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news

ms consultants, inc.



notes

engineers, architects, planners



Computer graphics have come a long way

Photo-realistic computer renderings can show what a project will look like long before any building actually takes place. See story starting on page 2.

Computer renderings add realism





Three-dimensional graphics can paint a realistic picture of conceptual designs

As anyone who has played a video game or seen a computer-animated movie in recent years can attest, computer graphics have come a long, long way since the early days of “PONG”. Sports stadiums, entire cities, futuristic planets and long-ago fantasy worlds have all been created for gamers and moviegoers via the computer, and the level of detail and realism continues to get better every day.

But not only filmmakers and video game designers are at the forefront of computer graphics design. The engineering and architecture industry has been utilizing computer design tools for many years, and as more and more of the general public has become used to seeing computer-generated graphics as part of their everyday world – via television, video games, phone applications, etc. – so too are more project and building developers accustomed to seeing three-dimensional images as a part of the design process.

ms consultants has developed an in-house graphic design capability that can provide 2D or 3D conceptual renderings in just about any level of detail – right up to dropping a “completed”

building into an actual site photograph.

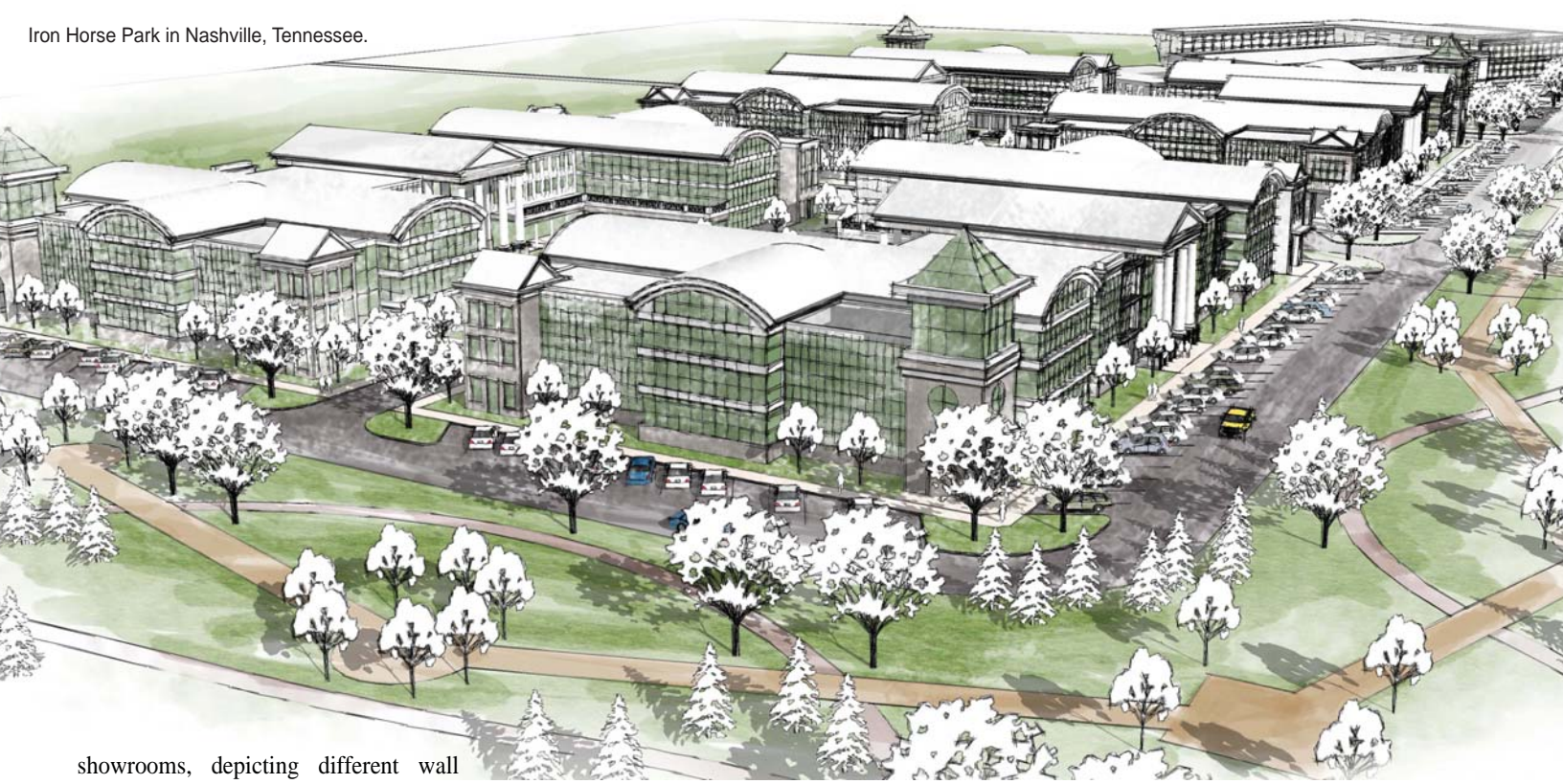
For a proposed pedestrian bridge (*shown on the next page*) over the Scioto River in downtown Columbus, Ohio, four separate concepts were created to compare different bridge designs and their impact on the riverfront.

ms also utilizes rendering techniques that are more “hand drawn” or sketchy in their look, like those done for the Iron Horse Park in Nashville, Tennessee.

