



NEW TECHNOLOGIES

How will they redefine the architectural, engineering and construction community?

Editor's Viewpoint



By Mark Buckshon
Publisher, Chicago Construction News

This Florida Construction News issue focuses on some fundamental technological changes radically reshaping how architects, engineers and contractors work. The story here is vitally important to understand because the technological revolution will truly shake up the established order, business relationships and practices.

Not everyone, I realize, has the same interest in embracing change, especially when it is coupled with uncertainty, dislocation and disruption. However, in my opinion, it is far better to be ahead of the curve than caught behind it – and the changes, indeed, will happen.

Consider what has happened to the publishing industry in just the past five years. Long-established newspapers and broadcasters which had thrived for decades suddenly saw their businesses shrink; to the point that many local publications have closed, and many national ones have become midgits.

As a publisher, I've been fortunate to stay in tune with the changes, making friends with Google – to the point that I'm invited to annual parties at Google's Mountain View headquarters. This year, the meeting will be in the futuristic conference center described in this month's article.

We've designed this publication to be primarily digital, yet for those who wish it, have the feel and style of a traditional magazine. It is also responsive. Even in the digital era, there are human stories, experiences, and accomplishments and I hope we can continue to convey your experiences and interests in the months and years ahead.

Please feel free to send your comments and suggestions for future articles to buckshon@floridaconstructionnews.com.

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FLORIDA CONSTRUCTION NEWS

Florida Construction News combines a bi-monthly magazine with a weekly newsletter and a website (updated daily), delivering news, analysis and networking opportunities to Florida's architecture, engineering and construction community. The magazine is distributed primarily online to 9,000 general contractors, specialty contractors, developers, professional services and building owners throughout Florida.

For more information on promoting your business to our audience and to request rates, see the advertising rates page on the Floridaconstructionnews.com website. You can also contact **Chase** at chase@floridaconstructionnews.com or phone him at 888-627-8717 ext 212.

You can send editorial news releases and announcements to **Mark Buckshon** at buckshon@floridaconstructionnews.com.

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Jason Hale, instructor with students, left to right: Samuel Phoenix, Marlon Skyers, Lazaro Alejo, Julio Gonzalez, and Donald Siebert

ABC Institute graduates more than 150 apprentices at Ft. Lauderdale ceremony

Florida Construction News staff writer

Associated Builders and Contractors (ABC) Institute's 2018 graduation ceremony has commemorated the 153 dedicated construction apprentices from Key West to Brevard County who completed their classroom education this year.

Depending on the program, students spent up to four years working full-time during the day, while attending up to 200 annual hours in classes at the institute during the evening.

Students from various trades including linemen, roofing, fire protection and electrical celebrated with their families, friends and fellow classmates on July 21 in Ft. Lauderdale. Keynote speaker Chris Riley, project executive of Power Design, Inc., provided inspirational words to send the students off with veteran wisdom, ABC said in a news release.

"We're proud to welcome this class of graduates into the growing construction industry in South Florida," said Riley. "With their skills they have learned through the Institute, they are bound to help build America for years to come."

"This year's class was exceptional," said Peter Dyga, president and CEO of the ABC Florida East Coast Chapter. "We had students overcome challenges, tragedies and adversity. We're proud of each and every student and all they have accomplished during their time at the institute."

MasTec North America served as a sponsor of the ceremony.

In addition to receiving their certificates, 38 students and one instructor received monetary rewards, courtesy of ABC Cares, which provides financial assistance and support for members of the construction industry. They were honored for a variety of outstanding achievements, including perfect attendance during the current year and during their entire study, achieving the valedictorian title, and Instructor of the Year.

With more than 476,000 apprentices in America, the institute's goal is to ensure each one receives proper education in their chosen trade, the news release said.



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NEW TECHNOLOGIES

How will they redefine the architectural, engineering and construction community?

By Mark Buckshon
Florida Construction News staff writer

Is the U.S. design and construction industry about to experience a radical, transformative and critical technological revolution?

The answer, according to some industry leaders, is “yes” - as the industry’s inefficiencies and intermediary-loaded framework experiences stress as owners press for greater efficiencies and disruptive integrated organizations are changing the meanings of modular design-build to much more comprehensive and wide-scale applications.

To learn more about where the industry is heading, I accepted a media invitation to attend the TECH+ Conference in New York earlier this year, sponsored by the The Architect’s Newspaper.

