Session 2: Folder Structure Organization & Standards

Main Content

The Foundation of Project Success

A well-organized folder structure is like a well-designed building foundation—it may not be the most exciting part of the project, but without it, everything else is at risk. In Civil 3D workflows, your folder structure directly impacts efficiency, collaboration, and the ability to manage project data throughout its lifecycle.

Why Folder Structure Matters More Than You Think:

1. **Predictability:** Team members know exactly where to find files
2. **Scalability:** Structure works for small 10-sheet projects and large 200-sheet projects
3. **Data Shortcuts Functionality:** Civil 3D's Data Shortcuts require consistent paths
4. **Client Handoffs:** Organized projects are easier to archive and transfer
5. **Future-Proofing:** Coming back to a project six months later is painless

The Complete Folder Hierarchy Breakdown

Let's examine each folder in the recommended structure and understand its specific purpose:

Project Root Folder

Naming Convention: `ProjectNumber_ClientName_ProjectType`
Example: `2024-087_CityOfSpringfield_MainStreetReconstruction`

Key Principles:
- Always start with project number for easy sorting
- Include client name for quick identification
- Add brief project description
- No spaces (use underscores or hyphens)
- Keep total length under 60 characters if possible

_Shortcuts Folder

Purpose: Data Shortcuts working folder for Civil 3D
Contents: XML files automatically generated by Civil 3D when you create Data Shortcuts

Critical Rules:
- NEVER manually edit or delete files in this folder
- Set this as your Data Shortcuts working folder at project start
- This folder enables sharing of surfaces, alignments, profiles, and pipe networks
- Back this up regularly—losing it breaks all Data References

Setup Command:
- Toolspace > Prospector > Right-click Data Shortcuts > Set Working Folder > Browse to _Shortcuts

01_Admin Folder

Purpose: Non-technical project documentation
Typical Contents:
- Project setup documentation
- Contracts and agreements
- Meeting notes and correspondence
- Project schedules and milestones
- Budget and billing information
- Client communications

Subfolder Structure (Optional):

```
01_Admin/
  Contracts/
  Correspondence/
  Meeting_Notes/
  Schedules/
```

Best Practice: Create a `Project_Info.txt` file here at project kickoff documenting coordinate system, datum, design standards, and team roles.

02_Survey Folder

Purpose: All survey-related data
Typical Contents:
- Raw survey data (point files, collector files)
- Processed survey data
- Survey control points and benchmarks
- Survey reports and documentation
- GPS/GNSS data

Subfolder Structure:

```
02_Survey/
  Raw/           (Original data, never modify)
  Processed/     (Cleaned and adjusted data)
  Control/       (Control points and benchmarks)
  Reports/       (Survey reports and documentation)
```

File Naming Convention:
- Include survey date: `Survey_2024-03-15_Field.csv`
- Preserve original filenames in Raw/ folder
- Use descriptive names in Processed/: `TopoSurvey_2024-03-15_Cleaned.csv`

03_Source Folder

Purpose: External data from outside sources
Typical Contents:
- GIS data from municipalities
- Utility company records (as-builts)
- Environmental studies
- Geotechnical reports

- Traffic studies
- Third-party design files (architect, MEP, etc.)

Subfolder Structure:

```
03_Source/
  GIS/
  Utilities/
  Environmental/
  Geotech/
  ThirdParty/
```

Best Practice: Never work directly in source files. Copy what you need to appropriate design folders and note the source.

04_Design Folder

Purpose: All Civil 3D design files and working drawings
This is where the magic happens!

04_Design/Base/

Purpose: Base drawings and master site plans
Typical Contents:
- `BASE-XREF.dwg` - Master base file for project
- Property boundaries
- Existing features to retain
- Site context and surroundings

Usage: This file gets Xref'd into nearly every other design file.

04_Design/Alignments/

Purpose: All alignment and profile design files
Typical Contents:
- `ALN-[RouteName].dwg` - Alignment design files
- Horizontal alignments
- Vertical profiles
- Profile views

Naming Convention:
- `ALN-Main_Street.dwg`
- `ALN-WestLoop_Road.dwg`
- Keep alignment name consistent across all files

Key Feature: Create Data Shortcuts for alignments and profiles here, then use in corridor files.