The project involves a 20-acre site adjacent to Vanderbilt University's "Legends Country Club" that could host 500,000 square feet of high-tech medical tenants. The design includes a 900-car underground parking facility, as well as 25,000 square feet of support retail services such as food, day care, banking, dry cleaning, and auto serve facilities.

Interior spaces within buildings can also be shown in great detail, as is the case with renderings completed for American Signature Furniture (ASI).

ms developed several interior schemes for ASI's furniture

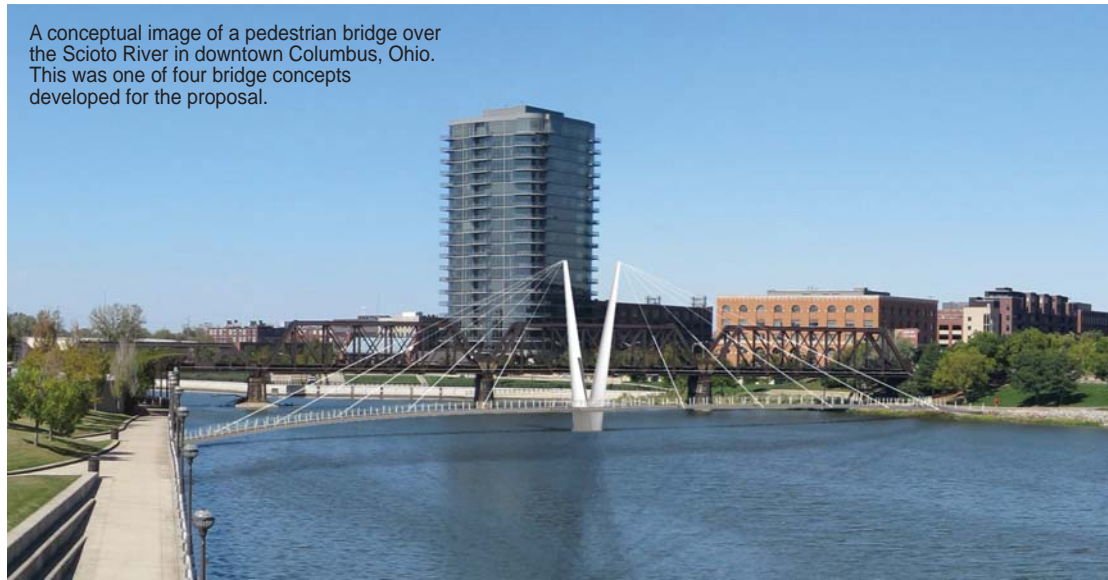


showrooms, depicting different wall textures, flooring, lighting, furniture layouts and interior graphics.

ms has applied 3D computer graphics to large and small commercial, architecture, transportation and structural projects, and has developed an internal “graphics catalog” for their project managers to use as a guide when considering possible rendering options.

For more information about our computer graphics capabilities and how they can be utilized, please contact Charles Campbell in the Columbus office at 614.898.7100 or ccampbell@msconsultants.com. ■

A conceptual image of a pedestrian bridge over the Scioto River in downtown Columbus, Ohio. This was one of four bridge concepts developed for the proposal.



The Albemarle Electric Membership Corporation building in North Carolina.



Roundabouts

They're catching on

Despite actor Chevy Chase's comic scene in the 1985 film "European Vacation" in which his character becomes trapped in a London roundabout and drives around in circles for hours without being able to exit, modern roundabouts are, in fact, a successful and economical way to reduce traffic speeds and accidents.

Research has indicated that a roundabout can reduce crashes 40-60 percent due primarily to two factors – reducing the number of conflict points and reducing the speeds of vehicles. Traffic within the roundabout has the right of way and each approach is controlled through the use of a yield sign so becoming "trapped in the circle" is not possible.

To avoid roadway realignments, roundabouts may also be placed in areas in which sight distance is restricted. Additionally, the placement of a roundabout can mitigate issues involved with installing a lengthy turn lane in which procuring right of way or releases from property owners in which left turns into and out of their driveways would be restricted. All right of way impacts are concentrated at the intersection so the number of parcels impacted is reduced and any turns made out of adjacent parcels do not have to be restricted.

Roundabouts have been used successfully for years throughout Europe and Australia and more recently in the United States. Colorado, Florida, Indiana, Maryland, New York and Ohio are just some of the states that have successfully incorporated roundabouts into their traffic systems.

In Allegheny County, Pennsylvania, The Meritage Group developed a residential neighborhood (Cobblestone) adjacent to Crawford Road in Ohio Township. A 90-degree turn on Crawford was to be modified to create a 4-way or plus intersection when the additional two legs of the intersection were added as part of the



residential development. Stop signs would have to be added to two or more approaches so that this configuration would operate properly.

