

Custom Centric

LOCKE SOLUTIONS OPENS NEW DOORS FOR PRECAST ALTERNATIVES TO CAST-IN-PLACE STRUCTURES

By Don Marsh

A contractor upgrading a Whiting, Ind., petroleum refinery recently tapped a distant precast producer for a mostly rectangular vault, one side with a slight, coffin-like angle to accommodate site infrastructure. While customized precast concrete might economically “travel” farther than a standard product, it takes unusual circumstances to justify shipping a mundane, 75-ton underground structure from near the Gulf of Mexico to the southern tip of Lake Michigan.

Houston-based Locke Solutions recognized site, labor and safety circumstances surrounding the refinery structure, and delivered a precast solution for a customer mindful of cast-in-place methods’ quality control and schedule variables. The upstart producer thrives on oddball requirements and one-of-a-kind jobsite conditions calling for product fabricated beyond ASTM or related parameters.

Within its core Texas, Gulf Coast and South-Central market radius, Locke Solutions has established a presence the past two years by pursuing custom work in energy and chemical facilities, along with more conventional municipal projects. A hydraulic fracturing-enabled natural gas and shale gas production renaissance has boosted work in the former categories by the billions. Locke Solutions balances custom structure-heavy work tied to natural resources development with about 15 stock products—2- to 4-ft. electrical pull boxes; 3- and 4-ft. electrical splice boxes; 5- and 6-ft. electrical manholes; plus, precast utility trenches, ground boxes and communications manholes.

“We have a niche product, an engineered structure with labor and plant management requirements less predictable than you find in repeatable production,” says Locke Solutions President Asher Kazmann, P.E. “A lot of our work has been on projects related to natural gas resources development and downstream petrochemical processing. Energy and chemical facility infrastructure has few standard designs and concrete structures typically specified as cast-in-place. Locke Solutions presents a precast alternative and approaches every order prepared to fabricate something different than the last.”

As founder, he brings three qualifications bound to open doors and opportunities in the Lone Star State and collar markets: Structural engineering degree from Texas A&M University; 10 years in



Asher Kazmann, P.E., launched Locke Solutions with a goal of advancing the long-running, gradual shift from cast-in-place to precast methods for underground concrete structures.

management with a major precast producer; and, willingness to spontaneously field calls and assess precast alternatives to what are often problematic cast-in-place concrete specifications.

“Contractors like the precast option, especially with the price and labor uncertainty that can accompany a structure poured in the field. If there is a way of fabricating a piece or structure in the plant and shipping it to a site, we go through the design process with the contractor, review with engineers, and obtain approval for the precast alternate.”

DIFFERENTIATION

All Locke Solutions precast pieces and structures are shipped absent outer-wall stenciled logos and code; instead, each bears a company logo decal and, depending on the job, a separate product number and weight decal. The newest decal detail is National Precast Concrete Association

certification. Locke Solutions attained certification in fall 2014, on the shortest possible timetable—18 months—for a greenfield plant.

Backed with outside investors, including family, Asher Kazmann started Locke Solutions in January 2013, stripping the first product by month’s end in a new spec industrial building located in the south-central part of Houston. He was joined by a few experienced precast crew members, who have since rounded out a sales, engineering, production and purchasing management team. Their idea was to leverage technology to “create quality designs and manufacturing techniques coupled with the basics of providing world-class service.”

The business had seven on board by spring 2013. The payroll has climbed to 31, with one or two new employees added monthly, providing an optimal or near-optimal training window. “We strive to be the best in servicing our industry and developing employees in their professional and personal lives,” Kazmann affirms. “Our business conduct promotes respect and loyalty from employees, customers, and vendors. Simply stated: ‘Do the right thing.’”

“A big part of our growth is having customers who want us to succeed and, when necessary, go out of their way to help us get approved for a job. We are successful because of our customers and employees, versus the plant.”

