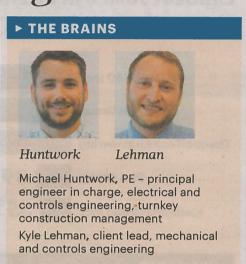**T H E L I S T**

## TWO QUESTIONS

# MadTree 2.0 engineers share biggest project challenges

*The newly opened MadTree Brewing Co. 2.0 facility in Oakley was built because the brewery had outgrown its Kennedy Heights location – the brewery, which brewed 18,500 barrels of beer in 2015, expects to more than quadruple its annual output by 2020.*

*With manufacturing operations of that scale, there was a lot more that went into the facility's design than making sure the taproom looked slick – that's where ThermalTech Engineering came in, an engineering firm that specializes in mechanical, electrical and plumbing engineering and turnkey construction projects. We checked in with engineer Michael Huntwork to talk about the project.*

▶ **THE BRAINS**



Huntwork          Lehman

**Michael Huntwork, PE** – principal engineer in charge, electrical and controls engineering, turnkey construction management

**Kyle Lehman,** client lead, mechanical and controls engineering



**ThermalTech worked more than 4,000 hours on MadTree 2.0.**

CORRIE SCHAFFELD

**What role did ThermalTech play in the development of MadTree 2.0?**
ThermalTech's relationship with MadTree goes back to the beginning. We engineered their original facility and have provided engineering support for multiple subsequent projects. For the new MadTree brewery our customer lead, Kyle Lehman, assisted with engineering support throughout the conceptual phasing, initial budgeting, layout, equipment selection and planning.

Once their new site was selected and space programming was complete, we began a turnkey project to deliver the process utilities for the finished shell production space. The utilities project delivery includes: compressed air, chilled water, steam, RO water, process power to all production equipment and CO2 distribution.

A complete controls package is also in the ThermalTech delivery scope for the brewhouse, cellar, utilities, grain handling, packaging supervisory control and other miscellaneous systems. This includes all control panel design and pro-

gramming, SCADA system design and programming, startup and commissioning.

**What were the biggest challenges ThermalTech faced with this project?**
1. New brewery dimensions – The production space is a Quonset hut building with a changing radius. It is a very cool old structure that presented challenges for maximizing space utilization. The utility rooms have some Tetris-like uses of space and the selection and layout of the cellaring vessels planned to fill in over the next few years

took some creativity!

2. Brewery controls – The controls for everything from conveying grain into the building to sending beer to the can filler are all custom designed and programmed in house by ThermalTech. This was a very large undertaking with input every step of the way from the MadTree team to deliver the system they wanted rather than a canned solution. The system has a back-end database tie-in for recipe management, inventory usage and work-in-progress tracking that will integrate with MadTree's ERP system.