

Guidance for Establishing Existing or Proposed Horizontal Alignments during Design-Level Survey Stage (1SY1)

As of 04/30/2025, TDOT Geodetics will no longer be establishing survey preliminary centerlines to predict Roadway Design's horizontal alignments in the **SUR-Alignment.dgn** file. The following are the two options for establishing horizontal alignments during stage **1SY1**:

- **Option #1:** Early coordination between TDOT Geodetics and Roadway Design where Roadway Design establishes the Proposed Horizontal Alignments during stage **1SY1**.
 - Early coordination between the project's Geodetics Lead/Regional Geodetics Manager and the projects Roadway Design Lead/Regional Roadway Design Manager will occur ahead of the survey field or office work beginning on the project to decide that Roadway Design will be establishing the Proposed Horizontal Alignments during stage **1SY1**. These tasks will be added to the project schedule.
 - The project's Geodetics Lead will provide the initial versions of the **SUR-Model.dgn** and **SUR-Terrain.dgn** files, at a minimum, to Roadway Design once roadway features and DTM data have been collected, processed, and internally reviewed by Geodetics. The **SUR-Model.dgn** file does not need to be fully annotated in this initial version.
 - With the initial versions of the **SUR-Model.dgn** and the **SUR-Terrain.dgn** files referenced, Roadway Design will establish all the proposed horizontal alignments using the appropriate **Prop HA** feature definitions in the **DES-Alignments.dgn** file. If the project is large and/or complex and the Roadway Design Lead feels it is warranted, then separate alignment files may be used for each roadway, per Section 3.4 (Step 2: Create Proposed Alignments) in the [TDOT Requirements for Model-Centric Design](#) document. Roadway Design will also need to create and annotate the respective **DES-Alignments-Text.dgn** file. Both the **DES-Alignments.dgn** and the **DES-Alignments-Text.dgn** files, at a minimum, will be shared by the project's Roadway Design Lead with the project's Geodetics Lead.
 - Geodetics will then reference the **DES-Alignments.dgn** and the **DES-Alignments-Text.dgn** files, at a minimum, into the **SUR-Alignment.dgn** file and annotate all station and offset flags, referencing the appropriate proposed horizontal alignment from the respective **DES-Alignments.dgn** file. The station and offset flags should be intelligent labels. If the **SUR-Alignment.dgn** file contains survey existing centerlines, created by Geodetics for property and existing right-of-way needs, it is recommended

- to turn these levels off during the creation of the station and offset flags that reference the proposed horizontal alignments.
- If the proposed horizontal alignments in the respective **DES-Alignments.dgn** files need to be revised, Roadway Design should not delete any proposed horizontal alignments but only modify the required proposed horizontal alignments to keep the association integrity of the intelligent station and offset flags. After placement, any lost integrity association on the intelligent labels cannot currently be healed/repared within ORD. The intelligent labels must currently be replaced within ORD.
 - **Option #2:** TDOT Geodetics establishes only the Survey Existing Centerlines in the **SUR-Alignment.dgn** file.
 - Store the survey existing centerlines in the **SUR-Alignment.dgn** file.
 - Use the **Survey Existing Centerline** feature definition when establishing survey existing centerlines from prior plan documentation or other documentation sources.
 - All station and offset flags will reference the appropriate survey existing centerline, if early coordination does not occur with Roadway Design and a **DES-Alignments.dgn** file is not provided by Roadway Design ahead of the transition to the Develop Functional Design Plans stage (**2RD1**). The station and offset flags should be intelligent labels.
 - Once a **DES-Alignments.dgn** file is created by Roadway Design with the proposed horizontal alignments, the files will be shared with the project's Geodetics Lead. The Geodetics Lead will then use the **DES-Alignments.dgn** file as a reference in the **SUR-Alignment.dgn** file to correct all station and offset flags. The station and offset flags should be intelligent labels. The revised **SUR-Alignment.dgn** file will be reviewed and submitted again to Roadway Design.
 - However, all station and offset flags will reference the appropriate proposed horizontal alignment from the **DES-Alignments.dgn** file, if early coordination does occur with Roadway Design and a **DES-Alignments.dgn** file is provided by Roadway Design ahead of the transition to the Develop Functional Design Plans stage (**2RD1**). The station and offset flags should be intelligent labels. There still may be cases where Geodetics needs to establish survey existing centerlines in the **SUR-Alignment.dgn** file for property and existing right-of-way needs.

Depending on the two options above, please note which option is used on a given project in the **Survey Deliverable Checklists** (by the project's Geodetics Lead) and in the **Project Notebook** (by the project's Roadway Design Lead). This will document the specific project's approach for reviewers.

Where scoped on specific projects, bridge sketches, flood plain sections, stream profiles, and railroad profiles are required in the **SUR-Alignment.dgn** file during stage **1SY1**.

In all .dgn file exchanges, please remember that ORD versioning is very important and must always be taken into consideration. The ORD software version should be documented for all Geodetics and Roadway Design .dgn files in the **Comments** section of the **Survey Deliverable Checklists** (by the project's Geodetics Lead) and in the **Project Notebook** (by the project's Roadway Design Lead), respectively.

Please note references to Geodetics and Roadway Design in this guidance is also extended similarly to Geodetics Consultants and Roadway Design Consultants, external to TDOT.