Civil 3D User Interface

Overview

This lesson describes the user interface in AutoCAD® Civil 3D® software and explains how you manage the user interface to maximize your productivity.

Civil 3D is a complex design and drafting environment. Users work with many interface components to accomplish design and drafting tasks. When used properly, the final drafting and production of engineering and construction drawings is a by-product of the design process.

Objectives

After completing this lesson, you will be able to:

- Navigate through the AutoCAD Civil 3D software.
- Use the user interface to open files and display static and contextual ribbons.
- Examine the two main components of Toolspace: the Prospector and Settings tabs.
- Describe the function of Toolspace in drawing creation and management.
- Use the Panorama window, Properties Palette, and Tool Palette
- Explore existing workspaces and create a custom workspace.
- Create reports using the Toolbox tab of Toolspace.

Exercises

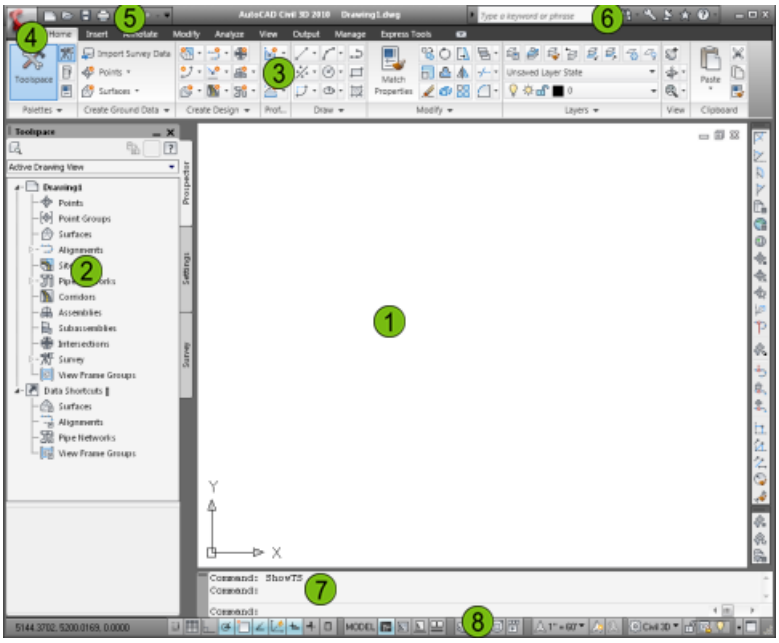
The following exercises are provided in a step-by-step format in this lesson:

1. Explore the Civil 3D User Interface
2. Explore Toolspace
3. The Panorama Window, Properties and Tool Palettes
4. Work with Workspaces
5. Create Reports

The Interface

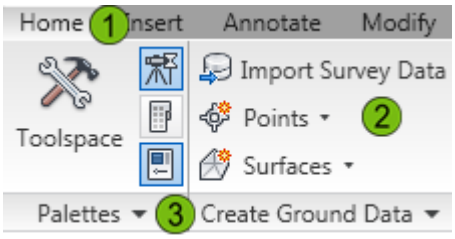
The standard interface is shown in the graphic below. Notice the following elements:

1. The Graphic Window or Drawing Area: This is the main window where the user inputs, modifies, and views visual data.
2. Toolspace: Toolspace is an integral component in the user interface for accessing commands, styles, and data. Use it to access the Prospector, Settings, Survey, and Toolbox tabs. Right-click each collection or item on these tabs to access commands.
3. Ribbon: The ribbon provides access for AutoCAD Civil 3D commands. Displayed at the top of the drawing window, the ribbon provides one location for commands, in an organization that provides the most-frequently used commands in the most accessible places.
4. Application Menu: Provides drawing-related commands, such as New, Open, Save, and Export to AutoCAD.
5. Quick Access Toolbar: The Quick Access toolbar displays frequently used tools. You can add ribbon buttons to the Quick Access toolbar
6. InfoCenter: The InfoCenter enables you to search for key words, enter a question for help, display the Communication Center panel for product updates and announcements, and display the Favorites panel to access saved topics. It also displays links to Help topics, RSS feeds, and product updates and announcements.
7. Command window: Also known as the command line or the text window, the command window enables user input using the keyboard for commands or numerical values. It also queries the user for information when required and reports data about the drawing.
8. Status bar: The status bar displays status information and includes some controls for changing the view.



