

Consultant Prepared Projects

Consultant prepared projects must comply with the requirements set forth in the Plans Preparation Manual (PPM) and CADD Users Manual. The latest versions of these two manuals are located on the Caltrans website and should be reviewed periodically and followed by both Caltrans and consultants for any changes, deletions or additions.

CADD Users Manual: www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm
PPM: www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm

Consultants are to adhere to the same requirements as any Caltrans project engineer, being guided by the Highway Design Manual (HDM), Project Development Procedures Manual (PDPM), 2010 Standard; Plans, Specifications, Special Provisions, and Bid Items, Ready to List and Construction Contract Award Guide (RTL Guide), and any Caltrans Directives or Memorandums. This is for any project, which may include advance planning studies, preliminary design, Plans, Specifications and Estimate (PS&E) submittals, support through the construction of the project and completion of the As-Built plans.

HDM: <http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm>
PDPM: <http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm>
2010 Standards: <http://www.dot.ca.gov/hq/esc/oe/standards.php>
RTL: http://www.dot.ca.gov/hq/esc/oe/specifications/rtl_guide/

Some Caltrans Directives and Memorandums are listed on the website where consultants download the Caltrans resource files:

http://www.dot.ca.gov/hq/oppd/cadd/rsc_files/webpage.htm

All consultant prepared projects are to be submitted to the district administering the oversight contract at the agreed upon stages of the project (30%, 60%, 90%, etc.). The district is responsible for verifying (both electronic files and plotted plan sets) and submitting a consultant project to Division of Engineering Services – Office Engineer (DES-OE) and keeping the consultants informed on comments, reviews or questions from DES-OE. Likewise, consultants are responsible for informing the Caltrans Project Manager or Oversight staff of any modifications and/or additions during the various preliminary and final stages of project plan development. Any questions or requests by consultants should first be directed to the appropriate Caltrans District Design Oversight Engineer or Project Manager.

Cooperative Agreements and Contract Agreements should state that the latest standards, identified in the CADD Users Manual and PPM (the latest versions being on the Caltrans website), are to be followed for all final products (deliverables) throughout the Project Delivery Process.

Some typical requirements for project plans submitted for PS&E are:

- Files only accepted in a MicroStation design file format with a *.DGN extension.
- One MicroStation design file per PS&E “contract plan sheet.” Each “contract plan sheet” is a legal stand-alone document.
- For PS&E, only one model space per DGN file shall be submitted. No extra model spaces are to be contained in any DGN “contract plan sheet.”
- All necessary information must be in the “contract plan sheet,” no reference files are to be attached to the “contract plan sheet” for PS&E submittal.
- U.S. Survey Foot values must be defined for the “**foot, tenth, inch and mile units**” in the “units.def file.”
- Caltrans seed files must be used. California State Plane Coordinates (using the appropriate zone) are to be a part of each DGN “plan view sheet.” Detail, Profile, Superelevation, Quantity and Title sheets can use the Caltrans non-geographic seed file (V8eseed.dgn).
- Must use the Level DGN Libraries supplied by Caltrans-HQ CADD for all standard leveling -conventions in Caltrans.
- If additional levels are necessary/warranted, they must adhere to the level naming structure set by Caltrans (see CADD Users Manual).
- Use all standard Caltrans MicroStation resource files. All necessary resource files (such as the line style and font resource files and the cell library) for PS&E submittals are located at:
www.dot.ca.gov/hq/oppd/cadd/rsc_files/webpage.htm
- Only Caltrans custom line styles can be used with PS&E submittals. The Caltrans line style resource file is Ctlstyle.rsc.
- Use only the standard fonts in the Caltrans Font resource file (CtFont.rsc).
- Must use the latest Caltrans borders sheets, profile grids and clip frames which are provided in the latest updated Caltrans MicroStation Cell Library (ctcellib.cel).
- Compliance with all prescribed Caltrans text sizes and drafting conventions.
- Compliance with Caltrans colors, line weights, line codes, file naming convention, standard abbreviations and symbols.
- Level Symbology is not a substitute for placing elements on the Caltrans standard for levels, color, style and weight. Do not use Level Symbology for PS&E submittals.
- Caltrans does not accept the “By-Level” feature for PS&E highway project submittals.

For additional information on submitting contract plans for PS&E submittal, see Section 4.1 of the CADD Users Manual.

All PS&E submittals (whether V7 or V8) must conform to Caltrans plotting standards. See below for some specific plotting requirements.

- The official Caltrans plotting application is “Interplot.”
- For each MicroStation design file submitted for PS&E (contract plan sheet), an Iplot parameters file (called an Iparm with an *.i extension) needs to be created and submitted with the MicroStation design file for the final PS&E submittal.
- Use only the standard Caltrans Interplot design script (pen table). Design Script “CT_FinalPSE.pen” is for PS&E submittals.
- Snap to outside corners of the border sheet (from lower left to upper right) when defining a plot region. Plot size should equal exactly 34 inches x 22 inches.
- All 63 levels in a V7 file and all used levels in a V8 file are to be turned on. Make sure only the information pertinent to that specific sheet is in the MicroStation design file. Too much information distracts from the real purpose of the sheet. But missing information may lead to inaccurate cost estimates and bids.
- Rotation: the plot view (not the design elements) with respect to the monitor needs to be at zero degrees.
- Only View 1 is needed for PS&E submittal. The border sheet is to be fitted in View 1.
- One important reason that Caltrans uses a leveling convention is to properly show existing information that is contained in the Master Topographic file. Solid (as well as dashed) lines on levels 2-9 and 11 will be plotted as dotted lines. See Appendix A9 in the CADD Users Manual for additional dropout levels. When existing information (other than existing utilities) is located on a non-dropout level, those elements are to be shown with a dashed line.
- It is recommended that the Iparms delivered with the PS&E submittal be created after the naming of all MicroStation design files so the Iparms will reflect the correct name for each MicroStation design file (thus avoiding a plotting failure.) See Section 2.2 of the CADD Users Manual for the appropriate Caltrans naming convention. Full-size test prints of the Contract Plans should be made prior to PS&E submittal for plot verification.
- Construction Class Elements should not plot for PS&E submittals. Interplot should be configured to comply with this standard.

For further information on Caltrans plotting requirements, see Section 5 of the CADD Users Manual.