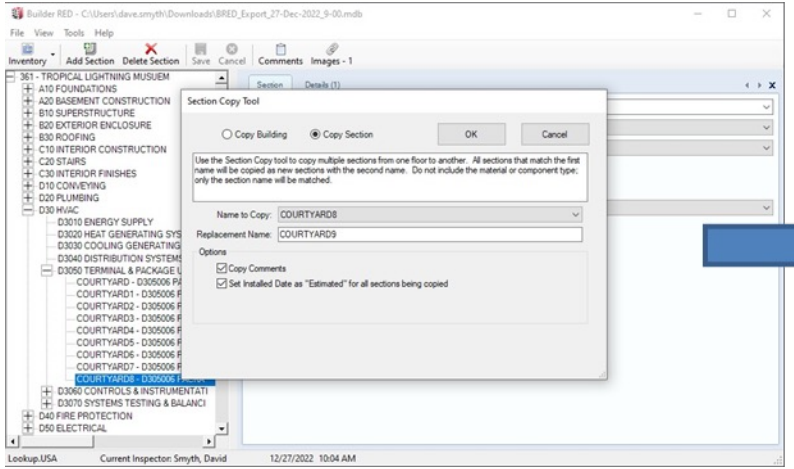
- Impact
  - BRED makes Copies of Every Section with that Section Name regardless of classification.

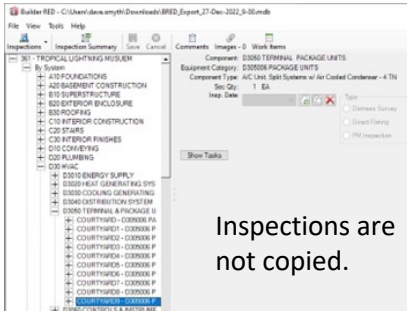


Case Study: IT Tool Adaptation

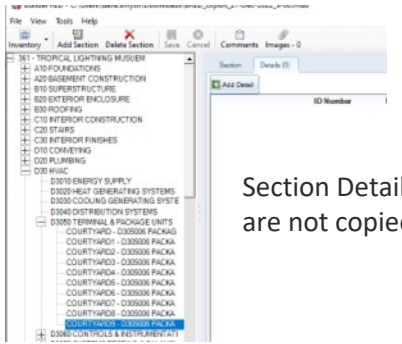
- Remedies
  - Use the Copy Section feature of BRED to copy specific sections that have unique section names.
  - Export BRED files by System







Inspections are not copied.



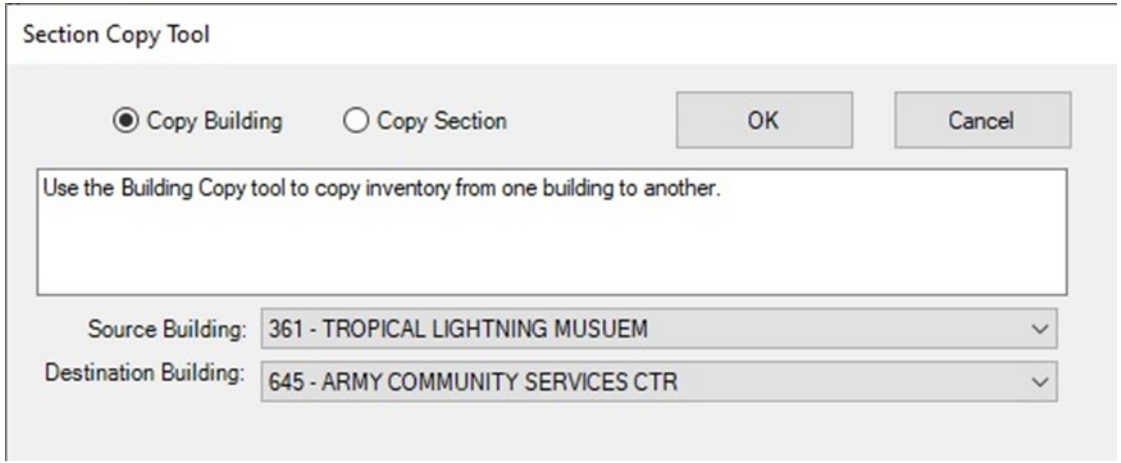
Section Details are not copied.

