# Designed to be GROUNDED

Install. Validate. Protect.

# The impact of installing the right grounding system

Grounding systems aren't always equal. Design, materials, and price can be substantially different. Traditional thinking often results in less than optimal results.

SAE has the experience to deliver proven, exceptional results.



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**Project Name** Hollister Substation

**Project Location** Hollister, MO USA

**Project Date** 2019

**Industry** Power Utility - Substation

SAE Solutions Used ConduCrete

#### The Challenge

Liberty approached SAE with a substation built directly on high resistivity bedrock. The station required an upgraded grounding system to meet safety requirements with a recent expansion. They had investigated a horizontal grounding system with a cost estimate of \$1 million dollars. Furthermore, this alternative system would require a very large amount of space to install.



330' deep to reach the low R  $\Omega$  layer

## The SAE SOLUTION

SAE designed a grounding system that included a 500 foot deep enhanced vertical ground electrode. It was installed to "tap" into the low resistivity layer and provide an R-value that met requirements to ensure touch, step and GPR were properly controlled. SAE was able to achieve this through soil resistivity testing using a spacing of up to 1,000 feet to locate a low resistivity layer about 330 feet below grade. This layer was key to the modelling and installation of a grounding system that met the requirements.

7 ohms

INITIAL

reading calculated using CDEGS modelling software

ACHIEVED after SAE grounding installation!



### RESULTS

Cost less than \$250,000 ... A 75% SAVINGS

1.7  $\Omega$  measured ... SAFE FOR PUBLIC & UTILITY EMPLOYEES!







Contact Us today to improve your grounding

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