04_Design/Corridors/

Purpose: Corridor models and related assemblies
Typical Contents:
- `COR-[RouteName].dwg` - Corridor files
- Assemblies
- Subassemblies
- Viewframe Groups (for plan/profile sheet generation)

Workflow Integration:
- Reference alignment and profile Data Shortcuts
- Create corridor
- Generate Viewframe Groups
- Create Data Shortcuts for corridor surfaces if needed

04_Design/Surfaces/

Purpose: All surface design files
Typical Contents:
- `EG-Surface.dwg` - Existing ground surface
- `FG-Surface.dwg` - Finished ground/proposed surface
- `POND-01.dwg` - Detention pond surfaces
- Other specialized surfaces

Best Practice:
- One major surface per file
- Create Data Shortcuts for all surfaces
- Keep surface definitions clean (avoid excessive breaklines in one file)

04_Design/Pipe Networks/

Purpose: Storm, sanitary, and water system designs
Typical Contents:
- `PIPE-Storm.dwg` - Storm drainage network
- `PIPE-Sanitary.dwg` - Sanitary sewer network
- `PIPE-Water.dwg` - Water distribution

Organization Tip: Keep different utility types in separate files for clarity.

04_Design/Model/

Purpose: The master coordination model
Typical Contents:
- `MODEL.dwg` - Primary model file
- Named Views for sheet creation
- Annotation and labeling
- Match lines (for large projects)

This is the key file where:
- All Data Shortcuts are referenced
- Named Views are created for each sheet
- Common annotations are added
- Layer States are saved

04_Design/Standards/

Purpose: Project-specific standards and templates
Typical Contents:
- Custom templates (.dwt files)
- Sheet borders and title blocks
- Custom linetype files (.lin)
- Custom hatch patterns (.pat)
- Plot style tables (.ctb or .stb)

05_Sheets Folder

Purpose: All final deliverable sheet files

Subfolder Structure:

```
05_Sheets/
  DREFs/          (Data reference files like Excel tables)
  Exhibits/       (Exhibit sheets, 11x17 graphics)
  PDFs/           (Plotted output)
```

Organization:
- Each sheet is typically a saved copy of MODEL.dwg
- Name sheets by number: `SHEET-C101.dwg`, `SHEET-C201.dwg`
- Group related sheets in subfolders for large projects:

`05_Sheets/`
`  Plans/`
`  Profiles/`
`  Details/`
`  Utilities/`

05_Sheets/DREFs/

Purpose: External data referenced in drawings
Contents: Excel files with tables (e.g., curve tables, quantity tables)

05_Sheets/PDFs/

Purpose: Published PDF output
Best Practice: Include date in subfolder name: `PDFs/2024-0315_60pct_Review/`

06_Submittals Folder

Purpose: Track all formal submissions

Standard Subfolder Structure:

```
06_Submittals/
  DD/           (Design Development)
    Received/
    Sent/
  CD/           (Construction Documents)
    30pct/
      Received/
      Sent/
    60pct/
      Received/
      Sent/
    90pct/
      Received/
      Sent/
    100pct/
      Received/
      Sent/
  AsBuilt/
    Received/
    Sent/
```

File Naming in Submittals:
- Include date and submission type
- Example: `MainStreet_60pct_2024-03-15.pdf`
- Keep review comments with corresponding submission

07_Reference Folder

Purpose: Reference materials and standards
Typical Contents:
- Local jurisdiction CAD standards
- Design criteria manuals
- Standard details library
- Sample calculations
- Specification documents

08_Archive Folder

Purpose: Milestone project snapshots
Organization:

```
08_Archive/
  2024-0215_30pct_Milestone/
  2024-0315_60pct_Milestone/
  2024-0415_90pct_Milestone/
```

What to Archive:
- Complete copy of 04_Design folder
- PDFs of that milestone's sheet set
- Data Shortcuts folder (_Shortcuts)
- Brief notes file describing what changed

Why Archive: Allows you to roll back to previous design iterations if needed.

