

Top 10 Reasons

AutoCAD Civil 3D software provides better design, analysis, and construction documentation for civil engineering.

1. Data Compatibility and Interoperability

Accessing and importing data from disparate sources is critical to civil engineering projects. With AutoCAD® Civil 3D®, you can easily import and export data between CAD and GIS platforms, including industry-standard formats such as DWF™, Google Earth™, LandXML, DGN, and GIS data.

In AutoCAD®: Importing and exporting data in AutoCAD is limited to non-georeferenced formats, which limits your ability to exchange data with other users and coordinate-based applications.

2. Surveying

Tired of manually translating coordinate systems and transferring data from a survey package into your civil engineering package? With AutoCAD Civil 3D, survey functionality is fully integrated so you can quickly import raw survey data directly from industry-standard data collectors, perform least-square adjustments, edit survey observations, and more. And with the Autodesk Survey Link Extension, surveyors can quickly import, adjust, and convert proprietary survey data into manageable formats that are easily consumed by Civil 3D or by third-party applications such as those offered by Leica or Trimble®.

In AutoCAD: There is no survey functionality, so survey tasks need to be done manually which is a time consuming and error-prone process.

3. Surfaces and Grading

Do you sketch out a set of contours based on a conceptual design so you can visualize how a project will begin to take shape? While this technique can be helpful, it is also error prone and can lead to hours of

rework when changes occur. AutoCAD Civil 3D includes terrain shaping tools that support large surface models while maintaining dynamic relationships to source data, including contours, breaklines, corridor models, and grading objects. And, any change to the source data results in automatic updates to surfaces and references, helping you save time and reduce errors.

In AutoCAD: Drawing contours is done manually which is not only tedious and time consuming but can compromise a project's budget and schedule.

4. Purpose-Built Design Tools for Land Development and Transportation Projects

AutoCAD Civil 3D helps streamline and accelerate workflows with purpose-built tools for automating time-consuming land development and transportation design tasks. With the robust alignment, profile, and corridor modeling tools you can quickly layout and update road designs. And for land development projects, Civil 3D includes parcel creation and grading tools that automate the process.

In AutoCAD: There is no specific functionality for completing complex land development or transportation designs. As a result, engineers must use manual methods which are much more time consuming, taking away from the time that can be spent on design iterations.

5. Stormwater Hydraulics and Hydrology

Want to increase the value of your design information and be able to predict project performance before construction begins? AutoCAD Civil 3D 2009 includes stormwater design and analysis functionality for storm sewer design, watershed analysis, detention pond modeling, and culvert analysis functionality.

In AutoCAD: There is no stormwater design and analysis functionality so you would need to use another dedicated software package to provide this functionality.

6. Data Management/Team Coordination

Do you need your entire project team to work from the same consistent, up-to-date model so they stay coordinated throughout all phases of the project? AutoCAD Civil 3D provides a scalable approach to data management and team coordination that fits your specific needs. Using AutoCAD external references and data shortcuts, project team members can share individual model elements such as surfaces, alignments, and pipes and work off the same instance of a design object for multiple design tasks. If you are looking for more advanced project management such as project-level backups, user permissions, archive control, and version control, Civil 3D 2009 includes Autodesk® Vault software, which performs these and many other functions.

In AutoCAD: While AutoCAD allows drawings to be shared via AutoCAD external references or Autodesk Vault software, it does not facilitate sharing of data at the individual project element level. As a result, project teams cannot easily work on different parts of a design without the risk of getting out of synch.

7. CAD and Design Standards

CAD and Design standards are an important component of a project, but setting up, maintaining, and enforcing them can be time consuming. AutoCAD Civil 3D 2009 ships with an extensive library of country-specific CAD styles to control virtually every aspect of drawing display. And if these don't fit your needs, you can customize your own styles and standards to meet the specific needs of your organization. The CAD, design styles, and standards functionality in Civil 3D can save you time and minimize costly rework.

In AutoCAD: Styles functionality is not included so it is the responsibility of individual users to ensure they are following company CAD standards. This often leads to inconsistency of deliverables and the creation of additional layers that do not comply with company or jurisdictional standards.

8. Evaluate Design Changes and Alternatives

Do you need to quickly understand the impact of changes and be able to evaluate design alternatives? With AutoCAD Civil 3D, design and documentation are intelligently connected enabling you to deliver higher-quality designs and construction documentation faster. Make a change to your design and all related design elements, annotation, and tables update automatically.

In AutoCAD: Creating multiple design iterations is time consuming and requires a lot of manual editing and updating. And design changes can be equally time consuming since you need to manually ensure vital project data is updated, such as spot elevations, tables, and station offset labels. Manual edits can not only compromise a project schedule and budget, it can also result in errors and omissions.

9. Production Drafting

Labeling and manual drafting is one of the most time consuming and error-prone tasks of a project. What if you could speed up this process and automatically create production sheets? With AutoCAD Civil 3D you can automatically generate production plans such as fully annotated section sheets, profiles, grading plans, and more. And drafting can be generated across multiple drawings by using xrefs and shortcuts. The result is a workflow that enables production sheets to use a single instance of the model, and, if the model changes, all production sheets are automatically updated to reflect the changes.

In AutoCAD: As designs change you need to manually update production drafting. And since most projects involve multiple labels on multiple layers, shown through several viewports, even the smallest change is labor intensive and time consuming.

10. Communicate Design Intent

Most civil engineering projects require review and approval from various public agencies. This means that selling the design can be just as important as the design itself. AutoCAD Civil 3D provides integrated tools for quickly developing 3D renderings to clearly communicate design intent and create winning presentations. For example, when designing a road, Civil 3D automatically associates the appropriate render materials with the corridor model for quick visualization.

In AutoCAD: Renderings and fly-bys are time consuming tasks that require manual association of render materials and tedious rework when design changes are made.

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