During the day-long event, several speakers outlined critical issues, including collaboration/BIM, sustainability and visualization, as a variety of industry technology businesses demonstrated their products and services.

Several speakers observed that the AEC industry is near the bottom of the bell curve in technological adaptation, only slightly better than architecture.

Perhaps the biggest “wow” moment occurred for me when Chris Meyer, Boston-based general contractor Suffolk’s chief information officer, displayed a graph showing the sudden and dramatic market decline for newspaper advertising in the last decade. We’ve published stories about Suffolk’s multi-city Smart Lab con-



cept, but I didn’t connect the dots until his speech that Meyer had previously been the Boston Globe’s publisher.

Meyer displayed a graph that showed that, while the newspaper industry was well aware of the Internet’s rise and developed different models to cope with the change, it could not stop the steep and dramatic crash that started about the turn of the millennium, as Google and Facebook grabbed most of the advertising market. In fact, newspaper advertising revenue has declined by about four-fifths in the past decade, so advertising revenues are now even lower than they were in the 1950s. Newspaper digital sales have made the slightest gain; but the data is clear – the conventional newspaper industry has been pushed over the cliff, and in just a few years.

Meyer suggested that AEC, like the newspaper business, is an “intermediary” industry – that is, most practitioners are serving others in the value chain rather than end users - and he suggested this could create a situation where there will be major disruptions as new tech-





nologies capture market presence and share.

Will this happen anytime soon? That is the big question. And the AEC industry may be saved (or ultimately destroyed) by its current structure, where various professionals often work in their own silos.

Keynote speaker Dennis Sheldon, director of the Digital Building Laboratory (DBL) at the Georgia Institute of Technology, shared some insights into the challenges (and opportunities) that the technology creates for linkages and collaboration between the various AEC industries, including BIM, virtual and augmented reality.

Meanwhile, Phil Bernstein, the associate dean at the Yale School of Architecture, said current trends suggest big data, computational design and integrating machine learning could "eventually help architects design more optimized buildings and reduce the waste that comes when expectations don't line up with how a building actually performs in the real world," The Architect's Newspaper reported.

But BIM and virtual reality have been around for several years now, and while they have certainly influenced design and construction practices, they haven't changed the universe, it seems. Something else needs to give – and the suggestion from some speakers is that it will come from highly capitalized new integrated industry organizations, and individual owners demanding greater technological adaptation and accountability.

The disruptors, such as Katerra, combine modular/factory building with a beginning-to-end design, engineering and construction collaboration process, meaning that the owner places the order, architects and engineers (often in remote locations), pre-

pare the design, and the work is scheduled in factory settings, with modular components shipped to the actual construction site for rapid assembly.

If these services catch on – and billions of dollars in investment capital have been staked on the proposition – the traditional design and construction model will be upended as designers, contractors and subtrades either need to buy into the new competing mammoth building organizations or fight for a shrinking market share where traditional practices and relationships remain in place.

Another drive for change is happening at the ownership level. Jeremy Munn, a senior capital project manager for the design and construction department within the facilities division of Northeastern University in Boston, for example, described how the university is finally getting all the pieces together in a digital procurement/building cycle, but not by using a one-size fits all system, and with plenty of training and support to encourage compliance (and this progress is coming because the owner is driving the agenda, not the architects, engineers or contractors.)

Munn said his department manages 250 new projects a year, of varying size and complexity, from minor retrofits to multi-million dollar new structures.

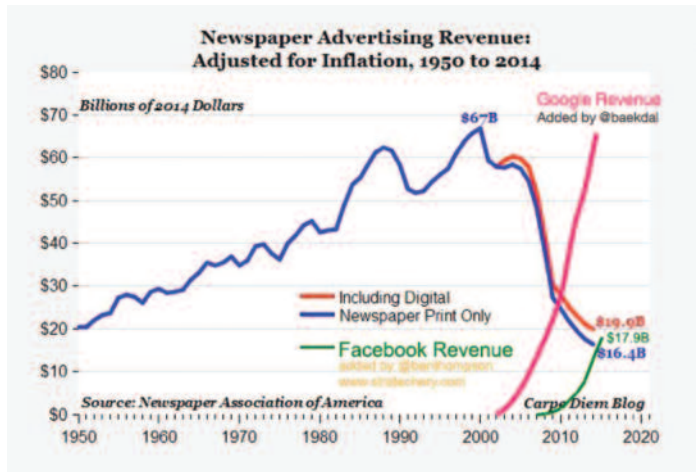
His goal: Build an e-procurement and building system that has consistent templates, reporting dashboards, automated project delivery processes, and advanced document management capabilities. There are different software packages that do some, but not all, of the tasks the university is seeking – but the solution is not to force everything into a single piece of soft-

ware, but rather to integrate the different tools and software resources appropriate to the different stages in the design, construction and operation cycle.