About Ribbons

In AutoCAD Civil 3D, the ribbon is the primary user interface for accessing commands and features. While the traditional menus are still available, all commands for both AutoCAD and Civil 3D are available on the ribbon. The ribbon is a palette that displays task-based commands and controls. It is automatically displayed when you create or open a drawing file. The ribbon consists of tabs, panels, and commands. The tabs contain panels, and the panels contain commands.



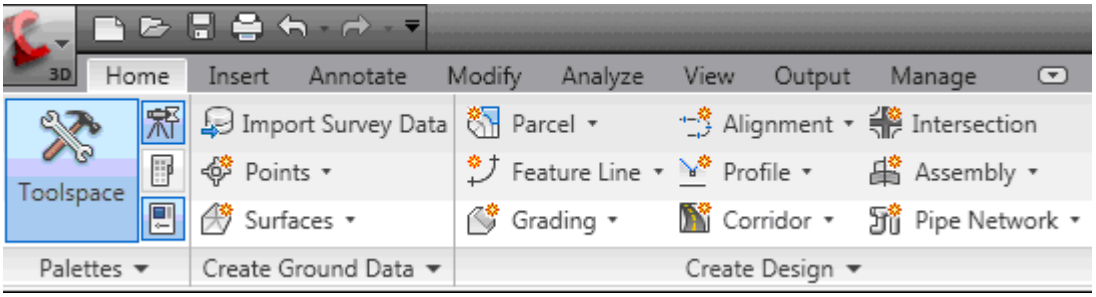
1. Tabs
2. Commands
3. Panel

Ribbon Types

Ribbons are classified as either static or contextual ribbons. Static ribbons are always displayed, and contain the tabs, panels, and commands that you use most often. In Civil 3D, the static ribbon displays the Home, Insert, Annotate, Modify, Analyze, View, Output, and Manage tabs. A contextual ribbon tab is displayed when you select an object in the drawing area or execute certain commands. It identifies the object, and shows panels and commands that can be used to work with the selected object. Contextual ribbons filter and display only the applicable commands, thereby making it easier to work with your data.

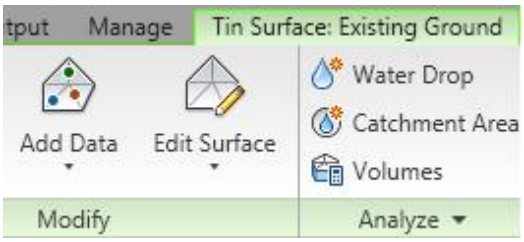
Static Ribbon

Civil 3D uses the Home, Insert Annotate, Modify, Analyze, View, Output, and Manage tabs. When you select a tab, the ribbon displays the panels associated with that tab. For example, the Home tab contains panels named Palettes, Create Ground Data, Create Design, Profile & Section Views, Draw, Modify, Layers, Clipboard, and View. The panels and their commands directly relate to the name of the tab.



Contextual Ribbons

A contextual ribbon appears as a tab when an object is selected in the drawing area. For example, when a surface model is selected in the drawing area, the contextual ribbon displays the name of the surface, as well as the commands associated with surfaces.



About Toolspace

Toolspace is one of the primary interface components in Civil 3D. It provides an object-oriented view of the engineering data in your drawing and lists the object and label styles used to display the data. Toolspace is also used to display survey data and create external reports on your engineering data.

Toolspace is the primary tool that you use to control and display civil engineering data. With Toolspace, you can manage drawing and project data, create and manage settings and styles, manage survey data, and create reports.

Toolspace presents a large amount of data about the drawing, project, object styles, label styles, and drawing settings. The Toolspace palette can:

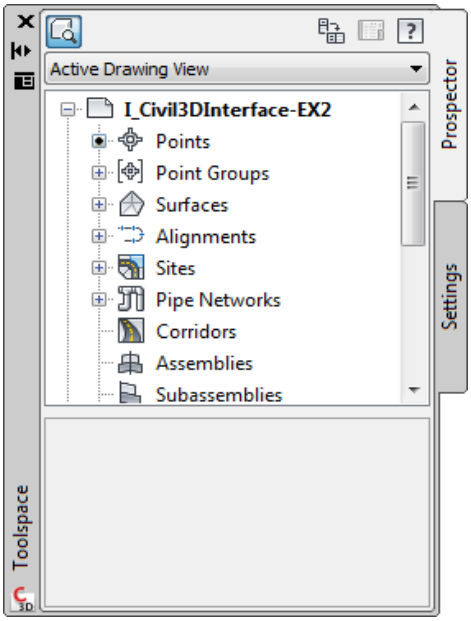
- Float or dock.
- Become semitransparent.
- Automatically hide itself.
- Be located on a second monitor.

