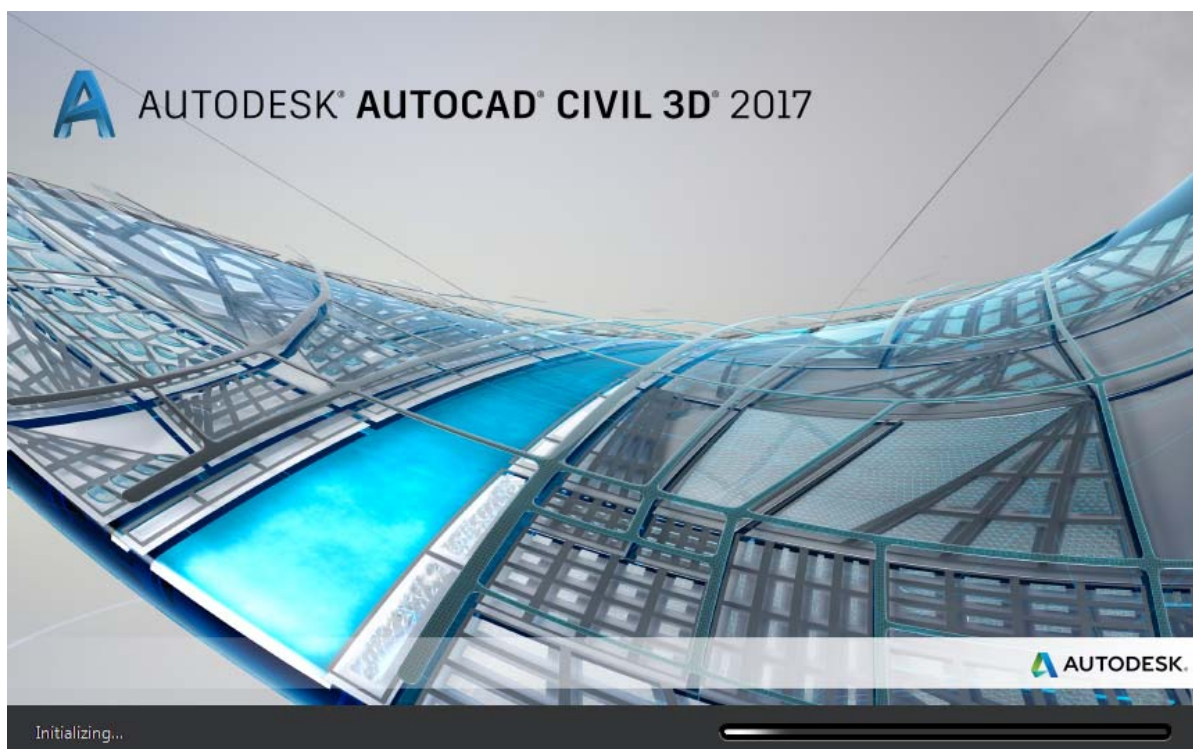# AutoCAD Civil 3D 2017

1 Introduction

AutoCAD Civil 3D is one of the most important applications for civil and highway engineers. This software is developed by Autodesk company. It overcomes many shortcomings existed in AutoCAD land desktop software. It works within AutoCAD environment which means that it uses many capabilities provided in the latter software to accomplish many tasks. It has many tools and specialized modulus to design highways, roundabouts and intersections. It also capable to conduct the hydraulic design for both open channels and pressure pipes. The output presentation of the results and drawing is so sophisticated.