Continued on page 52



Locke Solutions has delivered about 100 structures to the Port of Houston, including 5- x 6-ft. and 8-ft. square electrical boxes. With an eye to increased cargo stemming from the Panama Canal expansion (scheduled, 2016), plus population growth along the Texas coast, the Port of Houston Authority has planned \$275 million in 2015 capital investment along a 25-mile waterway stretch.



On a job with considerably greater shipping factor—to northern Indiana—Locke Solutions produced a 75-ton vault for a refinery where site conditions compelled the contractor to think twice about cast-in-place methods. Houston plant crews staged fabrication outside, easing product handling and trailer loading.



With an office less than 75 feet from the production floor, he impresses on staff the priority of immediately fielding customer inquiries under almost all circumstances. The underlying message: short of stopping a pour, take the call. That mind set has helped foster a core of friends and allies, among them the landlord. Locke Solutions leases its 27,000-sq.-ft. headquarters and plant from a contractor and developer, who was building the facility as the producer mapped a launch timetable. Located about two miles west of Hobby International Airport, the structure offers a 30-ft. high bay, sufficient for a 22-ft. hook height, and 10-ton overhead cranes critical to fabricating larger boxes and vaults. Kazmann had scouted existing buildings close-in to Houston, all with bays limiting hook height from 10- to 14-ft. High-bay facilities tended to be located on business park sites with sparse outdoor storage.

As part of his business plan, Kazmann aimed for in-house metal fabrication, enlisting an industry acquaintance to set up shop adjacent to pre-casting operations. As the second plant tenant, B&C Metal Works builds forms for Locke Solutions and also handles outside welding and steel fabrication. B&C welded a charter 3- x 5-ft. splice box mold, finishing it in what is now a plant-signature sky blue. Western Forms has supplied aluminum pull box formwork designed with rounded product corners—another feature indicating Locke Solutions' intent to put a different face on underground precast.

The form inventory was gradually built up as the producer prepared for a late-2014 rite of passage known to many once-small precast operators: Abandonment of ready mixed concrete deliveries in favor of internal mix production. The high bay conditions provide Locke Solutions headroom for an open mezzanine batch plant with 1.5-yd. mixer charging flanking delivery buckets.

The producer's four-acre site has suitable storage for stock boxes, vaults and trenches, plus space for outdoor casting of larger product, including the Indiana refinery vault. As Locke Solutions enters a third year, two especially notable contracts stand out on the production log: a 100-ton tank, measuring 12.5- x 38.5-ft. and built from three pieces, largest structure to date; and, a 600-plus-piece contract for the San Jacinto River Authority (SJRA), which is building a surface water treatment channel to improve management of supplies from Lake Conroe, a City of Houston majority-owner reservoir. The latter includes 500 U-shaped channels, 4 or 5 ft., and top slabs, plus underground drainage and electrical structures.

The SJRA contract helped the company close 2014 more than 200 percent ahead of inaugural year tonnage. Stock products tailored to higher volume infrastructure activity in the strong Houston market, plus engineering and fabrication capabilities to turn custom precast structures for booming Gulf Coast chemical and petrochemical projects, solidly position Locke Solutions for year three and beyond.



Locke Solutions capped its second year in production with a batch plant installation. Mixer Systems furnished a 1.5-yd. planetary mixer, whose twin discharge doors feed buckets transferred by tandem overhead cranes. The batch plant has a 2- to 2.5-minute cycle time, depending on mix design, and affords plant crews the option of a single 1.5-yd. load or a double batch in a 3-yd. bucket. Mixer Systems also equipped the operation with two 30-ton sand & gravel bins, plus 350-bbl. cement silo. The plant runs on E-150 touch screen controls, for which up to 50 mix designs can be programmed.



In another sign Locke Solutions has arrived: Plant crews plied their trade to furnish the conference room. The concrete table is part of an office décor that respects engineering but not the expense of hipness.



Asher Kazmann (left) and team members muster around fruits of their labor. With more than 600 U-channel, top slab and box structures, the San Jacinto River Authority surface water treatment contract is Locke Solutions' largest to day.