Naming Conventions Best Practices

File Naming Rules:
1. No spaces (use underscores or hyphens)
2. Use consistent prefixes:
- `EG-` = Existing
- `FG-` or `PROP-` = Proposed
- `ALN-` = Alignment
- `COR-` = Corridor
- `PIPE-` = Pipe Network
- `SHEET-` = Sheet file
3. Include date when relevant: `YYYY-MM-DD` format
4. Use ALL CAPS for major files, mixed case for supporting files
5. Keep names under 40 characters

Examples of Good File Names:
- `EG-TOPO-2024-03-15.dwg`
- `ALN-Main-Street.dwg`
- `SHEET-C301-Grading-Plan.dwg`
- `PIPE-Storm-Main.dwg`

Examples of Bad File Names:
- `new drawing 1.dwg` (no description, spaces)
- `final_FINAL_v3_REALLY_FINAL.dwg` (version control nightmare)
- `jhones temp file.dwg` (not descriptive, spelling error)

Team Collaboration Best Practices

Establish Team Protocols:
1. **File Ownership:** Assign specific files to specific team members
2. **Check-out System:** Use simple convention (add "_INUSE" to filename while working)
3. **Communication:** Daily or weekly sync meetings
4. **Backup Strategy:** Automatic backups at end of each day
5. **Documentation:** Maintain a log of major changes in 01_Admin

Working in Shared Environments:
- Use network paths that all team members can access
- Relative paths for Xrefs when possible
- Document the network path structure in project setup notes
- Test Data Shortcuts access from all team member workstations

Version Control Strategies

File Versioning:
- Major Milestones: Create full archive in 08_Archive
- Minor Iterations: Use file naming with revision codes
- `ALN-Main-Street-RevA.dwg`
- `ALN-Main-Street-RevB.dwg`
- Never delete old versions until milestone is archived

What NOT to Do:
- Don't save multiple versions in same folder without clear naming
- Don't use "Final" in filename (nothing is ever final!)
- Don't let version numbers get out of control (RevAA, RevAB, etc.)

Case Study: Organizing a Commercial Development Project

Project Overview

Project Name: Gateway Plaza Commercial Center
Location: Allen County, Ohio
Scope: 15-acre mixed-use development with retail, office, parking structures
Design Team: 4 civil designers, 2 CAD technicians, coordination with 3 disciplines (architecture, MEP, landscape)
Timeline: 6 months from concept to bid documents
Unique Challenge: Heavy coordination requirements and aggressive timeline

The Initial Problem

Midwest Engineering Group (MEG) won the Gateway Plaza design contract—a high-profile project that would significantly raise the firm's visibility. However, the project presented several challenges:

1. **Large Team:** Six people needed to work simultaneously
2. **External Coordination:** Files from architects, MEP engineers, and landscape architects

3. **Phased Reviews:** Client required monthly progress reviews
4. **Multiple Utilities:** Storm, sanitary, water, gas, electric all needed coordination
5. **Tight Timeline:** Just 6 months from kick-off to bid documents

On Day 1, the project manager called a meeting to prevent the chaos they'd experienced on previous multi-discipline projects.

The Solution: Rigorous Folder Organization

Phase 1: Project Setup (Week 1)

The CAD Manager created the complete folder structure before any design work began:

```
GatewayPlaza_2024-001/
  _Shortcuts/
  01_Admin/
    Meeting_Notes/
    Schedule/
    Coordination_Log/
  02_Survey/
    Raw/
    Processed/
    Control/
  03_Source/
    Architect/        (Received building footprints, layouts)
    Landscape/        (Received landscape plans)
    MEP/              (Received utility service requirements)
    GIS/              (City GIS data)
    Utilities/        (Utility company as-builts)
  04_Design/
    Base/
      BASE-XREF.dwg
      BOUNDARY.dwg
    Surfaces/
      EG-TOPO.dwg
      FG-SITE.dwg
      FG-PARKING.dwg
    Alignments/
      ALN-Entry-Drive.dwg
      ALN-Internal-Circ.dwg
      ALN-Service-Drive.dwg
    Corridors/
      COR-Entry-Drive.dwg
    Pipe Networks/
      PIPE-Storm-Site.dwg
      PIPE-Sanitary.dwg
      PIPE-Water.dwg
    Grading/
      GRAD-Building-Pads.dwg
      GRAD-Parking.dwg
    Model/
      MODEL-CIVIL.dwg
    Standards/
  05_Sheets/
    Plans/
    Profiles/
    Details/
    Utilities/
    DREFs/
    PDFs/
      Month1_Review/
      Month2_Review/
      Month3_Review/
      Month4_Review/
      Month5_Review/
      60pct_Submission/
      90pct_Submission/
      Bid_Set/
  06_Submittals/
    Monthly_Reviews/
      Month1/ (Received/Sent)
      Month2/ (Received/Sent)
      Month3/ (Received/Sent)
      Month4/ (Received/Sent)
      Month5/ (Received/Sent)
```

```
    60pct/ (Received/Sent)
    90pct/ (Received/Sent)
    BidSet/ (Received/Sent)
  07_Reference/
    City_Standards/
    Detail_Library/
    Specifications/
  08_Archive/
```