2 Navigating AutoCAD Civil 3D 2017 Software

Menu   Drawing area   Ribbons

Toolspace   Command line   Properties
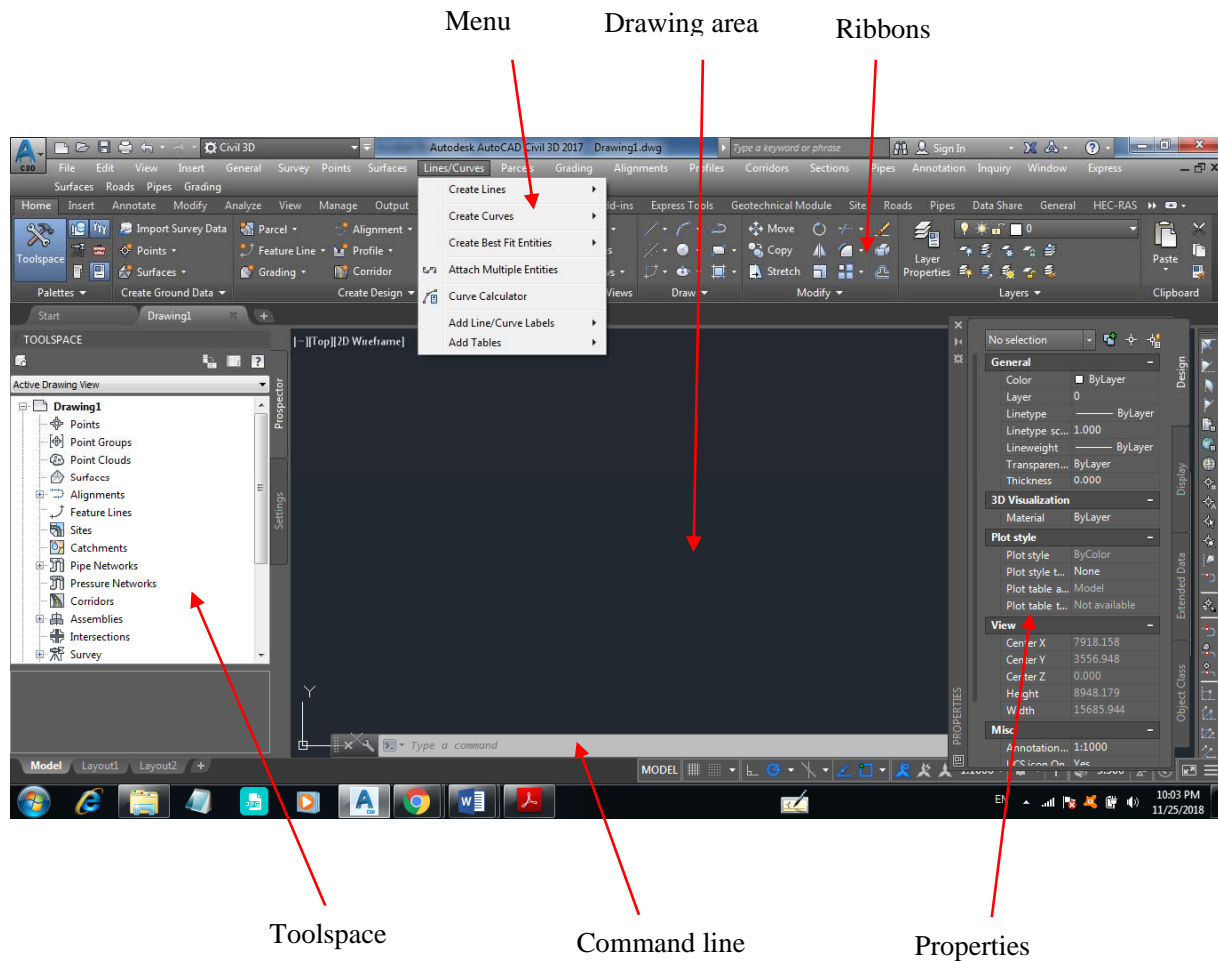
1. **Ribbons:** The place where most Civil 3D commands are launched.

Tabs

Panel
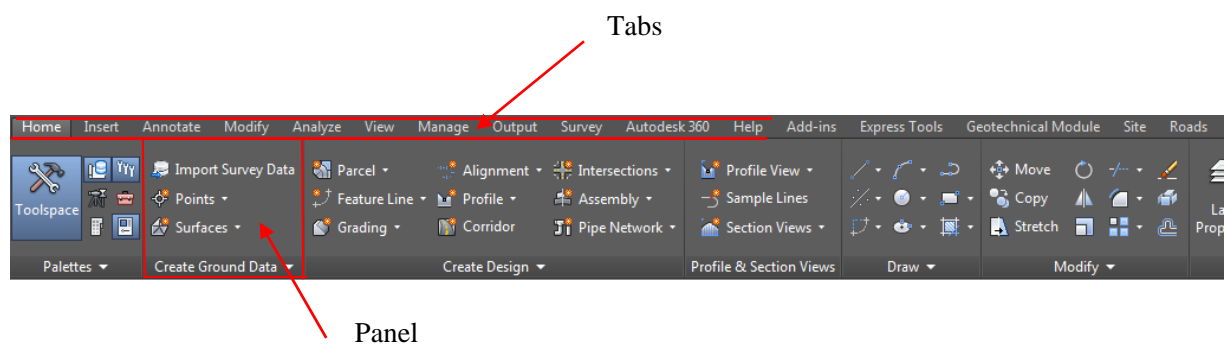
Note: One of the best features of the ribbon is its ability to respond to what you select in the drawing area. For example, if you click a Civil 3D alignment, the ribbon changes and serves up alignment-related commands on a special tab. The same is true for surfaces, parcels, and so on. These special tabs are referred to as *contextual* ribbon tabs.