He said the university had 206 active users in its e-management system in 2016; by 2018, the active users had increased to 660. "Most are consultants," he said. As more capital projects have been managed by the system, he said the number of automated processes increased from nine in 2016 to 27 in 2018. There'll be more changes including managing capital expenditures and operations, moving from a manual to automated deferred maintenance program, better BIM integrations, more robust and consistent laser scanning of existing conditions, and the introduction of virtual reality to present projects to senior leadership.

"Our value proposition is not to build faster and quicker," he said. "It is to get students into classroom seats and researchers into labs so they can spend their NIH (National Institute of Health) grants."

Meanwhile architect Jan Leenknecht of BIG hinted at how working as an architect for Google on a massive new million plus sq. ft. office complex in Sunnyvale is challenging traditional design practices with new technological resources. (I may be able to see the site firsthand this fall when the search-engine giant invites me to the northern California community for its annual Google Product Experts summit/meet-up. Leenknecht could only allude to the building's design challenge because he, like most contractors and others with some direct access to Google staff, including me, are required



This graph shows the incredible and sudden decline in newspaper advertising revenue correlated with Google and Facebook's rise.

<https://charman-anderson.com/2016/09/28/us-newspapers-lost-advertising-revenue-found/>

to sign non-disclosure agreements.)

However, speaking generally, he explained how collaboration is pushing "interoperability across contractual boundaries" as the number of design tools is declining through consolidation, and documentation is becoming increasingly automated. He also said BIM is becoming increasingly important and is vital for complex architectural designs.

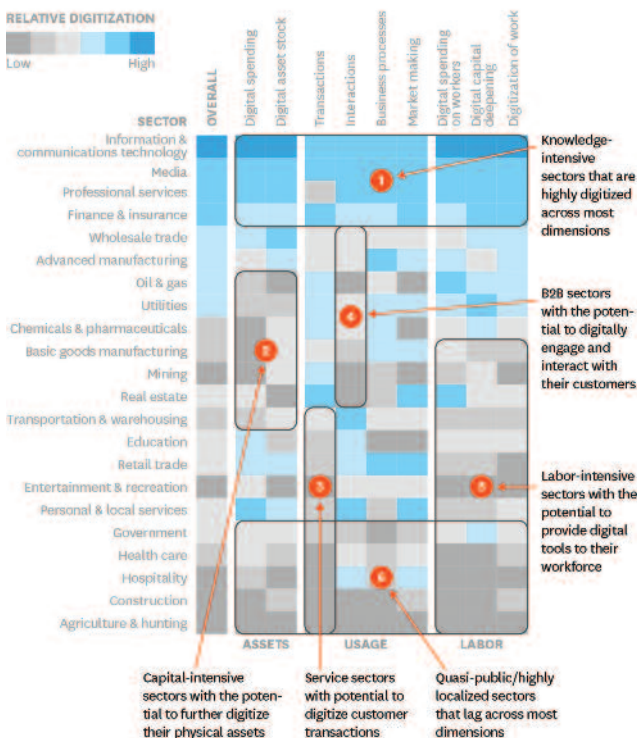
However, technology doesn't replace the human element. Owners, designers and contractors need to "bring (software) tools to the teams and empower intelligent humans," he said. "The tools are not the same for every project." There needs to be training, standards and templates, annual BIM model audits, and feedback.

Can we draw any take-action conclusions from these observations? The answer, I think, is we need to be aware of the technology adaptation drivers/disruptors – namely forward-thinking owners and disruptive technology service/building companies and develop our own awareness on how to integrate and implement the new tools in a more collaborative environment. Otherwise, we might be caught in the newspaper industry trap, through which only a few nimble, creative and technologically astute businesses are surviving.