Toolspace Components

There are two main components to Toolspace: the Prospector and Settings tabs. When you work with the Survey functionality, Toolspace displays a Survey tab. When you create reports, Toolspace displays a Toolbox tab.

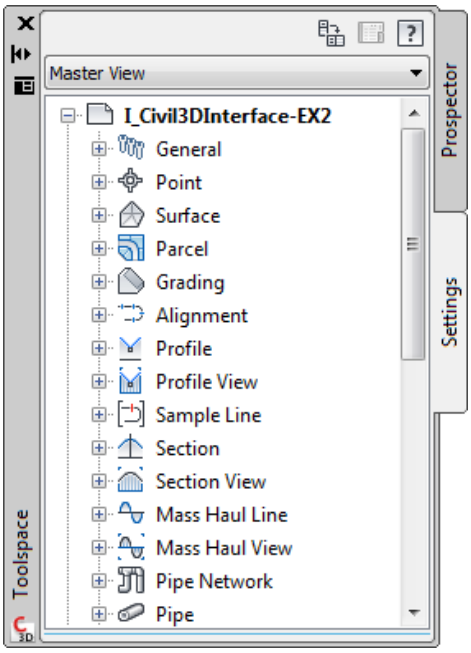
Prospector Tab

The Prospector tab displays information about all of the Civil 3D objects in a drawing. Select this tab to manage drawing and project data. You work with point, point group, surface, alignment, profile, section, grading, parcel, and sheet layout data. In the bottom pane is the item view area. This pane shows additional information about the selected item. In this illustration, the item view displays a list of the surfaces in the drawing.



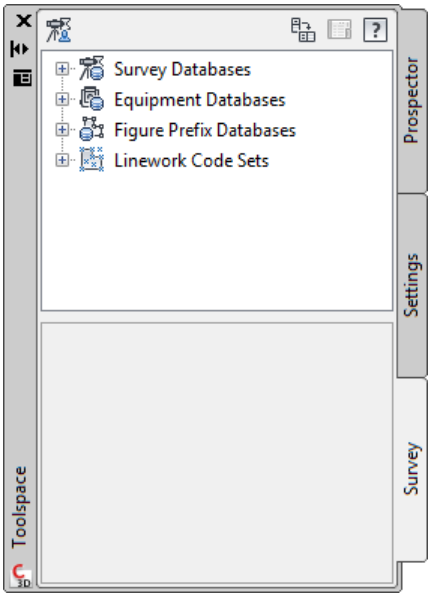
Settings Tab

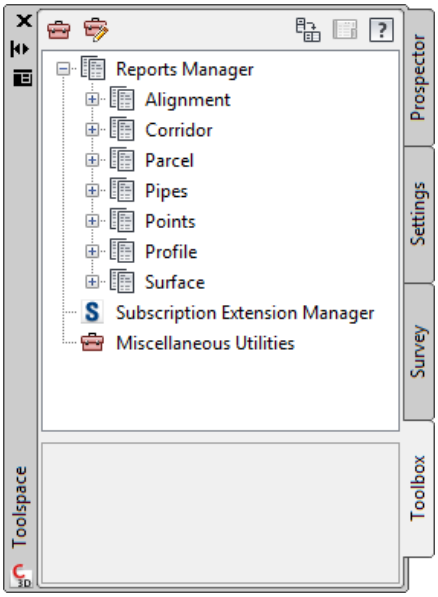
The Settings tab is where you manage object styles, label styles, and drawing settings for Civil 3D. Select this tab to configure drawings and drawing templates. You can specify drawing setup parameters such as units, scale, and coordinate zone. You can also set up object styles and object label styles.



