Abstract: This keynote presentation and paper uses four case studies to emphasize the fact that field engineering decisions cannot be made without a full understanding of all the technical problems involved. Two of the studies are taken from conventional design, bid, build projects and two are taken from design build projects where the ability to strongly influence design in the interests of construction efficiency places a new and increased emphasis on construction and field engineering skills. The cases also show that field engineering decisions frequently address new and unexpected realities, changed conditions and transient loads and thus require a high level of understanding, technical analysis and creative thought.

The need for universities and construction engineering programs to develop graduates able to integrate design and construction considerations throughout the project delivery process is emphasized and programs are urged to continue a strong focus on field engineering as the foundation for success in an increasingly complex and technically driven construction industry.