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Prestressed concrete construction offers many advantages over contemporary construction methods, such as longer spans and more slender members, accelerated construction timelines, exceptional quality control, unmatched resilience and durability, and superb beauty and versatility, to name a few. Despite the many benefits of precast construction, ignorance is one of the biggest obstacles that prevents people from wisely considering its use and practical implementation in the field today. The BYU Design Studio will help to educate and expose future engineers to the many advantages of using prestressed concrete solutions to meet the current and future needs of a growing society.

This program will help students understand the benefits of precast solutions, provide the skills needed for safe and economical precast design, cultivate positive sentiment towards prestressed construction, and develop relationships with the local and regional industry professionals by providing opportunities for frequent engagement. With multiple precasters within an hour’s drive, BYU is a prime candidate for the establishment of such a program. This curriculum is based off the methodology of experiential learning and aims to provide students a variety of hands-on activities and opportunities to not only hear more about precast concrete, but to see and do. Positive exposure is paramount for the success of these objectives. A natural affinity towards precast construction is expected to be developed as students put the principles of prestressed construction into practice in fun and enjoyable ways. This grant will facilitate the development of many hands-on activities, demonstrations, models, and experiences for students to see prestressed concrete in action. These relationships will reinforce the natural interest that students develop for a phenomenal product.

Students are naturally a primary beneficiary of this program as the concepts of prestressed concrete design and construction help them to be more savvy and capable engineers in all facets of their work. In addition, the quality of graduates directly benefits the university and the reputation it seeks to uphold. It is intuitive that the industry will benefit as well (both locally and regionally) with an increasing pool of interested and qualified engineers and contractors who can participate in prestressed design and construction, as employees of the industry or as proponents of precast solutions in the many related fields of work. This program will contribute to the future leadership of the industry and will help in society’s push towards a more resilient and sustainable community.