Survey and Toolbox Tabs

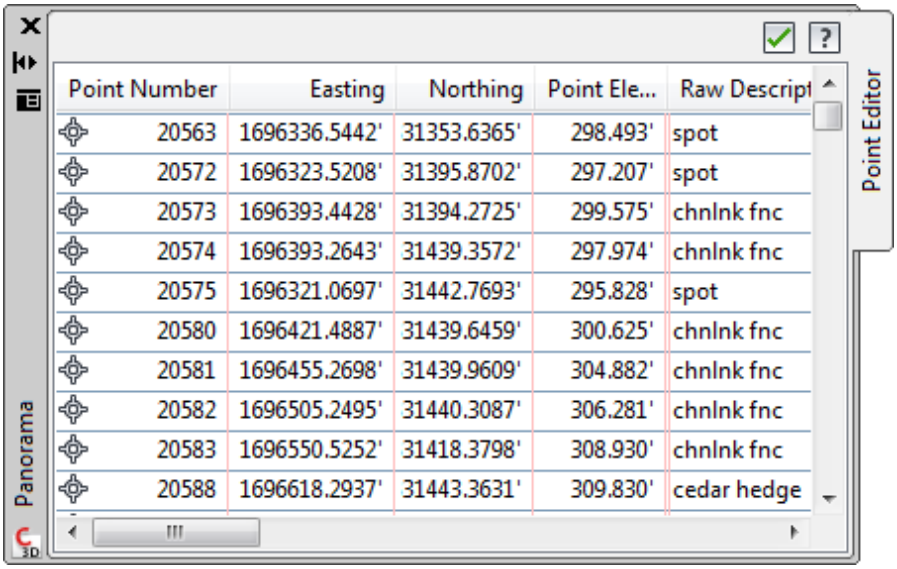
The Survey and Toolbox tabs are optional tabs for Toolspace. When you open the Survey Toolspace, this tab is added and used to manage survey observation data. You create survey databases, create survey networks, import survey data, and edit survey observations. You also create the survey network, points, and figures. When you open the toolbox, this tab is added to create external reports on Civil 3D objects in a drawing.



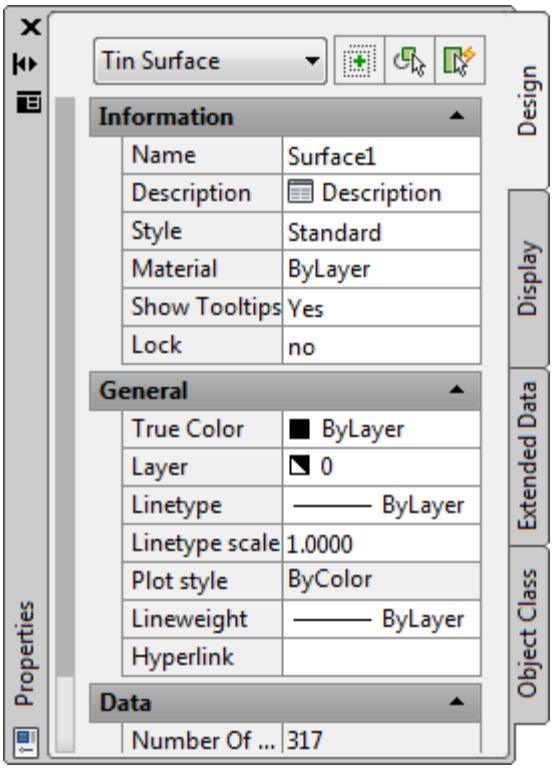


The Panorama Window, Properties, and Tool Palettes

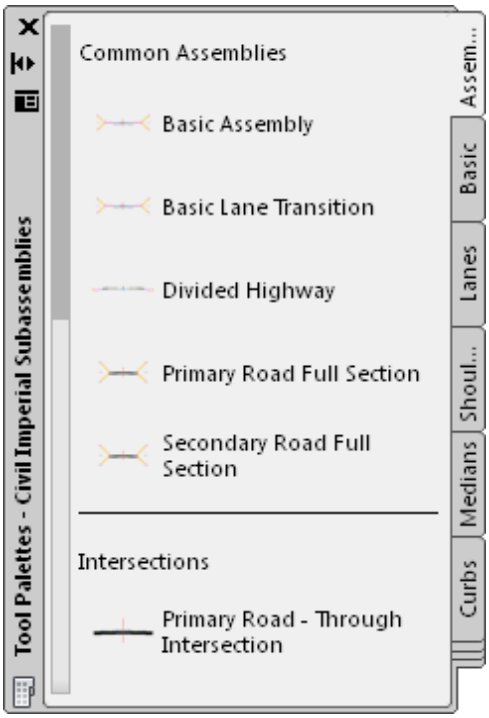
The Panorama window can display many types of data, such as the Point Editor vista and the Alignment Entities vista. The Panorama window is especially useful for horizontally-oriented data, such as point data.



