Bentley®
Advancing Infrastructure

PRODUCT DATA SHEET

OpenSite® Designer

Comprehensive Site Design Software for Optimizing and Analyzing Site Design Projects

OpenSite Designer is an innovative application for designing site development projects of all types, large or small. It empowers you with industry-leading conceptual design capabilities for creating and analyzing project feasibility. OpenSite Designer is an all-in-one solution and handles a wide variety of complex tasks such as parking lot layouts, building interactions, earthwork grading, general site design, ponds, sanitary and stormwater network design, subsurface utilities, construction documentation creation, and construction staking report production. The application blends traditional engineering workflows for plan, profile, and earthworks with 3D parametric modeling and earthwork optimization to enable model-centric creation of all design deliverables.

RAPIDLY MODEL DESIGN INTENT

OpenSite Designer delivers patented design capabilities using parametrics and optimization to rapidly create and analyze site development projects. Users can evaluate design intent in the earlier stages of a project to assure optimal design delivery. The application also includes preconfigured, commonly used 2D and 3D parking lot, sidewalk, and driveway requirements.

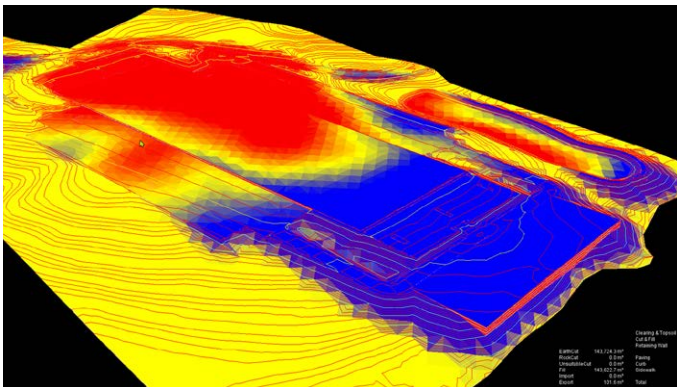
You can make use of civil cells to ensure standards are implemented while accelerating design production by duplicating and reusing cells.

IMPROVE PROJECT DELIVERABLES

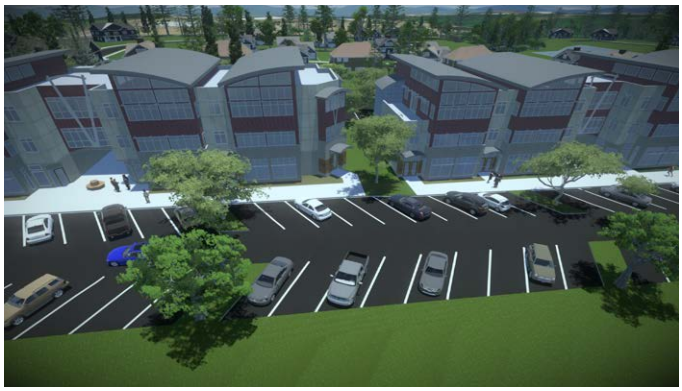
OpenSite Designer automates the production of a complete array of design deliverables. The application enables engineers and designers to work faster, smarter, and more efficiently to accelerate project delivery. With OpenSite Designer, users have the flexibility to work in ways that maximize their skillsets allowing for better projects.

VISUALIZE DESIGNS

You can experience designs in real time with OpenSite Designer's constraint-driven templates, a context-sensitive, intuitive interface, and dynamic 3D modeling. The application allows you to virtually move through the 3D site model and visually inspect it for any design deficiencies or physical conflicts. OpenSite Designer integrates with LumenRT to create models as well as high-impact visuals and animations to effectively communicate the design intent to stakeholders for project approval.



Optimized earthwork grading



3D visualization

SYSTEM REQUIREMENTS

MINIMUM: Windows 7 SPI, Windows 8, Windows 10, or Windows 11, Intel® Pentium®-based or AMD Athlon®-based processor 2.0 GHz or greater, 8 GB memory, 9 GB disk space

RECOMMENDED: 16 GB memory

OpenSite Designer At-A-Glance

INTEGRATED CAD CAPABILITIES

- Integrate data with SITEOPS®, MicroStation®, ProjectWise®, OpenBuildings®, OpenFlows™, LumenRT™, and other Bentley applications
- Integrate engineering data (e.g., stormwater drainage, utilities, land surveying)
- Read and write to DGN and DWG files

TERRAIN MODELING

- Manage large LiDAR datasets
- Create intelligent, data-rich, and lightweight terrain models
- Create complex and clipped terrain models
- Interrogate the intelligent data-rich 3D models
- Model intelligent 3D real-world civil features (ditches, curbs, trees, and culverts)

DYNAMIC GEOMETRIC DESIGN

- Interactive design geometry capabilities
- Store rules and relationships between geometric elements
- Create horizontal/vertical by PI method or by elements
- Perform design checks dynamically or in batch processes

SITE LAYOUT MODELING

- Create custom site design elements (i.e., parking lots, parcels, driveways, etc.)
- Customize design standards
- Control size requirements for parking spaces, islands, bays, and aisles
- Configure sites with tarametric interaction between parking and building

EARTHWORKS

- Automatically optimize earthworks grading based on-site configuration and construction cost
- Customize grading: min/max slopes, link heights, and elevation control
- Control surface using breaklines

PATHWAYS

- Customize on-side parking to control location, parking size requirements, angle, and grading controls
- Create sidewalks with controlled locations, width, material type, and grading slope control
- Adjust centerline alignment grading control for use in grading optimization
- Control shoulder width, buffers, slope, ditch offset, and ditch slope

SUBSURFACE UTILITIES

- Create 3D utility models relative to topography and alignments
- Create storm, sanitary, or combined hydraulic networks
- Identify conflicts among utility elements as well as among utilities and other 3D data
- Generate drainage queries and customized reports
- Calculate pond volumes

PROFILES AND CROSS SECTIONS

- Create/generate cross sections and profiles along alignments, graphics, or between points
- Created directly from 3D model and supports federated multidiscipline models
- Include vertical alignments and existing and proposed surfaces

QUANTITY MANAGEMENT

- Extract quantity take-offs for estimating
- Report quantities by entire project or delineate by sheets, stations, area, or phase
- Generate linear, area, and volume quantities

CONTRACT DELIVERABLES

- Automate project delivery process with drafting and drawing preparation capabilities
- Define annotation capabilities for plan, profile, and section labelling
- Automate sheet generation for plans, profiles, and cross sections

PUBLISHING

- Export directly to Machine Guidance
- Supports iModel creation (includes 2D and 3D geometry and business data)
- Generate XML, PDFs, and 3D PDFs

GEOTECHNICAL INTEGRATION

- Directly interface with gINT database
- Visualize and annotate borings in 2D and 3D
- Create subsurface terrains from boring data

REALITY MODELING

- Reality mesh support
- Edit meshes (remove facets, fill holes)
- Produce 3D PDFs and iModels

POINT-CLOUD PROCESSING

- Fast display and visualization of billions of points
- Export files in Pointools, POD, LAS, and XYZ formats
- Class management for any type of presentation style

SCALABLE TERRAIN MODELING

- Create scalable terrain models (STMs)
- High-performance display of very large digital terrain models (DTMs)
- STM update and synchronization with DGN files, civil DTMs, point cloud data, and XYZ files