Phase 2: Team Protocols (Week 1)

A detailed team protocol document was created in `01_Admin/Project_Protocols.txt`:

```
GATEWAY PLAZA - TEAM PROTOCOLS
Created: 2024-01-08

FILE OWNERSHIP:
- Designer 1 (Sarah): Entry Drive alignment, corridor, grading
- Designer 2 (Mike): Internal circulation, parking grading
- Designer 3 (James): Storm drainage system
- Designer 4 (Linda): Sanitary and water systems
- Technician 1 (Alex): Base file, existing surface, model file
- Technician 2 (Chen): Sheet preparation, PDF generation

CHECK-OUT CONVENTION:
- Before working on a file, rename with _INUSE suffix
- Example: ALN-Entry-Drive_INUSE.dwg
- Remove _INUSE when done for the day
- NEVER work on someone else's _INUSE file

DAILY SYNC:
- 3:30 PM daily team check-in (15 minutes)
- Report progress and issues
- Coordinate dependencies

FILE SHARING:
- Network path: S:\Projects\GatewayPlaza_2024-001\
- Data Shortcuts working folder set to _Shortcuts
- All team members verify access on Day 1

EXTERNAL COORDINATION:
- Architect sends updated files every Friday to 03_Source/Architect/
- Landscape sends updates bi-weekly to 03_Source/Landscape/
- MEP coordination meeting every Monday morning
- Log all received files in 01_Admin/Coordination_Log/

BACKUP STRATEGY:
- Automatic network backup nightly
- Manual archive every Friday to local drives
- Major milestone archives to 08_Archive/

QUESTIONS:
- Contact Project Manager (Tom) or CAD Manager (Diana)
```

Phase 3: Execution and Results (Months 1-6)

Month 1-2: Design Development
- Each designer worked in their assigned files
- Data Shortcuts created for surfaces and alignments as completed

- External discipline files organized in 03_Source with date-stamped subfolders
- Daily sync meetings kept everyone coordinated

Challenge at Month 2: The architect revised building footprints significantly.

Response:
- Updated files immediately saved to `03_Source/Architect/2024-02-15_Revision/`
- Old version kept in `03_Source/Architect/2024-01-10_Original/`
- Design team had clear reference to what changed
- Impact assessment completed in one day vs. previous projects where it took a week

Month 3-4: Construction Documents Development
- MODEL-CIVIL.dwg created, referencing all design Data Shortcuts
- Named Views established for each sheet
- Sheets saved from MODEL-CIVIL.dwg to 05_Sheets with organized subfolders
- PDFs generated to dated folders in 05_Sheets/PDFs/

Month 5-6: Final Review and Bid Set
- 90% review comments easily tracked in 06_Submittals/90pct/Received/
- Changes made to design files
- Sheets automatically updated via Data Shortcuts
- Final Bid Set delivered on time

The Results

Quantifiable Benefits:
- **Zero Lost Files:** Not a single file was misplaced or overwritten
- **Coordination Issues Minimized:** External file updates tracked clearly
- **Time Savings:** Estimated 80+ hours saved over project lifecycle compared to previous projects
- **Quality:** Client remarked on the consistency and organization of deliverables
- **Team Morale:** Less stress, fewer conflicts over file access

Project Manager's Assessment:
"The folder structure and team protocols were the unsung heroes of this project. We had six people working simultaneously, weekly external coordination, and monthly client reviews. Without this organization, we would have missed deadlines and delivered inconsistent products. This is now our firm standard."

