



Table of Contents

CHAPTER 2: DIRECTORY STRUCTURES	1
Project Directory Structure	1
Roadway	2
Bridge	7
CADD Support Directory Structure	9



Chapter 2: Directory Structures

Project Directory Structure

Project related files, including CADD drawing files, survey and mapping data, and engineering data files, will be contained within a specific project directory structure. Files also contained within this directory structure include; correspondence, project documentation, reports, etc. Following the directory structure as indicated in this chapter will allow for consistent handling of all project files, as well as allow for easier archiving at project completion. The first level project directory is shown below, the following pages outline each first level directory in much greater detail, including subdirectories, purpose of each directory, and types of files typically stored within each directory.

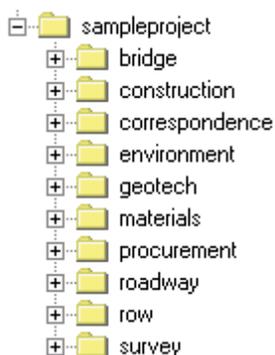


Figure 2-1: Project Directory

While not all directories will be needed for each project, the structure naming convention must be followed where applicable. Sub-directories addressed in this chapter include Roadway, ROW/Survey/Mapping, and Bridge.



The project directory structure has evolved over the last few years so the directory structure for older projects may not match what is shown here. The directory structure and file locations for older projects need not be changed. However, all new projects should use the directory structure outlined in this chapter.



Roadway

The primary sub-directories of the Roadway directory are detailed below. Individual files should not be placed under the root Roadway directory. These main subfolders within Roadway should not be edited.

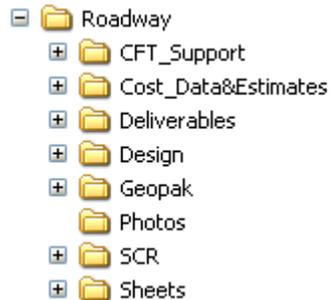


Figure 2-2: Roadway Directory

Each sub-directory contains additional folders and/or specific files related to each project. The table below outlines the files to be contained within each sub-directory.

<p>CFT_Support</p> <ul style="list-style-type: none"> [-] Folder: CFT_Support <ul style="list-style-type: none"> Folder: bridge Folder: construction Folder: environment Folder: geotechnical Folder: hydraulics Folder: pave&materials Folder: permits Folder: PM support Folder: procurement&acquisitions [-] Folder: safety <ul style="list-style-type: none"> [+] Folder: traffic & accident Folder: survey&row Folder: utilities 	<p>Project files of any type used in the design process. Files that are received or delivered to other CFT members. Any file should be placed under specific subfolders for individual part of CFT. Note that basic CADD design files would not be placed here. Instead, those would be placed in Roadway/Design.</p>
<p>Cost_Data&Estimates</p> <ul style="list-style-type: none"> [-] Folder: Cost_Data&Estimates <ul style="list-style-type: none"> [+] Folder: bid tabs [+] Folder: UPAs & bid analysis 	<p>Any and all files used for preparing, documenting and developing cost estimates for projects. Note that UPAs and other files are deliverables and should be moved to the Deliverables folder at the time of submittal.</p>



<p>Deliverables</p> <ul style="list-style-type: none"> [-] Deliverables <ul style="list-style-type: none"> [-] 15% <ul style="list-style-type: none"> Documents Plan_PDFs [+] 30% [+] 50% [+] 70% [+] 95% [+] Final_to_P&A [-] PE&Design_Notebooks <ul style="list-style-type: none"> Documents StakingReports [-] Post_Award&During_Construction <ul style="list-style-type: none"> Documents Plan_PDFs 	<p>This directory's primary use is to document and record deliverables for major project milestones. Place files in the appropriate subfolder at PS&E review periods. Working files should not be placed under this directory. If necessary, archived or backed-up files may be placed in this directory. Note that Staking notes are placed in this directory and should not be anywhere else.</p>
<p>Design</p> <ul style="list-style-type: none"> [-] Design <ul style="list-style-type: none"> [-] correspondences <ul style="list-style-type: none"> contact list email archives incoming outgoing [-] design_documentation <ul style="list-style-type: none"> Construction Schedule Design Technical Memo Highway Design Standards [+] meetings <ul style="list-style-type: none"> misc PE Memo [-] reports <ul style="list-style-type: none"> scoping trip reports value engineering WorkBreakdownStructure(WBS) [+] QA_QC 	<p>This is the primary folder for working files and design documentation. Overall files used to prepare plans other than CFT transmitted files. Including; Alignment file, utility and drainage, traffic control, signing and striping, erosion control, GEOPAK superelevation shapes and patterns, and overall cross-sections including ref-hub cross sections. This directory should be for overall base sheets only, no plan sheets.</p> <p>Additionally, design documents, draft minutes and reports, and QA/QC documentation files are located in separate folders under Design. Please note that many final documents will be kept in the Project Managers directory.</p>
<p>Geopak</p> <ul style="list-style-type: none"> [-] Geopak <ul style="list-style-type: none"> alignment listings input files misc reports output files 	<p>Project's Coordinate Geometry Database (jobxxx.gpk) file, Project Manager (.prj) and other related files and logs should be placed directly under Geopak. Horizontal and vertical alignment listings, earthwork & superelevation input files, geopak reports and output files should be placed in separate sub-folders.</p>
<p>Photos</p> <ul style="list-style-type: none"> Photos 	<p>Design specific photos may be stored here. Ideally with CFT coordination, one Photo directory would be set up for each project under a shared folder.</p>