2. **Toolspace:** The Civil 3D "command center" where all of the data and settings are laid out in a nice, orderly arrangement. It has several main functions that are represented by the different tabs it can contain. Altogether, the Toolspace can house four tabs: **Prospector**, **Settings**, **Survey**, and **Toolbox**.
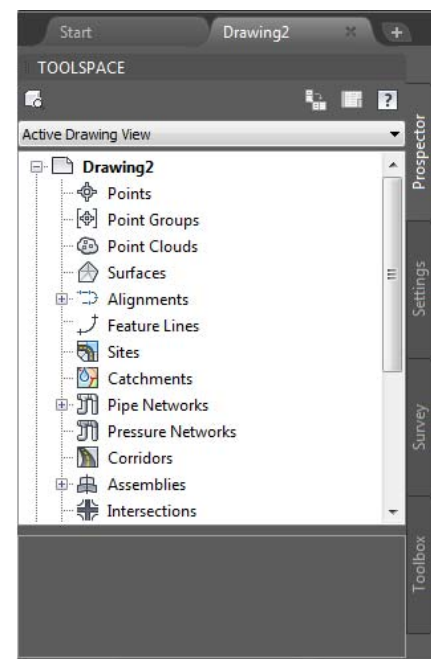
Prospector arranges your design categorically rather than spatially. In other words, in your drawing area, you see road centerlines crossing through parcels, which cross through contours, which cross through survey points. Everything is in the right place spatially, but from an organizational standpoint, it's kind of a mess. Prospector sorts out this mess and puts all the points in one place, all the parcels in one place, and so on. Prospector also knows exactly where those objects are in the drawing. You can right-click an object in Prospector and use the Select command or Zoom To command to locate that object within the drawing.

It's important to point out that Prospector isn't just a place for viewing your design; it's also a place where you can change the appearance of your design, create new components for your

design, edit your design, and so on. These types of functions are accessed through contextual menus such as the one used in step 5 of the previous exercise. A good rule of thumb when using Prospector is, "When in doubt, right-click it."

3. Drawing Area: The place where the drawing is created. The drawing area is also where you can actually see and "touch" the design model you are creating. The design model is most often viewed from above, referred to as *plan view*, but it can be viewed from any perspective. For example, because Civil 3D specializes in representing designs as 3D models, you may want to display your model using 3D view. Figure below shows a model in both plan and 3D views.
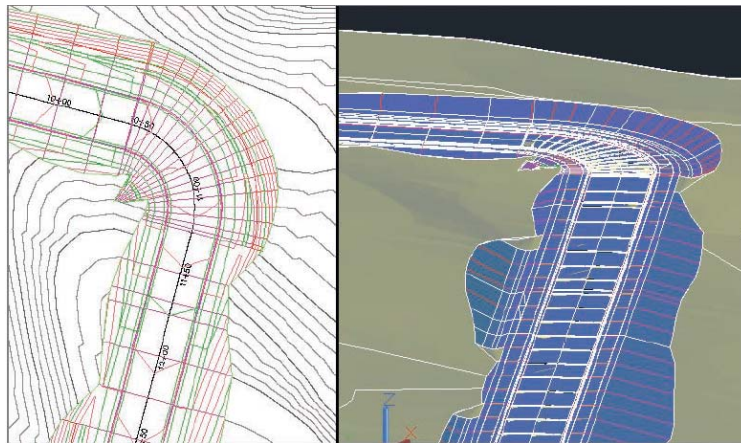

