ProjectWise
AutoCAD Civil 3D Integration

Dan Cutler
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Advancing Infrastructure

Why integrate Civil 3D with ProjectWise?

No mapped network drive required

All the benefits of a Common Data Environment

Civil 3D Stability

File Performance: Delta File Transfer & Caching

Easiest way to share a Civil 3D Project

What does Civil 3D integration provide?

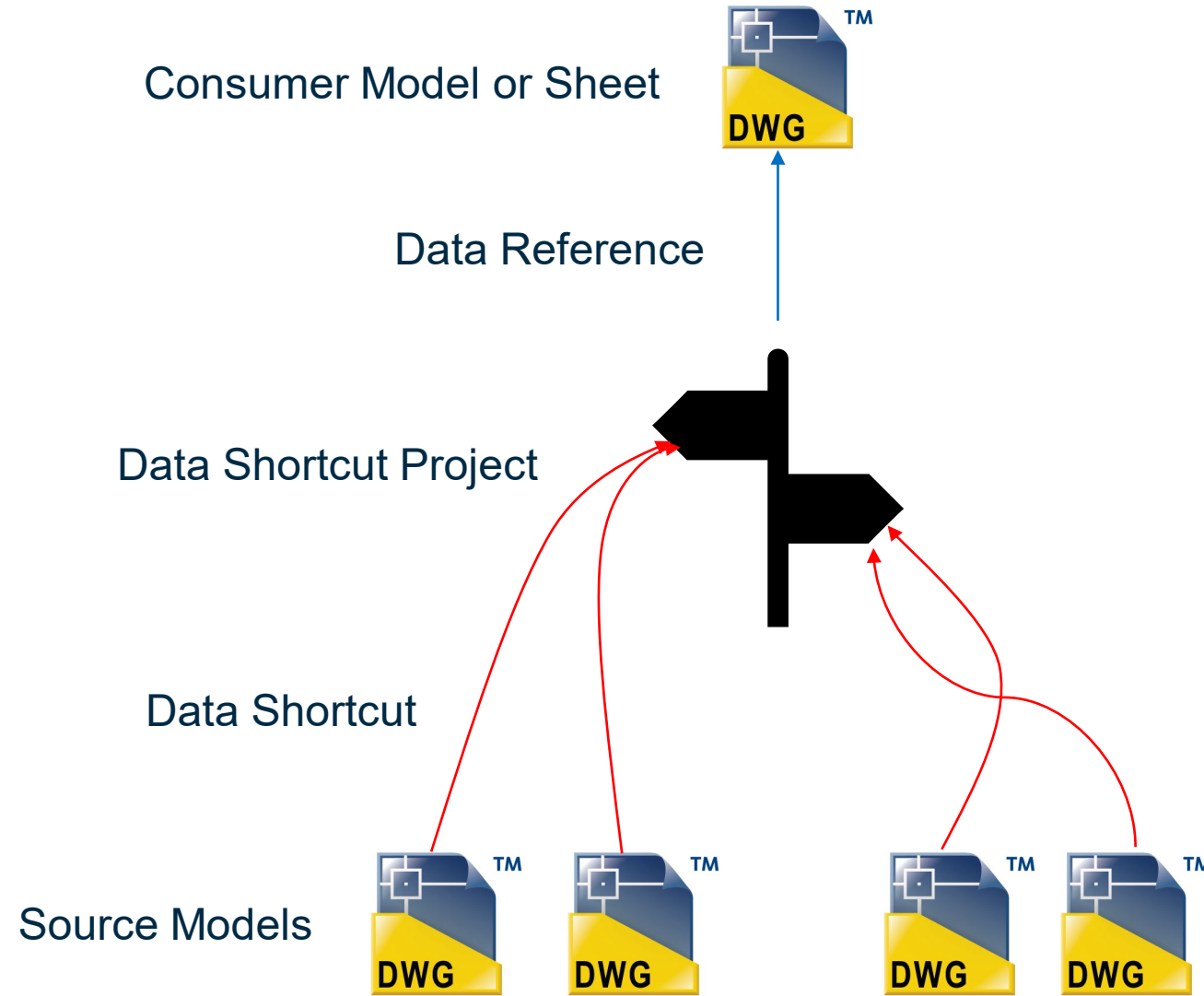Integrated up to C3D 2019 [add-ins for pre-2019](#)