Case Study: IT Tool Adaptation

- Lessons Learned
  - It is almost as easy to create a new section in BRED without using the Copy Section feature.
  - It is easy to accidentally create unwanted sections in BRED by using the Copy Section feature so anyone on the assessment team needs to fully understand how the feature works before they use it.

Case Study: IT Tool Adaptation

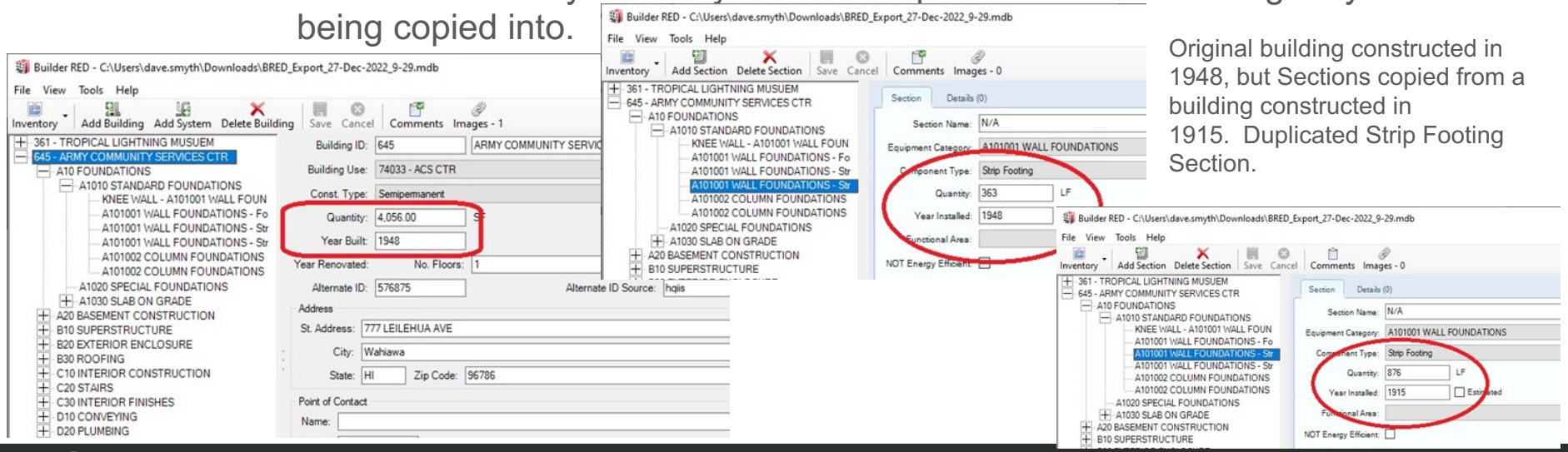
- Using the Copy Building feature of BRED



You can copy the complete inventory from one building to another using the Copy Building option. Simply choose a source building as the model for the inventory and a destination building to receive the sections.

Case Study: IT Tool Adaptation

- Impacts
  - Component Types may be duplicated and Sections are copied with Install Date and Quantity that may not be compatible with the building they are being copied into.



Original building constructed in 1948, but Sections copied from a building constructed in 1915. Duplicated Strip Footing Section.

Case Study: IT Tool Adaptation

- Remedies
  - Only copy whole building inventories into buildings that do not have existing sections.
  - Make sure the construction date and square footage of the *destination building* you are copying into matches the *source building* as closely as possible.

Case Study: IT Tool Adaptation

- Lessons Learned
  - Consult with senior staff before copying entire buildings
  - Use the templating tools in BUILDER to create building models

Discussions / Questions

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Thank you

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