Mark Buckshon is the president of the Construction News and Report Group of Companies, which publishes New York Construction Report and several other publications. See his blog at www.constructionmarketingideas.com.

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See this video re digital take up by industry

South Florida brothers deny charges of wire fraud, conspiracy for lowballing public housing labor estimates

Florida Construction News staff writer

Two brothers who run a South Florida construction company say they will fight charges that they low-balled labor estimates on bids to scoop up Miami-Dade County public housing contracts.

Javier Estepa and Diego Estepa Vazquez have been charged with wire fraud conspiracy and wire fraud, according to a grand jury indictment issued in June.

Their attorneys have denied the allegations.

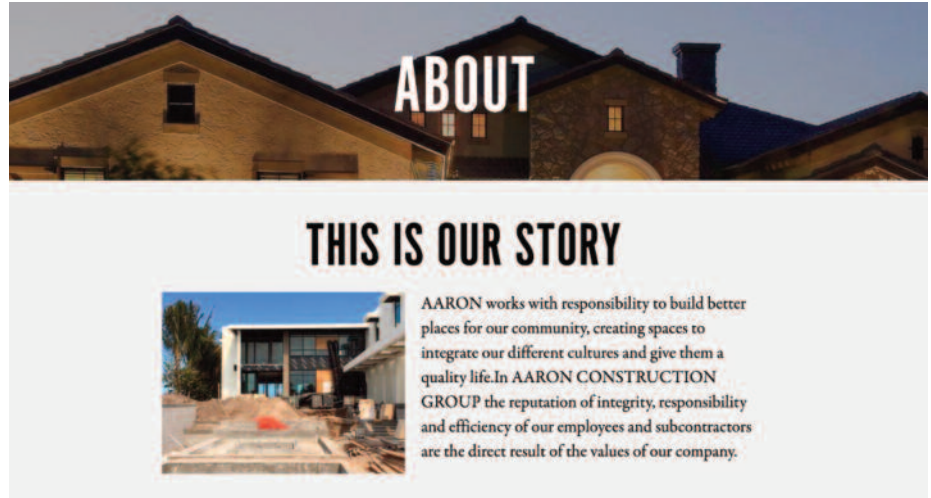
View a copy of the indictment here.

"At trial we will not only demonstrate the company's (Aaron Construction) integrity but will show the efforts the company undertook for the protection of the subcontractors who associated with them," Neil Taylor, Estepa's attorney of the Law Offices of Neil G. Taylor in Coral Gables, said in an emailed statement. "The indictment is a rush to judgment conclusion by the government and we are very confident a jury will exonerate both Javier and Diego Estepa."

Susy Ribero-Ayala, Vazquez's attorney of The Law Office of Susy Ribero-Ayala in Coral Gables, also denied the allegations.

The two underreported the number of workers on a project, falsified the number of hours worked and falsely stated they would have no subcontractors working on a project to land public contracts and profit from repair work on low-income housing managed by the county's Public Housing and Community Development program, the indictment alleges.

PHCD, which receives federal money, is one of the largest housing agencies in the U.S. that provides Section 8 rent subsidies and manages low-income public housing, according to its website.



The indictment charged the false bid information allowed Aaron Construction to list lower costs when applying for repair contracts through the competitive bid process.

The lower employee headcount and the fewer work hours that they reported allowed them to "artificially lower company costs, including workers' compensation insurance premiums and payroll

taxes, thereby enabling Estepa and Vazquez to submit false and fraudulent low-ball bids for PHCD work," the indictment said.

The county awards its repair contracts to the lowest bidders as long as they meets other terms and conditions.

If convicted, each could face up to 20 years in prison, a \$250,000 fine and restitution.

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TIREBOSS™ solves a problem: Truck tire pressure should be variable, depending on load, speed, and working conditions



Florida Construction News staff writer

From its beginnings in 1996, Tire Pressure Control International Ltd. (TPC International) has grown to be a global presence, providing on/off-road mobility solutions for trucking applications in the forestry, oilfield, concrete, agriculture, and power utility industries with their TIREBOSS™ Tire Pressure Control Systems.

Founders and company vice-president Les Hinz and president Brian Spreen, were instrumental in the implementation of the first Tire Pressure Control systems for North American commercial truck transport applications. They have 25+ years each in implementing Tire Pressure Control Systems for the benefit of various industries around the world.

