900 Production of Plans

900.1 General

The requirements provided in the ***FDM 900 Series*** and the ***FDOT CADD Manual*** form the basis for format and assembly of the Contract Plans Set.

The ***FDM 900 Series*** reflects adopted practices, processes, and procedures for plans production and delivery using Bentley's OpenRoads Designer (ORD) Edition or Autodesk Civil3D.

The ***FDM 900 Series*** also provides instructions for when Building Information Model (BIM) files are provided. BIM files are required for:

- All related surfaces for earthwork operations and used to determine earthwork quantities.
- All related surfaces for automated machine guidance (AMG) milling and pavement operations are anticipated.
- When appropriate, other files where the Level of Development (LOD) is considered construction-ready (LOD 300 and higher).

The ***FDM 900 Series*** is divided into three sections:

(1) Plans Production – This section provides general plans production information and requirements for documents that are not delivered within a Contract Plans Set.

(2) Roadway Plans Set – This section provides specific information concerning the content of each required sheet delivered within the Roadway Plans Set.

(3) Component Plans Set – This section provides supplemental information concerning the content of Component Plans Sets.

Placing the consultant's business logo on any plan sheet contained in the Contract Plans Set is prohibited.

900.1.1 Exhibits

Many chapters contain "generic" exhibits that provide examples of the plan sheets covered by that chapter. These exhibits were developed using criteria and standards in force at the time of their creation. These exhibits are not to be used as a source for criteria unless specified as such within the ***FDM*** chapter.

900.1.2 Symbols and Abbreviations

Standard symbols for roadway design are shown in the CADD Symbol Cell Library.

Abbreviations may be used to save space. A list of standard abbreviations is contained in the ***Standard Plans***. Minor deviations from these standard abbreviations are allowed, provided that the abbreviation used is clear and easily understood.

900.1.3 Photography

Plan sheets may use photography (aerial or other) when appropriate (e.g., for Drainage Maps, supplemental site maps, bridge repair plans).

900.2 Labeling and Dimensioning Requirements

Orient horizontal and diagonal text to read left to right. Orient vertical text to read bottom to top.

Display information and data in accordance with the following:

- **Typical Section Elements** (e.g., lane widths, shoulder widths) - in feet, typically as a whole number.
- **Cross Slopes** (e.g., pavement, shoulder surfaces, sidewalks, bridge decks) - as a decimal part of a foot vertical per foot horizontal. These cross slopes are typically rounded to two decimal places (i.e., 0.02, 0.06) but may be shown to three decimal places when required.
- **Horizontal Control Points** (e.g., survey centerline, baseline, intersections, and alignment) - in feet to 2 decimal places.
- **Vertical Control Points** (e.g., PVC, PVI, PVT) - in feet to 2 decimal places.
- **Profile Grade Elevations** - in feet to 2 decimal places.
- **Profile Grade Slopes** - in percent to 3 decimal places.
- **Flow Line Elevations** - in feet to 2 decimal places.
- **Drainage Structure Elevations** (e.g., manhole tops, grate elevations) - in feet to 2 decimal places.
- **Ditch Elevations** - in feet to 1 decimal place (to nearest 0.05 when controlled by percent of grade).
- **Box or Three-sided Culvert Spans and Heights** - Show inside dimensions using “span by height” format (10 x 6 means the span is 10 feet and the height is 6 feet).

In feet as a whole number for new construction; in feet to 2 decimal places for extensions of existing box culverts.

- **Alignment Bearings, Degree of Curve and Delta Angles** - in degrees, minutes, and seconds, rounded to the nearest second.
- **Slope Ratios** - in vertical to horizontal (V:H) format; e.g., 1:6, 1:4.

900.3 Sheet Borders

Plan sheet borders are contained in the FDOT CADD Software. The standard FDOT plan sheet size is 11″x17″. All plan sheet PDF's must be to scale at 11″x17″.

Sheet borders include an information block and revision block.

900.3.1 Project Information Block

The information block is in the lower right corner of the border. Enter the following information into the information block:

(1) Sheet Number (far right corner) – Number plan sheets in sequential order as shown in the Index of Plans Sheets that is placed on the Key Sheet.

(2) Sheet Title (immediately left of the sheet number) – This should be the same title that is shown in the Index of Plans Sheets that is placed on the Key Sheet.

(3) Project Information (immediately left of the sheet title) - This should be the same information that is shown on the Key Sheet.

  (a) State Road Number – Place the prefix "SR" before the number for clarification. When a county road is shown in the block, use the prefix "CR". The block should remain blank when the facility is neither a state nor county road. If a project Key Sheet lists multiple state roads:

    i. Place all state road numbers in the block when there is adequate space (without reducing the required font size)

    ii. Place "Districtwide" when there are more roadways than available space allows

  (b) County

  (c) Financial Project ID - On projects which have multiple Financial Project IDs, show only the lead Financial Project ID

(4) Designer Information (immediately left of the project information) – provide information for the Professional of Record who signs and seals the sheet, as discussed in ***FDM 130***.

900.3.2 Revision Block

Revision blocks are located along the bottoms of the standard sheet borders.

The Key Sheet requires the placement of a revision block cell at the bottom center of the Key Sheet when a revision to that sheet is necessary.

See ***FDM 132*** for required information to be placed in the revision block.

900.4 Hyperlinks in Electronic Deliverables

For all electronic copies of Contract Plans and associated documents required by this manual, any web addresses (URLs) displayed in notes, legends, references, or lists must be provided as active, clickable hyperlinks in the delivered PDF and/or HTML files.

(1) The visible link text must match the referenced URL or the official title of the referenced resource (e.g., “FDOT Standard Plans”).

(2) Hyperlinks should open in the user’s default web browser and must not embed executable content.

(3) For printed copies, hyperlinks are not required to render as active links; legible plain text is sufficient.

(4) Hyperlinks should not alter the governing content; they are navigational aids only.

Exception: If a URL points to a restricted, temporary, or non-public system, provide the plain-text URL and an access note; do not embed an active link.

QA Requirement: Verify all hyperlinks resolve during the submittal QA step using the workflow in the ***CADD Manual***.