4. Command Line: The chat window where you and Civil 3D talk to one another. Nearly everything you do is reported on the command line along with Civil 3D's response to it. A response can be a request for more information, reporting of a result, or notification of a problem. It's good to get into the habit of always watching the command line, because it often tells you what to do next. You can also launch commands from the command line, but you will likely find it much easier to use the visual interface provided by the ribbon and other tools.
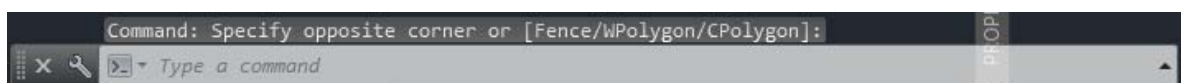
2.1 Objects and styles

A Civil 3D *object* is an intelligent piece of your design model that stores information about itself and has the ability to interact with other objects in the drawing. A Civil 3D *style* is a collection of settings that control the appearance and behavior of a Civil 3D object. The most commonly used objects are:

Surface A 3D model typically used to represent the shape of the ground, either existing or proposed
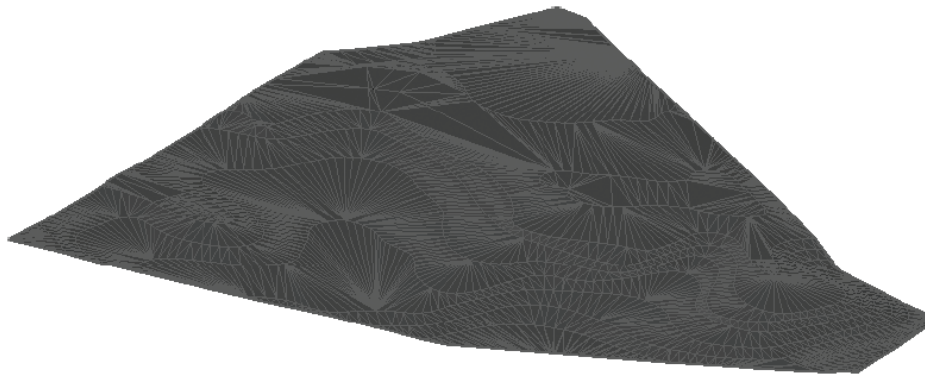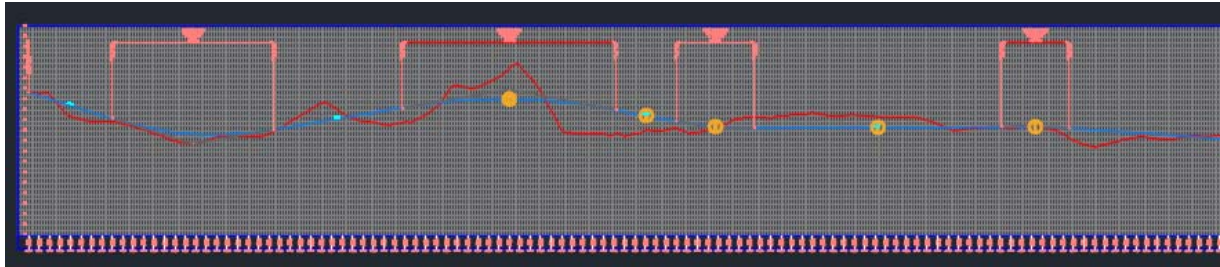