As an alternative, ms consultants suggested that Ohio Township and The Meritage Group consider the installation of a modern roundabout for this location.

The township agreed because the design of a modern roundabout inherently controls speeds and improves safety without requiring police enforcement. Roundabouts also present a reduced maintenance cost when compared with traffic signals in that equipment maintenance and power costs are eliminated.

The developer was pleased as it created an aesthetic gateway to their residential development.

The Ohio Township Volunteer Fire Department was satisfied that the roundabout design would not significantly impact response times and could, in fact, reduce the number of accident calls at that location. Similarly, the local public works department was satisfied that the design would not impede efficient snow removal.

So with a consensus reached, the project moved forward and Crawford Road now has a roundabout where a dangerous curve used to be.

ms is currently in the process of designing roundabouts for the Pennsylvania Department of Transportation in two other locations - near Waterford, in Erie County, and near Bentleyville, in Washington County.

For more information on the Crawford Road roundabout project or about how roundabouts operate, please contact Steve Moore in our Pittsburgh office at 412.264.8701. ■



In northeast Ohio, construction is moving ahead on the \$650 million expansion project by V & M Two – North America’s leading producer of seamless pipe predominantly used in the oil and gas industry. The site is located on the border between the cities of Youngstown and Girard, in northeast Ohio.

The redevelopment of this brownfield site for the plant is a critical economic development initiative for Youngstown and the entire Mahoning Valley region.

The expanded V&M plant will include a new steel rolling pipe mill in a dedicated building on the 170-acre site. An intermodal transportation center is integral to the project, with improved connectivity to existing rail corridors and upgrades to onsite rail yards.

For the city of Youngstown, ms consultants is providing construction services for the installation of more than 30,000 linear feet of first class rail service track to service the Brier Hill Industrial Park, where the plant is located.

The project is being funded by an American Recovery and Reinvestment Act (ARRA) grant to the city, approved in 2009.

ms has also been retained to monitor the contractor's quality control program and independent testing during “Project Tomahawk”, which includes the construction phases of pilings, concrete foundations, bolt placement, yard and plant piping, electrical underground installation and mechanical and electrical systems installation.

Other work at the industrial site is also underway, including a key access road and a 500,000-gallon water tank. The tank will provide water to V&M’s mill off Martin Luther King Jr. Boulevard and to its new facility. Some smaller businesses near the site would also receive water from the new tank.

The city of Youngstown is anticipating the water tank to be finished by the end of December 2011.

Construction of the entire V&M project began last summer and is expected to be completed by the end of this year.

For more information about this project, please contact John Pierko, P.E., at 330.744.5321 or jpierko@msconsultants.com. ■



construction underway at Brier Hill



Construction personnel from ms inspect the steel pilings used to support the concrete piers for the buildings. The pink flags mark the locations for more pilings.



industrial site



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ms hires AEP veteran to lead new energy sector

After 34 years at American Electric Power (AEP), Kevin Henry has joined ms consultants as the Director of Energy Services.

Founded in Ohio in 1963, ms consultants provides engineering, architecture, planning and construction services to the transportation, environmental, commercial, government and education markets. The energy services position is new to the company.



Kevin Henry has joined ms consultants as the Director of Energy Services.

In this new role, Henry is responsible for expanding the firm's traditional architectural, engineering and planning services to new market segments including energy producers, renewable energy developers and power transmission organizations. He is also responsible for the development of new services to address the needs of industrial and commercial clients where the emphasis will be on energy efficiency, sustainability and reliability.

While at AEP, Mr. Henry held numerous engineering and management positions in generation, transmission, business development and project management.

He holds a bachelor's degree in electrical engineering from Manhattan (NY) College, an MBA from the Ohio State Fisher School of Business, and is a certified Project Management Professional.

The firm recognizes the importance of energy conservation and has been routinely implementing sustainable design practices within its architecture and commercial sectors. They currently have a number of projects in line for LEED® (Leadership in Energy & Environmental Design) certification, including the WATTS athletic training facility under construction at Youngstown State University. Others include a fire station in Virginia, a National Guard hangar in North Carolina, and two Fifth Third Bank locations.

The company has also applied some of those same energy efficient practices to their own office building in Columbus, and as a result were chosen by the city of Columbus as the GreenSpot Program's 2011 GreenSpotLight Award winner in the large business category. According to the city, ms was chosen out of hundreds of businesses as "an inspiring leader whose green decisions and extraordinary commitments to improving the environment" are making a difference in Columbus.

ms was also involved in the design of the nation's first indoor natural gas refueling facility, located at the WRTA (Western Reserve Transit Authority) in Youngstown, Ohio. The indoor fueling station allows WRTA personnel to fuel, clean, and service vehicles indoors year-round, which is normal operating procedure for transit properties of any type in northern climates.

For more information, please contact Kevin at 614.898.7100 or khenry@msconsultants.com. ■