The Properties palette displays the current properties for any selected object(s) in your drawing. You can modify these properties directly in the palette.



The Tool Palettes provide an efficient method for organizing, sharing, and placing many types of commonly used design objects. You can customize your own object or even gather commonly used objects into a new tab for frequent use.

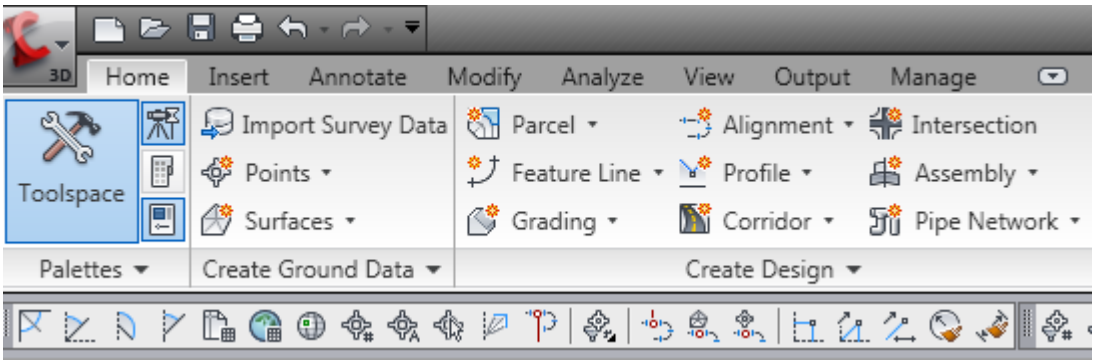


About Workspaces

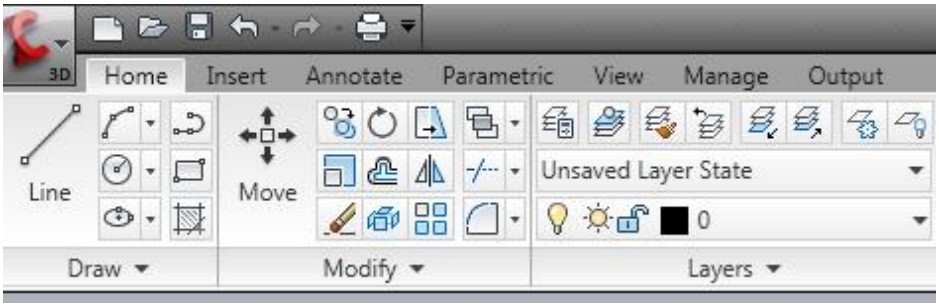
Civil 3D has several predefined workspaces. You can use these workspaces as they are, or copy and modify them. The workspace is the configuration of the user interface. Workspaces are sets of ribbons, menus, toolbars, and their positions, which are grouped and organized so that you can work in a custom, task-oriented drawing environment. When you use a workspace, only the ribbons, menus, toolbars, and secondary windows specified in that workspace are shown. You can modify workspaces to add or remove toolbars, menus, and ribbon tabs and panels. You make these modifications in the Customize User Interface dialog box.

The following workspaces are included in Civil 3D:

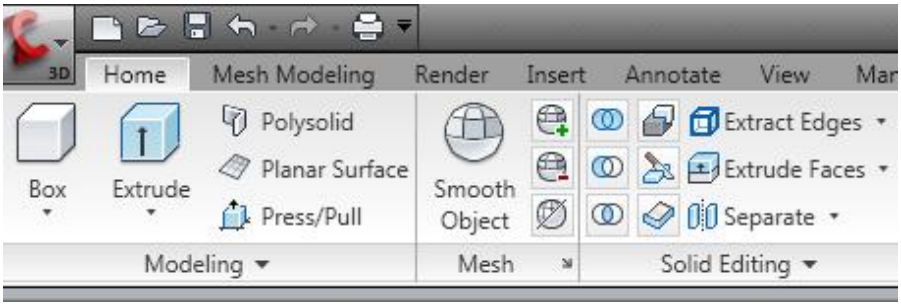
Civil 3D: This workspace displays the ribbon tabs, panels, and other interface components that show all Civil 3D related commands. You use the Civil 3D workspace to create site and transportation designs.



