

Signing and Delineation Unit

Design Guidelines

(2SD1) 30% Submittal - Signing Concept – Required for Category I and II Projects

The 30% submittal shall consist of:

- A strip map, showing the preliminary signing concept, including existing signs, of all Type “A” and “B” ground mounted and overhead mounted sign messages and locations. The strip map should also include proposed pavement markings and delineation. If it makes the strip map easier to read, existing signs may be shown on a separate strip map.
- Obtaining a pavement marking recommendation letter.
- Making note of any right-of-way, utility, drainage, retaining/noise wall conflicts/needs.
- The S&DU approved 30% submittal will be distributed to the local Division Office and Regional Traffic Engineer for review and comment. For complex and/or urban projects, schedule a meeting with Division personnel and Regional Traffic Engineer.

(2SD1) 60% Submittal - Preliminary Plans – Required for Category I Projects

The 60% submittal shall consist of:

- An approved strip map of the signing concept as required above, including labeled and stationed pavement markings and delineation.
- Addressing all right-of-way, utility, drainage, retaining/noise wall conflicts or providing a plan of action for addressing these conflicts.
- One (1) half size hard copy and pdf of:
 - Proposed signing plan, including notes, sign and support designs, list of guardrail/barrier locations, and list of proposed overhead sign locations with coordinate information for requesting structure inventory numbers.
 - Proposed pavement marking plan, including notes, pavement marking stations, labels and proposed curb ramp locations.
 - Comments by S&DU and Division from the 30% review should be addressed.

(3SD1) 90/100% Submittal – Unsealed Final Plans – Required for Category I, II, and III Projects

The 90/100% submittal shall consist of:

- Performing a three-way check.
- An unsealed electronic submittal of final plans and sign designs (in both DGN and PDF format);
 - Assigned Structure Inventory Numbers shall be on sign structure line drawings.
 - An electronic copy of the sign designs shall be submitted with one design per PDF page (if required).
- Electronic submittal of final quantity estimates for signing and pavement marking items, including an uploadable file for pay items in the appropriate format. This should include supporting documentation (**Final quantities, including force account items, shall be uploaded using Pay Items & Quantities (PIQ) for PEFs, and AWP for NCDOT staff**)
- Approved sign and support designs (if revisions were made); and,
- Project Special Provisions
- Once reviewed and approved the S&DU, electronically sealed PDFs, using Docusign (or other e-signatures tool acceptable to the NC Board of Examiners for Engineers and Surveyors) should be submitted
- Department staff completing and submitting a Private Engineering Firm (PEF) evaluation.

Note: For all submittals, documents should be uploaded to the project’s Sharepoint site. Documents should include the following: final full set of sealed documents, DGN files, individual sign panel designs, and design support excel spreadsheet. **Notify the Signing Project Engineer and PMU Project Manager once these documents have been uploaded.**

Signing & Pavement Marking Milestones

Scoping (30%): Signing & PM M0527 (SD_30)

Midpoint (60%): Signing & PM M0526 (SD_60)

Final Turn-in (90/100%): Signing & PM M0525 (SD_90)

Category I – Significant Projects (Limited Oversight)

These projects will include 3 submittals. A 30% (Scoping), 60% and 90/100%.

These projects will include interstate and some urban and rural jobs.

Category II – Significant Projects (Limited Oversight)

These projects will include 2 submittals. A 30% (Scoping) and 90/100%.

These projects may include urban and rural jobs.

Category III – Non-Significant Projects (Limited Oversight)

These projects will include 1 submittal. A 90/100%.

These projects may include most bridge projects and rural projects.

More complex bridge and rural projects may be categorized as I or II.

	Category			
		I	II	III
30%	Scheduled field inspection minus 120 days	M0527	M0527	
60%	Scheduled design completion date minus 210 days	M0526		
90/100%	Scheduled design completion date	M0525	M0525	M0525

PDF Naming Conventions

Your unit already has a naming convention for its CADD files. When you create PDF files from the CADD files, you will add a new required prefix to the name to assure that it appears in the correct order in the Let plans and that spaces are left for potential future sheet additions.

The new required prefix will take the following form (shown in **blue** below). These files will be placed in the Final Plans structure following the new naming convention. After the initial prefix, you may use your normal unit conventions for the remainder of the name.

The new required prefix consists of two parts:

- **3 digit folder #:** This is the number of the folder where the files will go in the Final Plans structure, for example “210” for Pavement Marking Plans or “250” for Signing Plans.
- **3 digit sequence #:** This is a sequence number assigned to keep the pages in the correct order. Space should be left in the sequence in case plan sheets may need to be added by a future construction revision. Examples: 001, 010, 020, 030.

Model format:

3digitFolder#_3digitSequence#_TIP#_Unit_ Submittal Type_Sheet Name_Date.pdf

(Date will be the Letting Date in YYMMDD format unless it is a construction revision).

Example: **250_020_B4475_Sgn_Let_Sgn01_141118**

Each unit will be placing plan sheets in their individual folders but note that plan sheets from multiple folders will be assembled into larger files. Following the above conventions, in which the 3 digit folder number under Final Plans is used as well as a sequence number, will ensure that even removed from the folder structure, the files will be ordered correctly.

Why can't we just use the numbering scheme we used before? We have discovered that the ordering in Windows (that you see when you navigate to the files in Project Store) is not always the same order that Adobe uses when a portfolio of PDFs is being built or printed. This new convention will assure that the files are always in the correct order.

PDF Formatting Guidelines

- Remove any content that should not be included in final output
 - Ex. Roadway is required to remove Rock line
- Include image of professional seal, if document is to be sealed
- Use landscape layout (rotation 0 degrees)
- Ensure PDFs are text searchable where possible
- Create PDFs directly from CADD rather than printing and scanning back in
- One plan page per PDF unless multiple sheets will always be modified together (plan PDF should be smallest revisable unit)
- Format the design at full size (22"x34" size)*
 - * Except for Interchange plans and plans normally provided in 11"x17" size only (e.g. Geotech subsurface plans, cross-sections when > 30 sheets)
- Ensure PDFs are printable at the appropriate scale
- Ensure sheets print correctly if printed on either 22"x34" or 11"x17" size paper (8 ½" X11" for sign designs)