Hinz says the first application addressed a need in forestry and grew from there. Today the team supports 8,000+ systems worldwide.

“We see our product addressing different needs in different regions around the world and in different industries,” he said. “In Florida, for instance, the application is well suited to dealing with sand. In some industries, the issue we address may be field compaction or road sensitivity. In others, it may be mobility in the mud related to a specific jobsite.”

An explanation on TIREBOSS’s website explains the benefits: “Tire inflation pressures are generally specified to permit a vehicle to carry a full payload at highway speeds without overheating its tires. Consequently, when the vehicle is partially loaded, unloaded, or traveling at reduced speeds, its tires are overinflated for the operating conditions. Overinflated tires can contribute to a variety of problems including poor mobility, increased vehicle vibration, tire wear, an occurrence of tire punctures and damage to the road surface.”

He says the company's TIREBOSS system is beneficial anywhere trucks are off-road or have mobility issues. Related to the concrete industry, he says benefits include a cost-effective alternative to all-wheel drive, improved mobility and traction, better site access and reduced site damage. Vehicle maintenance costs are also reduced from the smoother ride and less vibration.

"The product can be installed on, and transferred to,



any truck so it provides a long lasting solution. It also increases the life of tires by ensuring they are always at the correct pressure at various stages of the haul cycle."

The technology can be applied to any vehicle from delivery trucks to pumpers, to ready-mix vehicles.

Hinz says safety is a key focus of TPC and built into TIREBOSS. The technology has been designed to monitor the vehicle's speed and to alert the driver if the tire pressure should be adjusted, and will automatically inflate the tires if the alerts are ignored.

"Safety is a big focus of what we do. From the system design to the training tools and on the ground training we provide drivers, we work to ensure driver safety."

Hinz says that TIREBOSS is a long term quality product. Part of the company's reputation, he says, is based on its strong technical support, and in part on TPC's success serving its clients so they can better serve their clients. "Our focus is our client, on ensuring they are well taken care of, that the system is working efficiently, that any issues are addressed, and that the customer is as happy in year one as year 10."

TPC is a member of Florida Independent Concrete & Associated Products Inc., and a member of the National Ready Mixed Concrete Association.

For more information, visit www.tireboss.com/benefit-for-concrete.

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Tampa Bay's third tallest building readying for construction

Tampa-based development firm Mercury Advisors plans to begin construction of the third tallest building in the Tampa Bay Area in early 2019, according to 83 Degrees.



Dubbed ELEVÉ 61, the 382-ft tall, 35-story building will offer just two units on each floor. Each unit will have three bedrooms and three bathrooms in approximately 2,500 sq. ft.

The project is designed by Orlando-based architectural firm Scott + Cormia.

Last month, Mercury Advisors announced obtaining a construction loan for \$74 million. The firm bought the ELEVÉ site at East Whiting St. and Channelside Dr. in 2006.

Construction of the tower will begin early next year and is expected to take 18 months.

GCM building new warehouse/office complex in Fort Myers

GCM Contracting Solutions says that it will build a new warehouse and office complex for Naples-based landscape management company Greenscapes in Fort Myers.

The 10,000 sq. ft. facility, located on Lee Rd. in south Fort Myers, will be used by Greenscapes to store and service lawn equipment, as

well as hold business meetings and conduct staff training.

GCM says that it will use tilt-up concrete construction to build the one-story warehouse. The project is expected to be completed this fall.

"The new facility has a modern design with distinct architectural elements, and its interior features both office space and large warehouse areas to securely store equipment and chemicals," Robert Brown, owner and president of GCM, said in a statement.

GCM selected Southview Studios to provide architectural services for the Greenscapes project.

Florida preparing to build \$814 million bridge linking Hillsborough and Pinellas counties

The Florida Department of Transportation (FDOT) will spend \$814 million to design and build a new, eight-lane Howard Frankland Bridge linking Hillsborough and Pinellas counties, The Ledger reports.



Credit APALAPALA/Wikimedia Commons

The bridge would feature eight lanes of traffic and a bike and pedestrian trail. The contract will be bid in December 2018.

The state expects to award the bid in 2019. Construction is scheduled to begin in 2020, with the bridge opening in 2024.