<p>SCR</p> <ul style="list-style-type: none"> [-] Folder SCR <ul style="list-style-type: none"> Folder development 	<p>Working Special Contract Requirement files. Note that final SCRs and major PS&E submittal SCRs should be placed in the Deliverables folder when completed.</p>
<p>Sheets</p> <ul style="list-style-type: none"> [-] Folder Sheets <ul style="list-style-type: none"> Folder [Borders] Folder A-Gen_sht [-] Folder B-Summ <ul style="list-style-type: none"> Folder Quantities Folder C-ML_P&P Folder D_Minor_P&P Folder E-150 Folder F-200 Folder G-250 Folder H-300 Folder K-400 Folder R-500 Folder S-550 Folder T-600 Folder X-ML_Xsec Folder Y-Minor_Xsec Folder Z-Drain_Xsec 	<p>[Borders]: Project’s Plan Sheet Border file/s.</p> <p>A–Gen_sht: Title sheet, plan symbols and abbreviations, typical sections</p> <p>B–Summ: Summary and tab sheets. Note Microsoft Excel files are acceptable.</p> <p>C–ML_P&P: Mainline plan and profiles</p> <p>D–Minor_P&P: Approach road plan and profile, site plans, intersection details</p> <p>E, F, G, H, & K: Division 150-400, layouts, standards, details, and specials</p> <p>R-500 & S-550: Division 500 and 550, Structural. Exact sheets and sheet names to be included will be determined by structural group. Samples may include; bridge layout, wall layout, box culvert layout</p> <p>T-600: Division 600 layouts, standards, details, and specials</p> <p>X-ML_Xsec: Mainline cross-section sheets</p> <p>Y-Minor_Xsec: Minor road and Parking area cross-section sheets</p> <p>Z-Drain_Xsec: Drainage cross-sections including ditches and culvert cross-sections</p> <p>Note that if a record of a project’s plan submittal is desired, PDF’s should be created and placed in the Deliverables folder</p>

Table 2-1: Roadway Sub-directory Files

Each project has unique requirements. For most projects this directory structure is adequate. It is acceptable to make changes based on the needs of specific projects. Examples of acceptable changes would be; the creation of a new Sheets subfolder “U-UCP” for inclusion of Utility Conflict Plans, or creating a V-600 folder to separate the 600 Divisional sheets.



Survey/Mapping/ROW

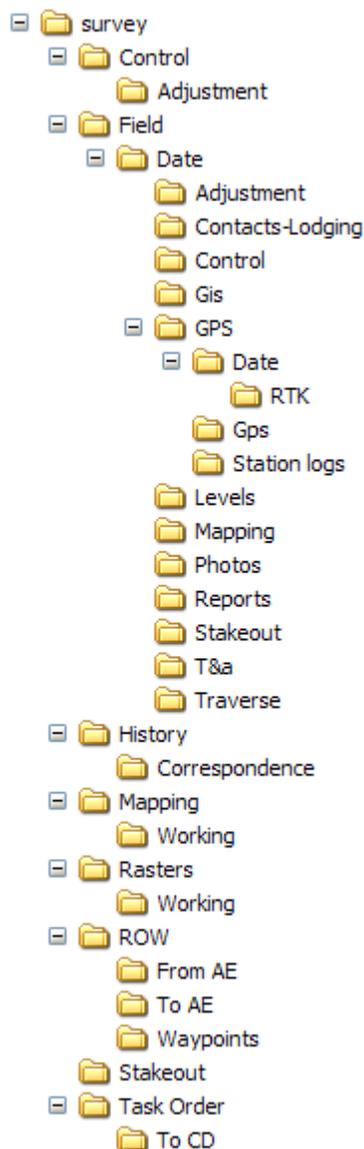


Figure 2-3: Survey/Mapping/ROW Directory

Control	Control sheets and overall drawings, to designers for final use and control reports (.csv)
Adjustment	Office adjustment, TGO (Trimble Geomatic Office)
Field	
Adjustment	Adjustment calculations, rarely done
Contacts-lodging	Field contacts and correspondence
Control	Final control from office



