

BENTLEY® POWERCIVIL™

Powerful Land Development and Site Modeling Solution

Bentley PowerCivil is comprehensive design software, offering civil engineers and designers a flexible 2D/3D tool for land planning and development and site modeling. No CAD platform is required; PowerCivil runs standalone with native DGN and DWG file formats, using a full complement of CAD-based toolsets. Unique relationship modeling enables rapid, dynamic exploration of site development scenarios. Combined with a complete set of plan preparation tools, plan sheet generation, and automatic volume/material quantity calculations, this enables more effective project execution.



A natural civil engineer's workflow addresses the challenges of land development projects of all types.

PowerCivil maximizes the power of Bentley's market-leading civil solutions in one integrated multidiscipline product for survey, graphical coordinate geometry (COGO), digital terrain modeling, site grading, water and sewer, storm drainage, and street design. PowerCivil can be used for a wide range of projects:

- Commercial building, plant, and manufacturing sites
- Airports and rail terminals
- Subdivisions, urban complexes, parks, campuses, and golf courses
- Dams, mines, and landfills
- Drainage, utility, and floodplain projects

Field-to-Finish Integration

PowerCivil streamlines design, project deliverable production and electronic conveyance to construction. Intelligent associativity between design disciplines reduces errors and ensures consistent, accurate plan production – improving constructability. The software offers tools for easy import, incorporation, and export of design information and timely coordinate geometry (COGO). In addition, PowerCivil works seamlessly with Bentley® PowerSurvey™ and Bentley® PowerMap™ solutions.



Work interactively in multiple views to suit your purpose.

More Flexibility with Visual Modeling

PowerCivil has been developed to match the way civil engineers and designers need to work. You can rapidly explore an array of design options because the software offers instant visual feedback. Unique intelligent associativity eases handling of virtually all types of civil features in an object context: from ponds, ditches, and channels to pads, streets, and cul-de-sacs. You control the associativity between objects in the model, including the precedence of feature components and relationships. As you modify design objects, associated features automatically adjust, obeying your custom design constraints and intent. The 2D/3D capabilities allow you to work the way you need to, interactively designing in plan, profile, section, and 3D. PowerCivil enables you to resolve unsuitable conditions on the fly, make design changes interactively, and speed the design process.



View existing and proposed contours during site development.

Multi-format Support

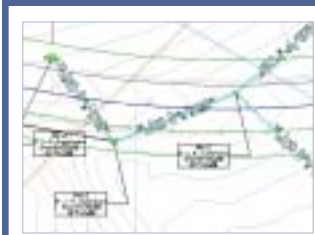
Regardless of the data format you choose to work in or need to deliver, PowerCivil is the civil design software most capable of meeting your project requirements. It supports:

- Industry-leading survey data collectors for direct input and output of survey data
- Native file support for both DGN and DWG data
- Import or export XML data for surfaces and coordinate geometry
- Production of PDF plan sets

Increased Productivity and Collaboration

PowerCivil not only increases individual productivity, but also promotes collaboration between multiple users. The software includes wizards to guide you in the creation of intelligent land features such as pads, ponds, channels, subdivisions, streets, and roads. Rapid updating and intelligent features enable easy incorporation of client-driven changes. Project team members can work in multiple disciplines, with each user referencing and viewing the work of others.

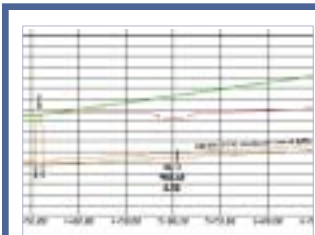
BENTLEY POWERCIVIL AT-A-GLANCE



Flexible labeling capabilities ease plan preparation.



A full complement of drainage and sewer analysis capabilities round out PowerCivil.



Perform conflict checking of multidiscipline designs during layout.

BENTLEY POWERCIVIL SYSTEM REQUIREMENTS

- Processor: Intel Pentium 400 Mhz minimum; 500 Mhz Recommended
- Operating System: Microsoft Windows XP Professional, Microsoft Windows 2000, Microsoft Windows NT (SP6 recommended)
- Memory: 128 MB minimum, 256 MB recommended
- Disk Space: 140 MB minimum, 170 MB or more recommended
- Input Device: Mouse

Survey Data Management

- Support for direct import of raw data and ASCII data from virtually any source, including popular data collectors
- Creation, editing, and review of DTM models for surface data quality assurance and control
- Coordinate transformations plus adjustments, including network least squares, transit, and compass rule
- Extensive feature mapping, editing, and associated plan production tools
- DTM and COGO derived from and extracted to DGN and/or DWG files

Digital Terrain Modeling

- Create from 2D/3D graphics/contours, borehole data, XML data, and Digital Elevation Maps
- Dynamic, visual DTM editing tools for rapid modification and analysis
- Extensive analysis tools include Slope & Elevations, Thematic Mapping, Volumetrics, Drainage (including Watershed Analysis, Ponding Evaluation and Flow Tracing), Trace Slope, and Visibility & Surface Navigation
- Exports to LandXML, construction field stake-out, and GPS machine control

Geometry

- Graphical alignment and profile creation
- Automatically convert native CAD elements to COGO features for stakeout and reporting
- Automated Subdivision Wizard for lot layout
- Advanced right-of-way parcel and legal description editing functions
- Coordinate geometry supports graphical COGO and classic command-line COGO
- Vehicle turning path analysis

Design Modeling

- Design modeling in 2D, 3D, or both
- Powerful grading tools create non-linear designs such as landfills, mines, parking lots, cul-de-sacs, and intersections
- Wizards help define common design features such as pads, ponds, channels, urban streets, subdivisions, and streets and roads
- Model feature associations allow for dynamic modifications while retaining design intent
- Accurate models suitable for construction stakeout and export to GPS machine control systems.

Plan Production and Quantities

- Plan and profile sheet composition and extensive plan/profile and cross-section labeling tools
- Profile generation for single and multiple surfaces with tabular data annotation
- Design and Computation Manager for applying drafting standards and automating quantity take-off
- Quantities directly used by Quantity Manager for estimating and funding distribution
- Generate plan sets in PDF format

Drainage, Water & Sewer Layout, and Analysis

- Drainage, culvert design, water system, and sewer system layout and design tools
- Design intent – including associations to the surface model – allow for automatic re-design of affected facilities
- Automatic creation of profiles with dynamic editing
- Conflict checking for subsurface utilities including 3D utility and structure display
- Automatic computation of pipe trench volumes with optional 3D display
- Routing capabilities
- Complete, user-definable drainage, water and sewer libraries for localized design
- Reporting and computation functionality, plus export to XPSWMM

ABOUT BENTLEY

Bentley Systems, Incorporated provides software for the lifecycle of the world's infrastructure. The company's comprehensive portfolio for the building, plant, civil, and geospatial vertical markets spans architecture, engineering, construction (AEC) and operations. With 2003 revenues reaching \$260 million, Bentley is the leading provider of AEC software to the Engineering News-Record Design 500 and major owner-operators.

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