McDonald's to spend \$186M to upgrade 240 restaurants across Florida

McDonald's says that it will invest around \$186 million throughout 2018 and 2019 on the construction and modernization of 240 restaurants across Florida.

In total, McDonald's and franchisees are investing \$6 billion to modernize most U.S. restaurants by 2020.



The transformed restaurants will feature modernized dining rooms with, digital self-order kiosks; remodeled counters; digital menu boards inside and at the drive-thru; new parking spots for curbside pick-up through mobile order and pay; and expanded McCafé counters and larger display cases.

"This is an exciting time for McDonald's and we're proud to be investing nearly \$186 million to provide a new experience, look and feel for guests at 240 McDonald's locations across Florida," McDonald's owner/operator Anthony Lopez said in a statement. "We are also pleased that our modernization supports local architecture, engineering and construction jobs across the great state of Florida."

The news release is one of several posted for different markets around the nation. It does not answer the question about how contractors and subtrades can bid on these projects. Florida Construction News has invited McDonald's to provide further information on the process to follow to bid the work.

**West Palm Beach:
Kravis Center to undergo
\$50M expansion**

The Raymond F. Kravis Center for the Performing Arts, a West Palm Beach landmark known for hosting world-class musical, dance, and dramatic performances, is getting ready for a \$50 million expansion project designed by architecture, engineering, and interior design firm LEO A DALY.



The iconic theater, originally designed by Eberhard Zeidler with LEO A DALY as associate architect, will receive a number of upgrades. These include increasing the size of the Dreyfoos Hall Lobby, implementing new technology throughout, creating a pedestrian-friendly plaza, adding a new valet parking garage, building a new entrance/exit ramp to the existing garage and improving traffic flow on and around the campus.

“Over the next 22 months, the Kravis Center will begin to transform into an even brighter beacon for Palm Beach County,” Judith Mitchell, CEO for the Kravis Center, said in a statement. “The Kravis Center welcomes more than 500,000 guests every year, and this expansion will accommodate a growing base of customers with expanded ease of accessibility to enjoy our schedule of performances.”

Weitz Co. will serve as the general contractor, while Wantman Group will provide landscape design.

Construction is expected to be completed in 2020.

**Contractors win \$57 million
FDOT Miami multimodal
project**



The Florida Department of Transportation (FDOT) has awarded the contract for the \$56 million Golden Glades Multimodal Transportation Facility in Miami-Dade County to LEAD Engineering and Construction and partner Kaufman Lynn (KL) Construction.



The state-of-the-art park-and-ride hub will act as a gateway to Miami-Dade County and will unite several modes of transportation, including bicycles, cars, buses and the Tri-Rail.

“Kaufman Lynn Construction is ready to deliver a state-of-the-art facility with all the required infrastructure and systems,” says KL’s chief operating officer Chris Long.

“Our plan is focused around ensuring a positive and safe user experience whether it is by car, bus, taxi, carpool, Uber/Lyft or Tri-Rail. We also understand the challenges of keeping the facility operational during construction and Kaufman Lynn is committed to working with LEAD and all the stakeholders for the successful completion of this important FDOT project.”

The new multimodal facility will upgrade the aesthetics and func-

tionality of the interchange, and will more efficiently accommodate pedestrians and travelers of all ages and abilities. The completed project will include 10,450 sq. ft. of retail space, a 4,500 sq. ft. transit hub, over 1,700 parking spots and 53 truck spaces, maintenance facility, truck wash, bicycle parking and lockers.

“The LEAD team looks forward to working with FDOT, Miami-Dade Transportation and Public Works, Kaufman Lynn Construction and all other stakeholders on this exciting project to deliver a state-of-the-art multimodal transportation facility with all the required infrastructure and systems to service our community at its gateway, the Golden Glades Interchange,” Mauricio Gonzalez, president and CEO of LEAD Engineering Contractors, said in a statement.

**Construction underway
on \$400M mixed-use
development in Ocoee**

Park Development Corp. is building the \$400 million City Center West Orange project near State Rd. 429 and State Rd. 408 in Ocoee.



The project will include retail shops, condominiums, restaurants, hotel and offices. It is being developed on 100 acres of lakeside property facing West Colonial Dr. near the junctions of SR 429, SR 408 and the Florida Turnpike.

Planning includes approximately 500 condominium homes, a convention center, hotel, recreational trails and more than 500,000 sq. ft. of retail and commercial space.

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