Key Success Factors:
1. **Upfront Planning:** Week 1 setup investment paid off exponentially
2. **Clear Protocols:** Everyone knew where files belonged and who owned what
3. **Consistent Naming:** Made finding files intuitive
4. **Daily Communication:** Prevented conflicts before they occurred
5. **External File Management:** Dated folders for third-party files prevented confusion

Lessons Learned

1. **Don't Skip the Setup Week:** Folder structure takes time to establish properly
2. **Document Everything:** Written protocols prevent misunderstandings
3. **Over-communicate:** Daily 15-minute meetings saved hours of rework
4. **Plan for External Data:** Create folders for it upfront
5. **Archive Regularly:** Milestone archives are insurance policies

Quick Reference: Folder Structure Template

Project Root Setup Checklist

- [ ] Create project root folder with naming convention: `ProjectNumber_ClientName_Description`
- [ ] Create all first-level folders:
- [ ] _Shortcuts
- [ ] 01_Admin
- [ ] 02_Survey
- [ ] 03_Source
- [ ] 04_Design
- [ ] 05_Sheets
- [ ] 06_Submittals
- [ ] 07_Reference
- [ ] 08_Archive

04_Design Subfolder Setup

- [ ] Create 04_Design/Base/
- [ ] Create 04_Design/Alignments/
- [ ] Create 04_Design/Corridors/
- [ ] Create 04_Design/Surfaces/
- [ ] Create 04_Design/Pipe Networks/
- [ ] Create 04_Design/Grading/ (if needed)
- [ ] Create 04_Design/Model/
- [ ] Create 04_Design/Standards/

02_Survey Subfolder Setup (Optional)

- [ ] Create 02_Survey/Raw/
- [ ] Create 02_Survey/Processed/
- [ ] Create 02_Survey/Control/
- [ ] Create 02_Survey/Reports/

03_Source Subfolder Setup (As Needed)

- [ ] Create 03_Source/GIS/
- [ ] Create 03_Source/Utilities/
- [ ] Create 03_Source/Architect/ (if applicable)
- [ ] Create 03_Source/Landscape/ (if applicable)
- [ ] Create 03_Source/MEP/ (if applicable)
- [ ] Create 03_Source/Environmental/
- [ ] Create 03_Source/Geotech/

05_Sheets Subfolder Setup

- [ ] Create 05_Sheets/Plans/
- [ ] Create 05_Sheets/Profiles/
- [ ] Create 05_Sheets/Details/
- [ ] Create 05_Sheets/Utilities/
- [ ] Create 05_Sheets/DREFs/

- [ ] Create 05_Sheets/Exhibits/
- [ ] Create 05_Sheets/PDFs/

06_Submittals Subfolder Setup

- [ ] Create milestone folders based on project requirements:
- [ ] 06_Submittals/DD/ (with Received/Sent)
- [ ] 06_Submittals/30pct/ (with Received/Sent)
- [ ] 06_Submittals/60pct/ (with Received/Sent)
- [ ] 06_Submittals/90pct/ (with Received/Sent)
- [ ] 06_Submittals/100pct/ (with Received/Sent)
- [ ] 06_Submittals/AsBuilt/ (with Received/Sent)

Initial Documentation

- [ ] Create Project_Info.txt in 01_Admin/ documenting:
- [ ] Coordinate system and datum
- [ ] Project team roles and assignments
- [ ] Design standards to follow
- [ ] Deliverable requirements
- [ ] Client contact information
- [ ] Create Project_Protocols.txt (if team project) documenting:
- [ ] File ownership assignments
- [ ] Check-out conventions
- [ ] Daily sync schedule
- [ ] Backup strategy
- [ ] External coordination procedures

Data Shortcuts Setup

- [ ] Open Civil 3D
- [ ] Toolspace > Prospector > Right-click Data Shortcuts
- [ ] Select “Set Working Folder”
- [ ] Browse to project’s _Shortcuts folder
- [ ] Click OK
- [ ] Test by creating a simple surface and creating a Data Shortcut
- [ ] Verify XML file appears in _Shortcuts folder