Alignment A series of 2D lines, arcs, and spirals typically used to represent a linear feature such as a road centerline
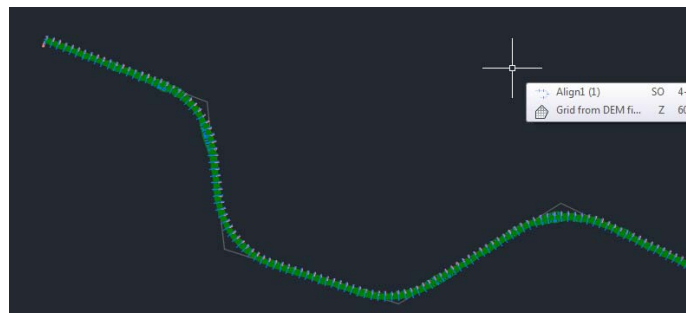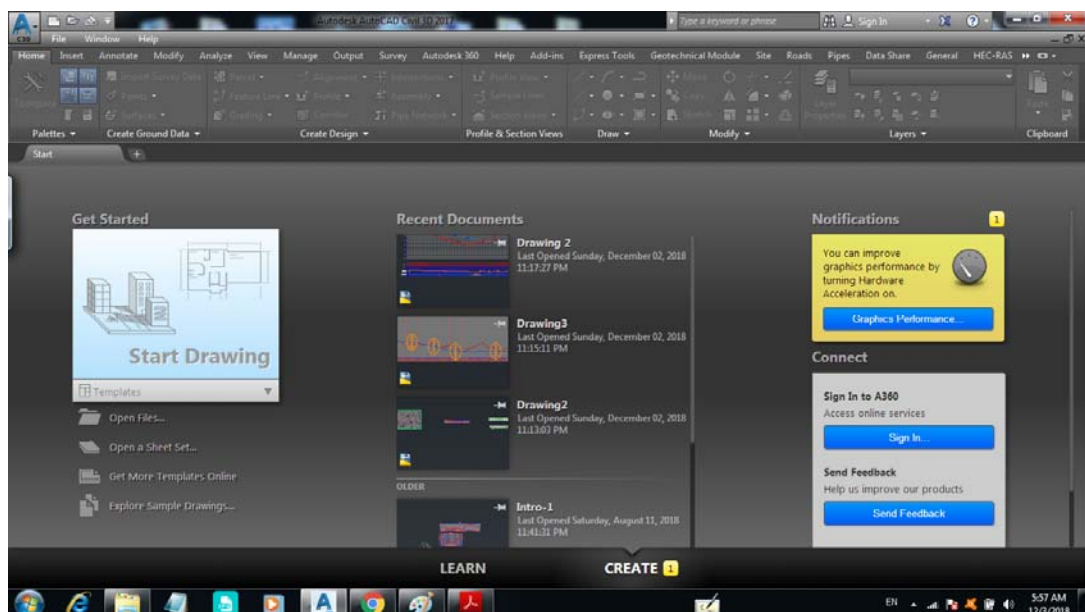
Profile A series of lines and curves that represent changes in elevation along an alignment


2.2 How to create a new project?

1. Click on AutoCAD Civil 3D 2017 icon on the desktop as shown below and then select start drawing. From this window you are able also to open a previous project which was worked recently.

2. If you the software was open and you want to open a new project, from file menu choose new then select AutoCAD Civil 3D (Metric) NCS as shown in figure below. Then press open

   File------------new--------------AutoCAD Civil3D (Metric) NCS-----------open
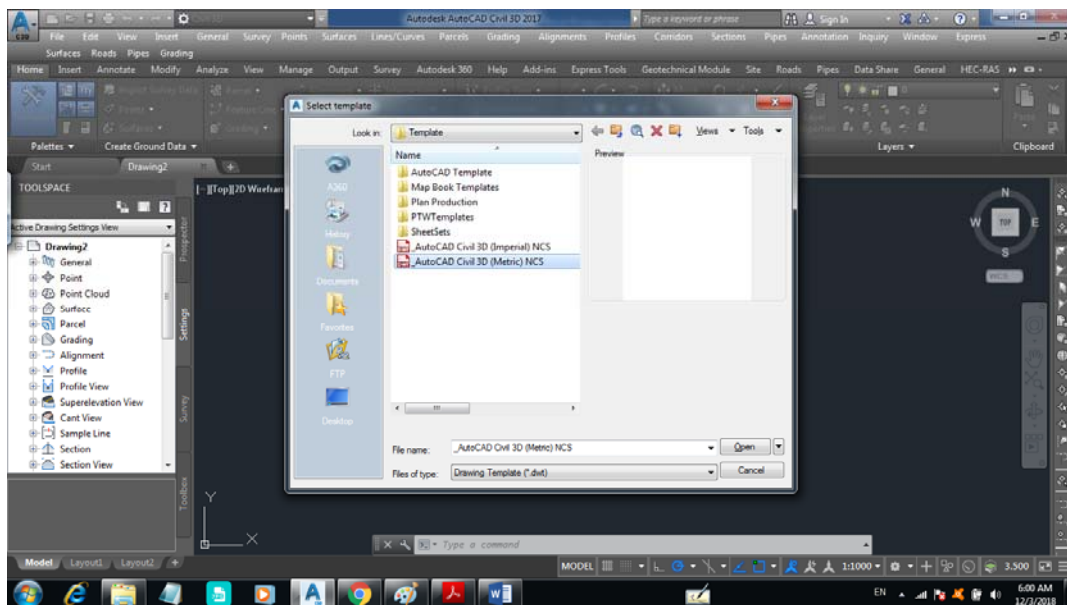
2.3 How to save a new project?