GIS	Drawing of points collected with resource grade GPS or Garmin
GPS	Data from survey grade receivers
Station Logs	
Julian Date	
RTK	Real Time Kinematics raw data files. (.dc)
Levels	Raw data from electronic levels, starnet adjustment files
Mapping	Preliminary mapping files (.dgn, .gpk, .cor)
Photos	Digital photos of project
Reports	Weekly report, final project report, mileage logs
Stakeout	Stakeout data from office, CL, ref hubs
T&A	Time and attendance information
Traverse	.dc files, raw data, terrestrial data
History	Transmittal letters, Index files
Correspondence	e-mails, general correspondence from field
Mapping	Final design files, final tin file (.tin, .utl, .map, .con)
Working	DTM files, .dat files, .prj files
Rasters	Final .hmr, .tif, .ecw and doqq files.
Working	Working files to be merged to create final
Row	
From AE	
To AE	
Waypoints	
Federal Land Transfers	
Stakeout	Trimble Geomatic Office files, design cross section files
Task order	Scopes, estimates, proposal, negotiation memo (.doc, .xls, .pdf)
To CD	Files burned to CD for consultant

Table 2-2: Survey/Mapping/ROW Sub-directory Files



Bridge

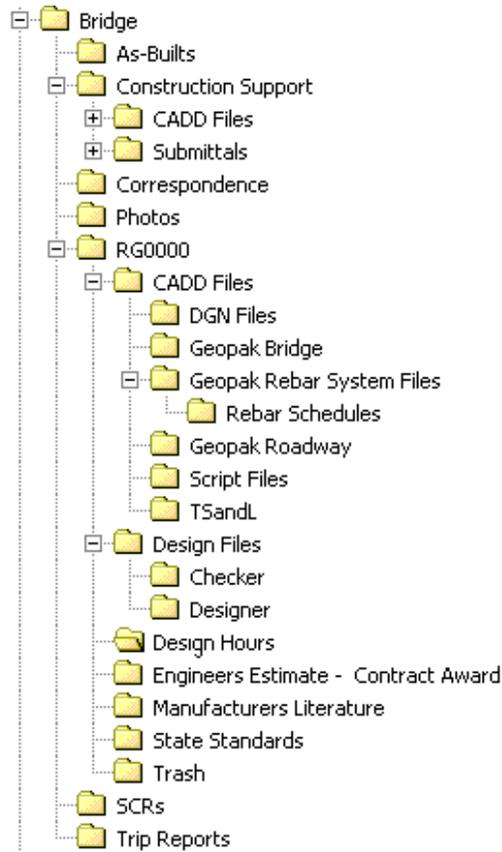


Figure 2-4: Bridge Directory

As-Built	Final construction as-built plans
Construction Support	
CADD Files	Solutions to construction problems or additional information. (.doc, .dgn, .xls, etc.)
Submittals	Documents from construction for evaluation. (.doc, .dgn, .xls, etc.)
Correspondence	e-mails, transmittals, etc.
Photos	Project photos
RG0000	Structure number
CADD Files	
DGN Files	Standard bridge design files.
Geopak Bridge	Files created by Geopak Bridge
Geopak Rebar System Files	
Rebar Schedules	Files created by Geopak Rebar



Geopak Roadway	.map, .gpk, .tin, .dgn, files from the roadway group.
Script Files	Final design plans in PostScript format.
TSandL	Preliminary location of new structure.
Design Files	
Checker	Calculations made by design checker
Designer	Calculations made by designer
Design Hours	.doc, .xls files.
Engineers Estimate – Contract Award	Files that show manhour estimates.
Manufactures Literature	Documentation for material suppliers.
State Standards	Standards for the state the structure is in.
Trash	Temporary and deleted files to be purged.
SCRs	Special Contract Requirements for the structure.
Trip Reports	.doc files of field visits.

Table 2-3: Bridge Sub-directory Files



CADD Support Directory Structure

The CADD support directories contain the standard CADD resource files detailed in the following chapters. These include set up, configuration, and resource files for MicroStation and GEOPAK such as MicroStation seed files and cell libraries, and GEOPAK database files and superelevation tables.



This portion of the chapter is for information only. For CFLHD employees the individual CADD machines have been configured with **project configuration files (.pcf)** to automatically find and attach these files. Use of fonts, line styles, etc., should be seamless.

For our consultants, the ***X30 Generation of standard files download (V8_Resource.zip)*** can be used to setup the standard CADD support directory structure. Project configuration files (***x30_English.pcf and x30_Metric.pcf***) are also provided in the download for the ease of setting up project configuration.