Team Distribution

- [ ] Share network path with all team members
- [ ] Have all team members verify access to project folder
- [ ] Distribute Project_Info.txt and Project_Protocols.txt
- [ ] Hold brief kickoff meeting to review folder structure
- [ ] Verify all team members have Data Shortcuts working folder set correctly

Ongoing Maintenance

- [ ] Create milestone archives in 08_Archive at major submission points
- [ ] Clean up temporary files weekly
- [ ] Update PDFs folder with dated subfolders for each submission

- [ ] Log major changes in 01_Admin
- [ ] Maintain coordination log if working with external disciplines

Cheat Sheet: Folder Naming Conventions Guide

Project Root Folder Naming

Format: `ProjectNumber_ClientName_ProjectType`
Examples:
- `2024-015_ABC_Corp_Office_Campus`
- `2024-087_Springfield_MainStreet_Recon`
- `24-003_Johnson_Estates_Subdivision`

Rules:
- Project number first (for sorting)
- No spaces (use underscores)
- Keep under 60 characters
- Use consistent year format (4-digit year recommended)

Design File Naming Prefixes

Prefix	Purpose	Example
BASE-	Base drawings	BASE-XREF.dwg
EG-	Existing conditions	EG-TOPO.dwg, EG-UTILITIES.dwg
FG-	Finished grade/proposed	FG-SITE.dwg, FG-ROADS.dwg
PROP-	Proposed (alternative to FG-)	PROP-GRADING.dwg
ALN-	Alignments	ALN-Main-Street.dwg
COR-	Corridors	COR-Main-Street.dwg
PIPE-	Pipe Networks	PIPE-Storm.dwg, PIPE-Sanitary.dwg
GRAD-	Grading plans	GRAD-Building-Pad.dwg
UTIL-	Utilities	UTIL-Coordination.dwg
MODEL-	Model files	MODEL-CIVIL.dwg
SHEET-	Sheet files	SHEET-C101.dwg

Sheet File Naming

Format: `SHEET-[SheetNumber]-[Description].dwg`
Examples:
- `SHEET-C101-Cover-Sheet.dwg`

- `SHEET-C201-Overall-Site-Plan.dwg`
- `SHEET-C301-Grading-Plan.dwg`
- `SHEET-C401-Utility-Plan.dwg`
- `SHEET-C501-Detail-Sheet.dwg`

Sheet Number Conventions:
- C100s: Cover, index, general notes
- C200s: Existing conditions, demolition
- C300s: Site plans, grading plans
- C400s: Utility plans
- C500s: Details and sections
- C600s: Profiles
- C700s: Cross-sections

Date Format in File Names

Standard: `YYYY-MM-DD`
Examples:
- `Survey_2024-03-15_Topo.csv`
- `PDFs/2024-0315_60pct_Review/`
- `EG-TOPO-2024-03-15.dwg`

Why This Format:
- Sorts chronologically
- Internationally recognized
- No ambiguity (MM-DD vs DD-MM confusion)

Version Control Suffixes

For Minor Iterations:
- `ALN-Main-Street-RevA.dwg`
- `ALN-Main-Street-RevB.dwg`
- `ALN-Main-Street-RevC.dwg`

For Work-in-Progress:
- `COR-Entry-Drive_WIP.dwg` (Work in Progress)
- `PIPE-Storm_INUSE.dwg` (Currently being edited)
- `MODEL-CIVIL_BACKUP.dwg` (Backup before major changes)

Rules:
- Use suffix, not prefix
- Be consistent across project
- Remove suffix when work is complete
- Don’t let versions proliferate (archive old ones)

Submittal Folder Naming

Format: `[Milestone]_[Date]_[Description]`
Examples:
- `30pct_2024-03-15_ClientReview`
- `60pct_2024-04-20_CitySubmittal`
- `BidSet_2024-06-01_Final`

Archive Folder Naming

Format: `YYYY-MMDD_[Milestone]`

Examples:

- `2024-0315_30pct_Milestone`
- `2024-0420_60pct_Milestone`
- `2024-0601_BidSet_Milestone`