From file menu, choose save as and then select the location (or path) in which you want to save your project

File--------Save as-----------specify the path or location in which you want to save your project

2.4 How to open a previous file project?

Simply click on the file menu, then choose open. You will be asked to choose the location of you file.

File---------Open--------location or path in which you save your project
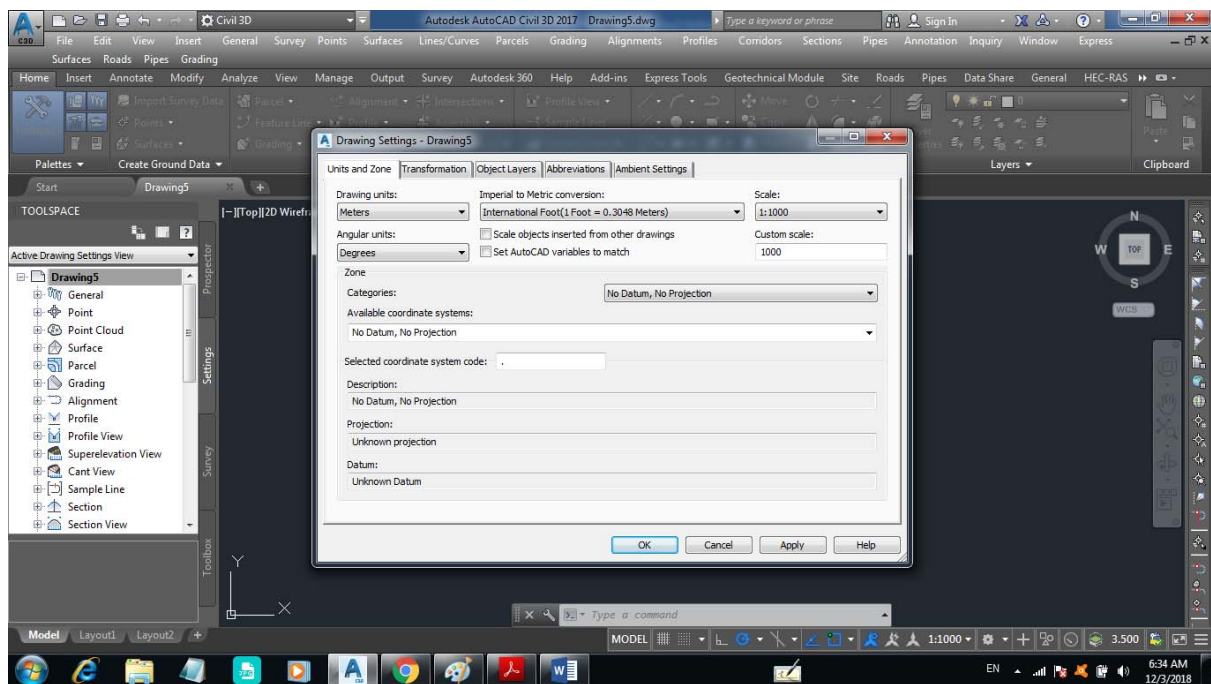
2.5 How to setup you file

First, make sure that the toolspace option is activated. Then, right click on drawing name and select Edit drawing settings