2D Drafting and Annotation: This workspace displays the ribbons tabs, panels, and other interface components required for two-dimensional drafting and annotation tasks. You use this workspace to produce engineering and construction drawings.



3D Modeling: This workspace displays the ribbon tabs, panels, and other interface components required for three-dimensional modeling. You use this workspace to create 3D rendered models and animations that show your proposed design.



Workspace Switching

You can switch to a different workspace at any time by using the Workspace Switching command. This command is displayed on the status bar at the bottom of the graphic screen.

Key Terms

Ribbon	The ribbon is the primary user interface for accessing commands and features. While the traditional menus are still available, all commands for both AutoCAD and Civil 3D are available on the ribbon. The ribbon is a palette that displays task-based commands and controls. Contextual ribbons appear when an object is selected and common commands used for that object are displayed.
Toolspace	Toolspace is the primary tool that you use to control and display civil engineering data. With Toolspace, you can manage drawing and project data, create and manage settings and styles, manage survey data, and create reports. Toolspace contains Prospector and Settings tabs as well as the optional Survey and Toolbox tabs.
Application Menu	The Application Menu provides drawing-related commands, such as New, Open, Save, and Export to AutoCAD.
Quick Access Toolbar	The Quick Access toolbar displays frequently used tools.
InfoCenter	The InfoCenter enables you to search for key words, enter a question for help, display the Communication Center panel for product updates and announcements, and display the Favorites panel to access saved topics. It also displays links to Help topics, RSS feeds, and product updates and announcements.
Command window	Also known as the command line or the text window, the command window enables user input using the keyboard for commands or numerical values. It also queries the user for information when required and reports data about the drawing.
Status bar	The status bar displays status information and includes some controls for changing the view.
Panorama window	The Panorama window can display many types of data, such as the Point Editor vista and the Alignment Entities vista.
Properties palette	The Properties palette displays the current properties for any selected object(s) in your drawing. You can modify these properties directly in the palette.
Tool palette	The Tool Palettes provide an efficient method for organizing, sharing, and placing many types of commonly used design objects. You can customize your own object or even gather commonly used objects into a new tab for frequent use.

Workspace	A workspace is a set of ribbons, menus, toolbars, and their positions, which are grouped and organized so that you can work in a custom, task-oriented drawing environment. The workspace is the configuration of the user interface.

Assessment

Challenge Exercise

Instructors provide a challenge exercise for students to do based on this lesson.

Questions

1. Name the four tabs of Toolspace. Which are always present and which must be activated to use?
2. Where would you modify a point label style?
3. What types of commands are present in the Application Menu?
4. What is a contextual ribbon?
5. Creating a report about a parcel is best performed using which interface object?
6. Panorama windows and the Properties palette can both display and permit edits to data. Is this correct?
7. What are the three major workspaces in AutoCAD Civil 3D?

Answers

1. The four tabs of Toolspace are Prospector, Settings, Survey, and Toolbox. The first two are always present and the last two need activation to be used.
2. The Settings tab of Toolspace holds settings of all types, including label styles.
3. The Application Menu provides drawing-related commands, such as New, Open, Save, and Export to AutoCAD.
4. A contextual ribbon appears as a tab when an object is selected in the drawing area. Applicable commands for the selected object appear on the ribbon.
5. Reports are created using the Toolbox tab of Toolspace.
6. Yes, both Panorama windows and the Properties palette permit display and editing of object data.
7. The major workspaces include Civil 3D, 2D Drafting & Annotation, and 3D Modeling.

Lesson Summary

This lesson focused on describing the basic aspects of the user interface of AutoCAD Civil 3D. In the exercises, students learn how to navigate, use Toolspace, work with workspaces, and create reports.