Select to link to the CFLHD Website and to download files: [X30 Generation of standard files download](#)

The standard CADD resource files are set up and maintained by the CADD Coordinator. The resource files are "read-only", as are the directories they reside in, so users cannot make changes to these files or create additional alternate versions of them on the server. These resource files are the "official" versions that should be used throughout CFLHD. Any errors discovered in these files should be reported to the CADD Coordinator so that they can be fixed.

The standard CADD resource files are centrally located on the N: drive in subdirectories under the Standards directory and are accessed by all CFLHD users from there. The first level directories under the Standards directory are as shown below:

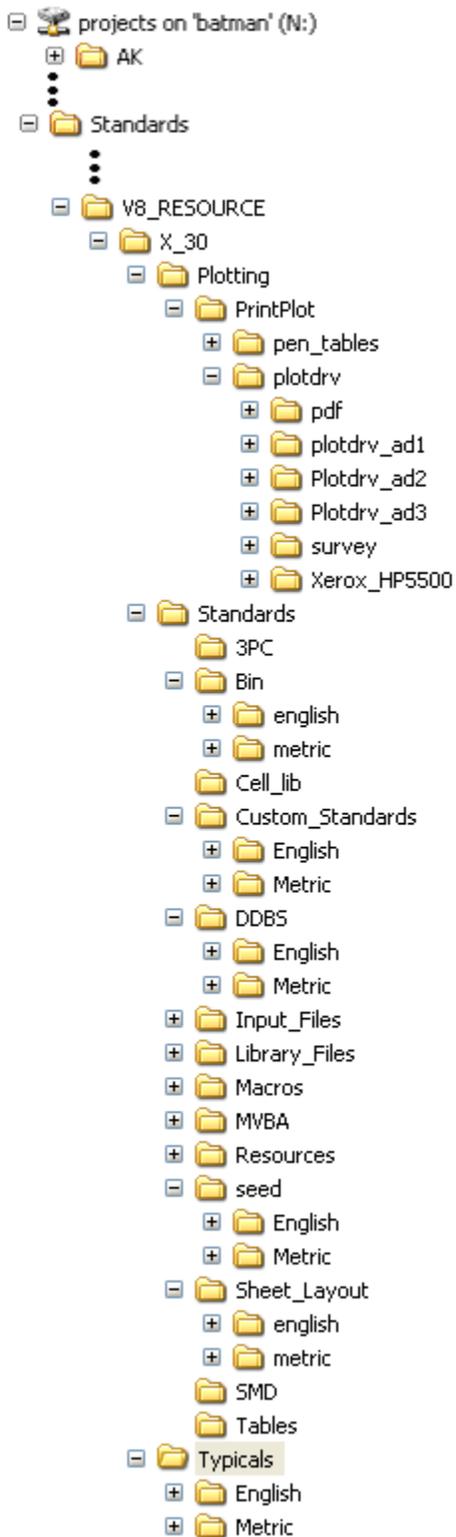


Figure 2-5: CADD Resource Files



Plotting	CFLHD standard set up and resource files for MicroStation Print/Plot. These files include the Print/Plot plotter driver (.plt) and pen table (.tbl) files necessary to plot to the various plotters and to resymbolize the plots (e.g., shading, changing weights or colors, setting plotting order, adding date/time stamps, etc.) as desired.
3PC	Miscellaneous criteria files, including MicroStation Basic user interface macros.
Bin	US Customary and Metric superelevation tables for AASHTO Method 5 (*.csv) US Customary and Metric superelevation preference files (*.sep) US Customary and Metric Minimum spiral length tables for AASHTO 2001 (*.tbl) Standard Label Style file (cfl_labeler.lsf)
Cell_Lib	Standard Cell Libraries (*.cel), FLH_Criteria.cel – Standard criteria cell library.
Custom_Standards	Standard MicroStation units and scales definitions (*.def)
DDBS	US Customary and Metric D&C Manager database files (*.ddb)
Input_Files	CFLHD's earthwork input files for X30 and ancillary data (*.inp)
Library_Files	Standard criteria level library and text style library (*.dgnlib)
Macros	Miscellaneous macros for MicroStation C8 (*.bas)
MDL_Apps	Microstation Application for SignCAD
MVBA	Miscellaneous MicroStation Visual Basic for Applications (*.mvba)
Preferences	CFL Standard Preference files for XS Modeler MVBA
Resources	CFLHD's font and custom linestyle resource files (.rsc)
Seed	US Customary and Metric 2D and 3D seed files (*.dgn)
Sheet_Layout	US Customary and Metric Cross section sheet layout libraries (*.xssl) US Customary and Metric Plan & Profile Sheet Layout Libraries (*.psl) US Customary and Metric sheet cell reference files (*.dgn)
SMD	CFLHD's Survey Manager Database
Tables	Standard color table for X30
Typicals	US Customary and Metric Criteria files for Typical Section Generator and help files (*.wri)

Table 2-4: Sub-directory Files