ProjectWise Ribbon Tools

Working Folder Integration

Surface Integration

Prospector Palette Integration

System Variables

Consumer Model or Sheet

Data Reference

Data Shortcut Project

Data Shortcut

Source Models

Civil 3D Projects involve 2 main processes:

• Creating data shortcuts from source drawings

• Creating data references to source objects in source drawings

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Terms & Definitions

Data Shortcut

A complete reference copy of an object that can be imported into one or more other drawings/models. Data shortcuts can be created for surfaces, alignments, profiles, pipe networks and view frame groups.

Source Drawing

The drawing/model (.dwg) that contains original (i.e. not referenced) Civil 3D objects.

Consumer Drawing

The drawing/model (.dwg) that references Civil 3D objects.

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Terms & Definitions

Working Folder

Special directory structure where Data Shortcuts are stored.

Stored as absolute paths, formerly requiring a common mapped drive for collaboration.

.CivilDSproj

In ProjectWise the Civil 3D Working Folder is managed as a single zip file with the extension .CivilDSproj.

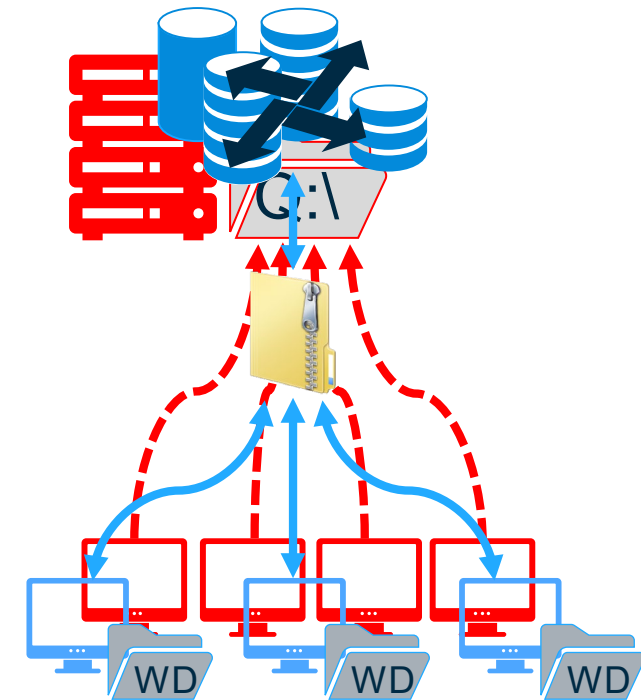This file is added to the reference set of any Data Shortcut Source File.

At the time of access, the .CivilDSproj file is unzipped to the user working directory.