Activate toolspace------right click on the name of drawing------edit drawing setting
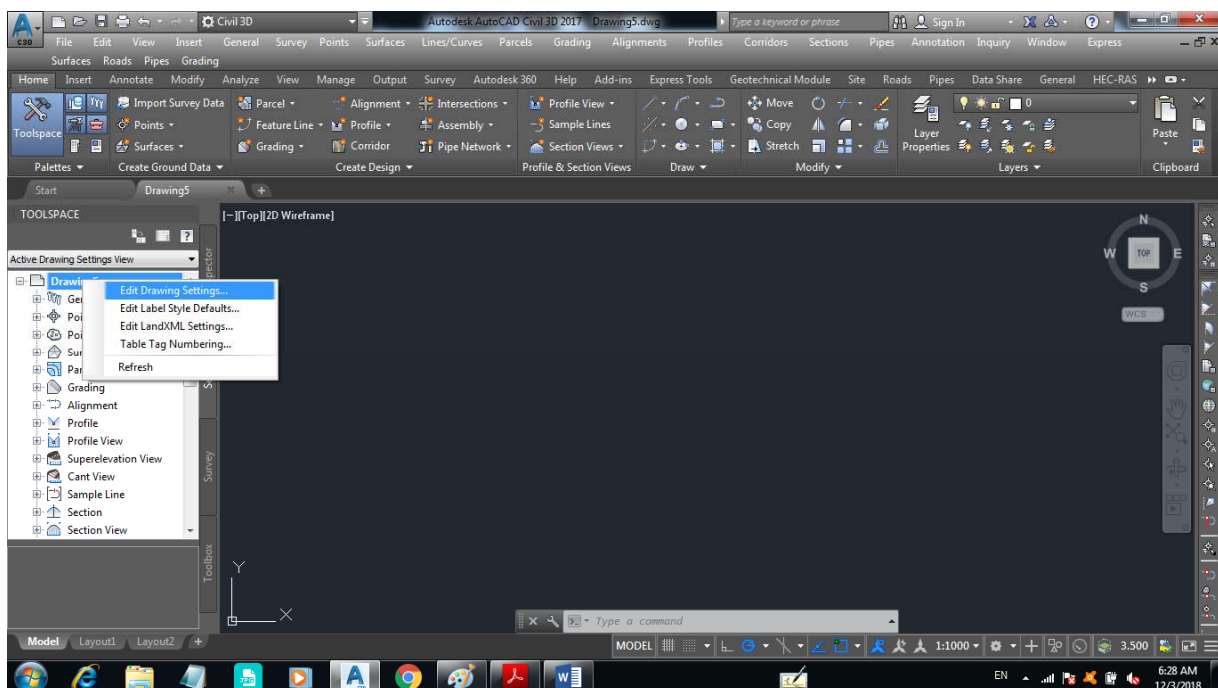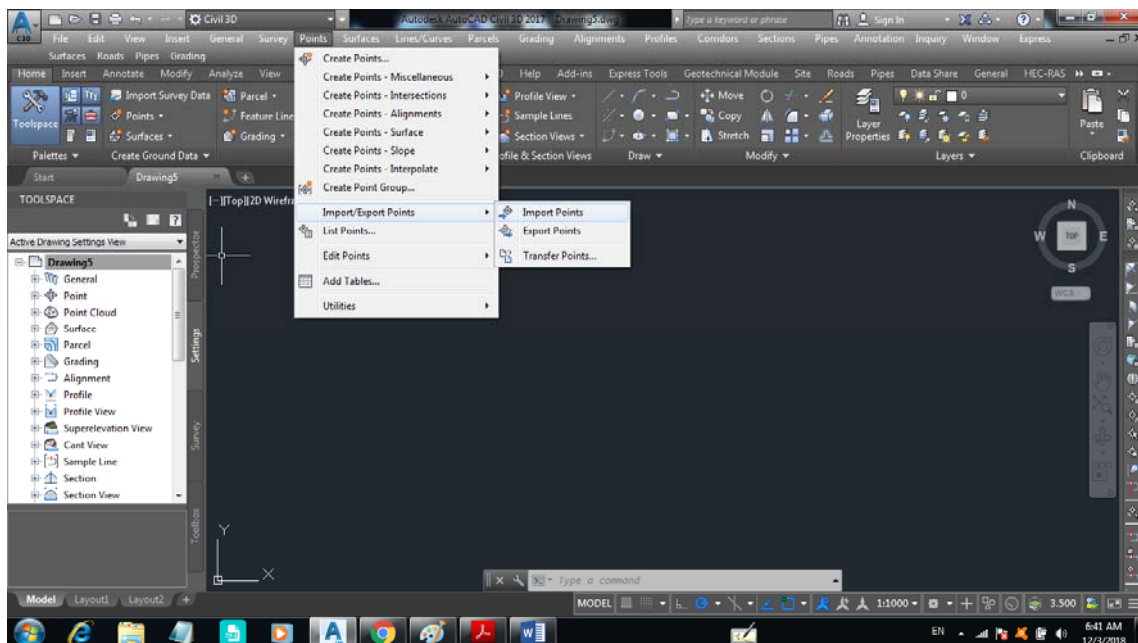
You will be able to make necessary settings on your project such as units, datum, scale, abbreviations and so on…...

3. Point insertion and modification

The first sept to make your design in Civil 3D is to insert survey points into your project. To do so, choose point menu then choose import/export points and press on import points as shown in figure below

A new window will appear asking you to set your point format and the location of your file. Make the necessary selection and press OK.