PDF Output Folder Naming

Format: `YYYY-MMDD_[Submission Type]`

Examples:

- `2024-0315_30pct_Review`
- `2024-0420_60pct_ClientSubmittal`
- `2024-0601_Final_BidSet`

Common Naming Mistakes to Avoid

❌ **DON'T:**

- `new drawing 1.dwg` (too generic, has spaces)
- `site plan final FINAL.dwg` (version control nightmare)
- `johns file.dwg` (not descriptive)
- `temp.dwg` (ambiguous)
- `Copy of Copy of alignment.dwg` (use version suffixes)
- `drawing1.dwg` (meaningless name)

✅ **DO:**

- `ALN-Main-Street.dwg` (clear prefix and description)
- `SHEET-C301-Grading-Plan.dwg` (complete information)
- `EG-TOPO-2024-03-15.dwg` (includes date)
- `PIPE-Storm-Main.dwg` (specific and descriptive)

Quick Naming Decision Tree

1. **Is this a design file?** → Use appropriate prefix (ALN-, COR-, PIPE-, etc.)
2. **Is this a sheet?** → Use SHEET-[Number]-[Description]
3. **Is this a base/reference?** → Use BASE- or descriptive name
4. **Does it need a date?** → Add YYYY-MM-DD format
5. **Is this a revision?** → Add -RevA, -RevB suffix
6. **Is this work-in-progress?** → Add _WIP or _INUSE suffix

Team File Naming Agreement Template

Create this document at project kickoff:

```
PROJECT: [Project Name]
DATE: [Date]

FILE NAMING STANDARDS

1. DESIGN FILES:
   - Alignments: ALN-[RouteName].dwg
   - Corridors: COR-[RouteName].dwg
   - Surfaces: [EG/FG]-[Description].dwg
   - Pipe Networks: PIPE-[SystemType].dwg

2. SHEET FILES:
   - Format: SHEET-C[XXX]-[Description].dwg
   - Example: SHEET-C301-Grading-Plan.dwg

3. REVISIONS:
   - Use suffix: -RevA, -RevB, -RevC
   - Remove suffix after archiving

4. WORK IN PROGRESS:
   - Add _INUSE when actively editing
   - Add _WIP for files not ready for team use
   - Remove suffix when complete

5. DATES:
   - Always use YYYY-MM-DD format
   - Add to file name when version control needed

6. NO SPACES:
   - Use underscores or hyphens
   - Example: Main_Street not Main Street

AGREED BY TEAM:
- [Team Member 1 Name]
- [Team Member 2 Name]
- [Team Member 3 Name]
```

Pro Tips

1. **Create a template folder structure** that you copy for each new project
2. **Use a batch script** to create folders automatically
3. **Document your naming conventions** in 01_Admin at project start
4. **Be consistent** - consistency matters more than perfection
5. **Keep file names short** but descriptive enough to understand at a glance
6. **Avoid special characters** in file names (no !, @, #, $, %, etc.)
7. **Test your naming scheme** on a small pilot project first

Video Script: “Building Your Project Foundation”

[INTRO - 0:00-0:20]

[On screen: Messy desk with papers everywhere, then transition to organized desk with labeled folders]

Instructor (conversational, relatable):

“Let me ask you a question: Have you ever spent 20 minutes hunting for a file? Or worse—have you ever had two versions of the same drawing and no idea which one is current?

If you answered yes, you’re not alone. But here’s the good news: there’s a simple solution, and it’s the foundation of every successful Civil 3D project. I’m talking about folder structure.”

[HOOK - 0:20-1:00]

[On screen: Statistics showing time wasted searching for files]

“Now, I know—folder structure doesn’t sound exciting. It’s not flashy like creating a corridor or designing an alignment. But here’s a stat that should get your attention: Studies show that engineers and CAD technicians spend up to 20% of their time just looking for files and information.

Twenty percent. That’s one full day every week.

On a six-month project with a team of four, that’s nearly 4,000 hours—or $200,000 in labor costs—just searching for stuff.

But there’s a solution: a standardized folder structure that every team member understands. In this session, I’m going to show you the exact folder hierarchy that top engineering firms use, and more importantly, why each folder matters.”