Paths are automatically remapped during extraction. ProjectWise synchronizes changes as edits are made.
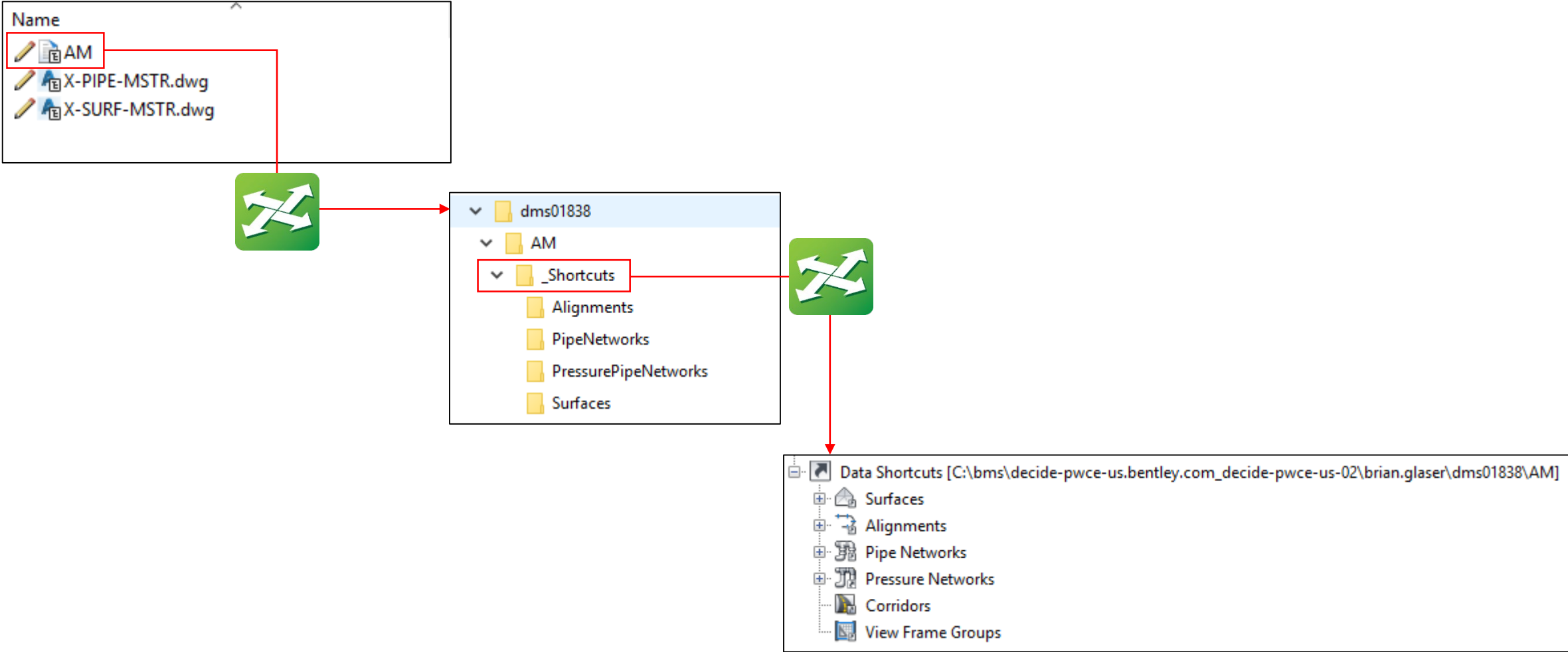
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Data Shortcut Projects

- Surface, alignment, profile, pipe network references stored as XML files in a special folder structure called a Working Folder