[MAIN CONTENT - 1:00-5:30]

[On screen: Animated build of complete folder structure]

“Let’s build this from the ground up. Your project root folder should always start with a project number for easy sorting, followed by client name and a brief description. No spaces—use underscores or dashes.

Inside, you’ll create eight main folders. Let me show you what each one does and why it exists.

[Graphic highlighting each folder as discussed]

First, the _Shortcuts folder. This is critical for Civil 3D’s Data Shortcuts functionality. Civil 3D will automatically populate this with XML files when you create shortcuts. Never manually edit files here, and set this as your Data Shortcuts working folder on day one.

Next, 01_Admin. This is for non-technical project documentation—contracts, meeting notes, correspondence, schedules. Think of it as your project’s filing cabinet. Pro tip: Create a Project_Info.txt file here documenting your coordinate system, design standards, and team roles.

02_Survey holds all your survey data. I recommend creating subfolders: Raw for original data that you never modify, Processed for cleaned-up data, Control for benchmarks, and Reports for survey documentation.

03_Source is where external data lives—GIS files, utility company as-builts, geotechnical reports, and files from other disciplines like architects or landscape architects. Key principle: Never work directly on source files. Copy what you need to your design folders.

Now we get to the heart of it: 04_Design. This needs several subfolders:
- Base: Your master site plan that gets Xref’d into other files
- Surfaces: Existing and proposed surfaces, one major surface per file
- Alignments: Your horizontal and vertical alignment design files
- Corridors: Corridor models and assemblies

- Pipe Networks: Storm, sanitary, and water systems
- Model: This is your master coordination file where all Data Shortcuts come together
- Standards: Project-specific templates and title blocks

This separation is the key to Civil 3D's power. Design in separate files, share via Data Shortcuts, coordinate in Model.

[On screen: Workflow diagram showing design files → Data Shortcuts → Model → Sheets]

05_Sheets is where your deliverables live. Create subfolders for Plans, Profiles, Details, and a DREFs folder for external data like Excel tables. Your PDFs subfolder should have dated folders for each submission.

06_Submittals tracks formal submissions. Set up folders for each milestone—30%, 60%, 90%, 100%, and As-Built. Each milestone should have Received and Sent subfolders so you can track review comments.

07_Reference holds standards, design criteria manuals, standard detail libraries—anything you reference but don't modify.

And finally, 08_Archive is your insurance policy. At major milestones, copy your entire design folder here with a dated folder name. If you need to roll back to a previous design iteration, you can.

[On screen: Case study graphic]

Let me give you a real example. On a recent 15-acre commercial development project, the firm established this complete folder structure before any design work began. They also created a simple team protocol document defining who owned which files and how to communicate changes.

The result? Six people worked simultaneously for six months with zero lost files, minimal coordination issues, and the project delivered on time. The project manager estimated it saved over 80 hours compared to previous projects without this structure."

[CALL TO ACTION - 5:30-6:15]

[On screen: Checklist and downloadable resources graphic]

"Here's your action item: Before you start your next project, invest one hour in setting up this folder structure properly. Create all the folders, set up your Data Shortcuts working folder, and document your project setup decisions.

Download the Quick Reference checklist that comes with this session. Print it out. Use it as your guide for every project setup.

And if you're working on a team, create that team protocol document. Define file ownership, check-out conventions, and daily sync schedules. Five minutes of planning prevents hours of conflict.

[On screen: Template folder structure download]

Bonus tip: Create a template folder structure that you copy for every new project. Some firms even use batch scripts to create all folders automatically. Work smarter, not harder."

[OUTRO - 6:15-6:30]

[On screen: Next session preview]

“In Session 3, we’re diving into templates and base drawing creation. You’ll learn how to set up Civil 3D templates that enforce your standards automatically, and how to prepare base drawings that the whole team can use.

Your project foundation is now in place. Let’s build on it. See you in Session 3!”

[End card: Course website and download links]

Production Notes:
- Use split-screen showing good vs. bad folder organization
- Animate the folder structure building step-by-step
- Include before/after case study graphics
- Add subtle icons for each folder type
- Include text overlay with key folder names
- Use subtle transitions between sections
- Include downloadable checklist link in video description