- Working Folder converted to zip folder with .CivilDSProj file extension

- Zipped folder delivered and unzipped to user working folder

- Managed as a part of a ProjectWise document set

- .CivilDSProj check in/out optimized to allow real time collaboration
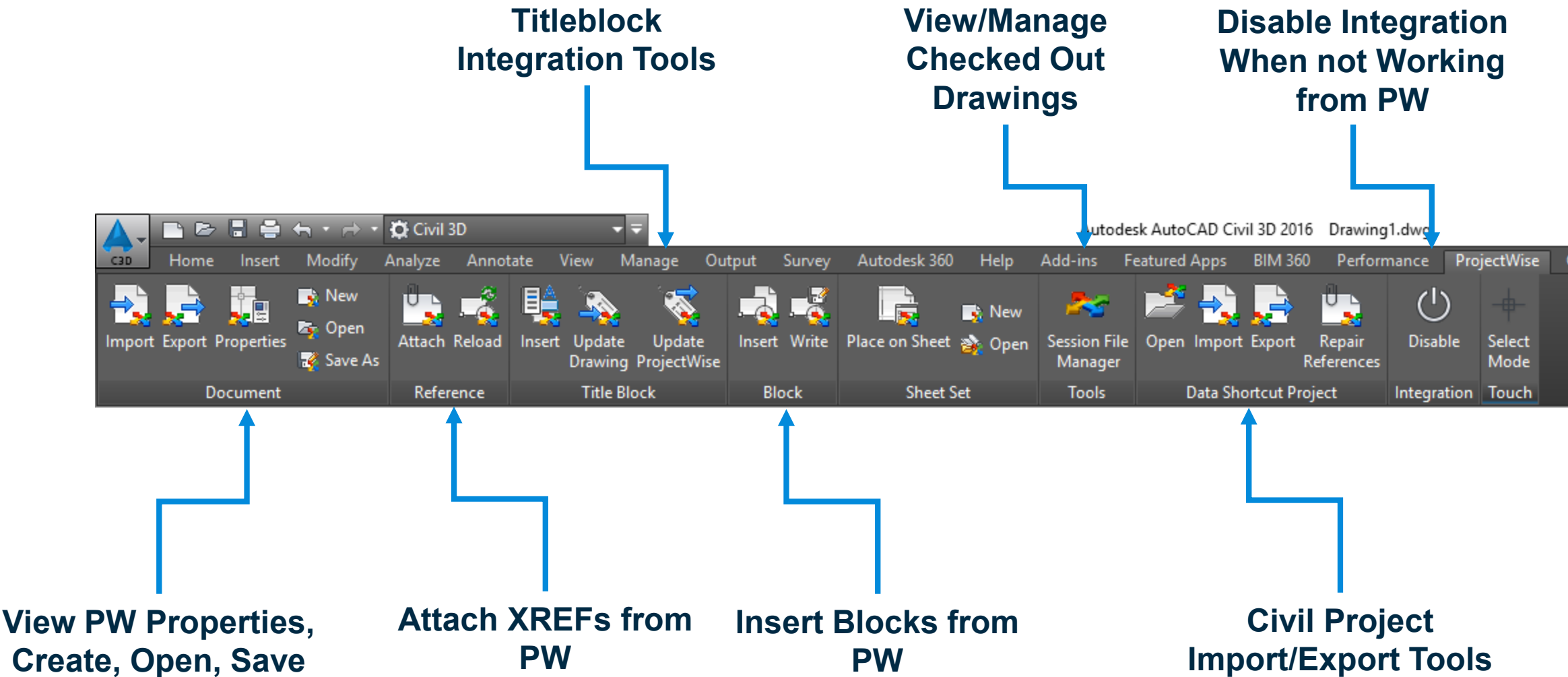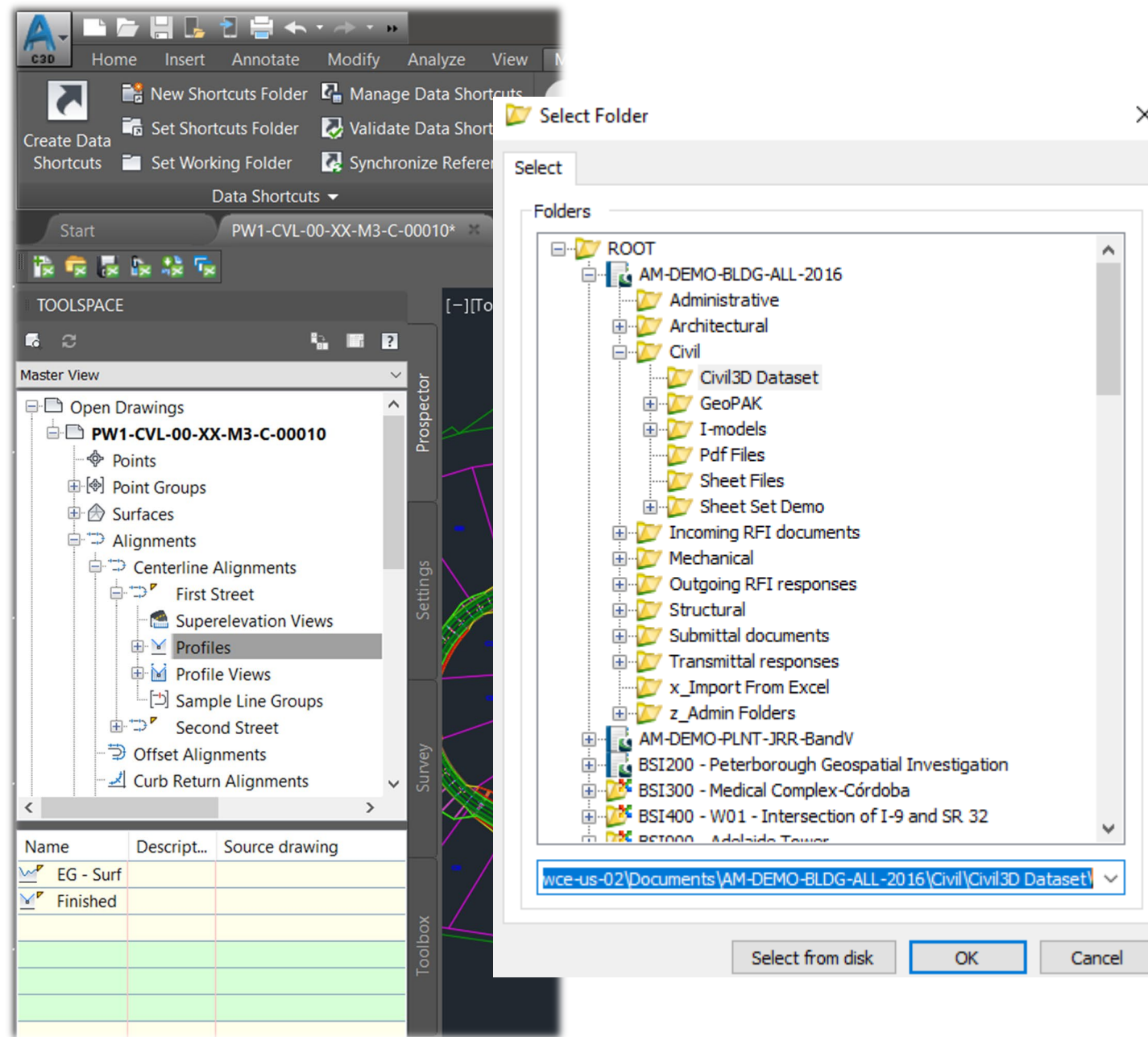
ProjectWise Integration
Networked Drive

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Extraction Process

Ribbon

Titleblock Integration Tools

View/Manage Checked Out Drawings

Disable Integration When not Working from PW

View PW Properties, Create, Open, Save

Attach XREFs from PW

Insert Blocks from PW

Civil Project Import/Export Tools

ProjectWise File Browser integrated into Toolspace within Civil3D for various operations

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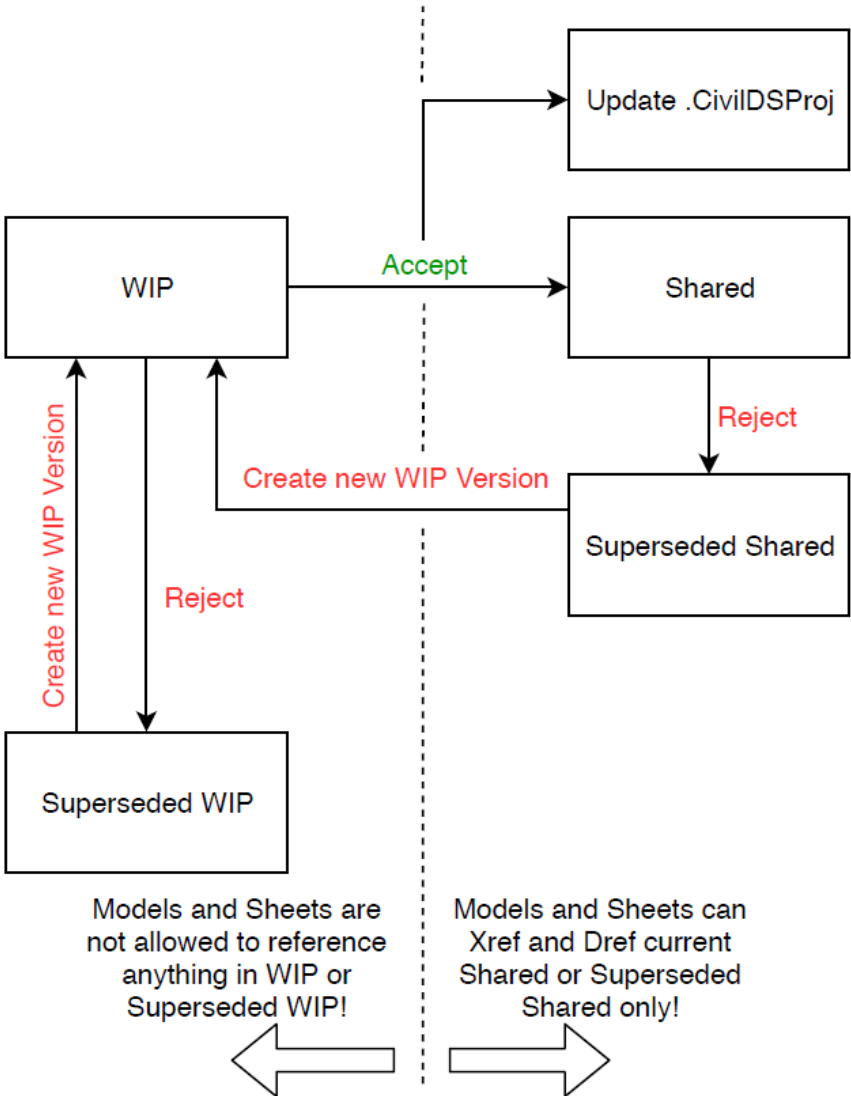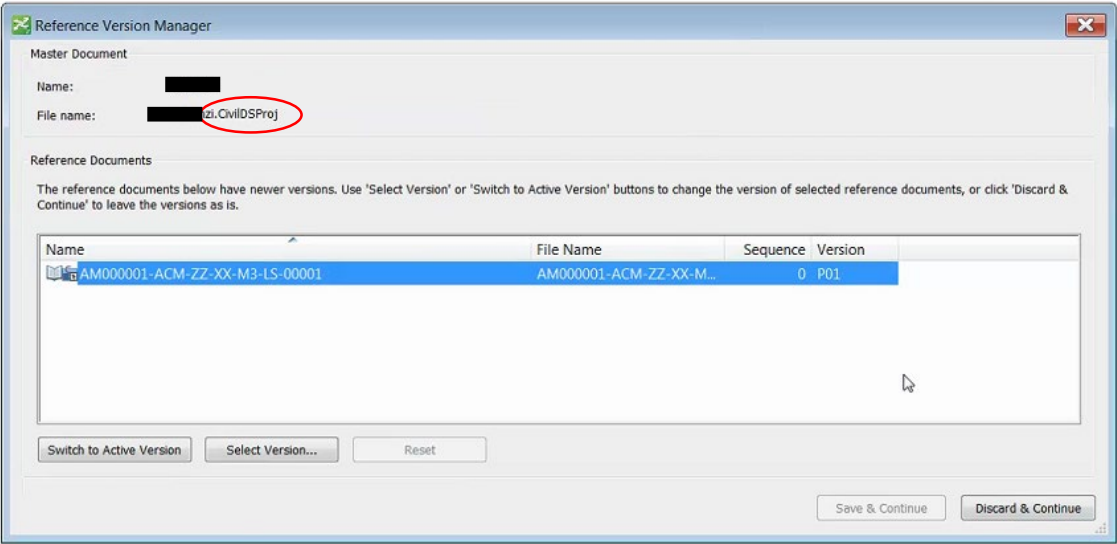# Unchanged Shortcut & Reference Workflows

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Civil 3D Approvals Workflow

Lock References to Versions

Models and Sheets are not allowed to reference anything in WIP or Superseded WIP!

Models and Sheets can Xref and Dref current Shared or Superseded Shared only!

Models and Sheets may only Data Reference or X-Reference from a Shared or Superseded Shared document

Any time a WIP model is Accepted, update the .CivilDSProj to point to the new Shared Version

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Tips for Success

- Do not work outside of integration
- Always have a live connection to datasource
- No managed export
- Always set working folder
- Stay out of the PW Working Directory
- Make careful, conscious decisions
- Avoid surface companion files
- Communicate with your team!!

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Resources

- docs.bentley.com link to Civil 3D help pages
- Civil3D Project Management Tutorials

Action Plan

- Identify pilot
- Engage application engineer and your civil team

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