

SUSTAINABLE BRIDGE SOLUTIONS: ENVIRONMENTAL CONTEXT, DESIGN, CONNECTION

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ABSTRACT

Designing and building sustainable bridge solutions is paramount to the environmental and economic success of communities. One in four bridges in the United States is rated as structurally or functionally deficient. As funding becomes available to replace our aging infrastructure, a dynamic of environmental awareness and new materials provides opportunity to transform the future of the way we connect. Through environmental context, design, and connection, bridges can truly be a celebration of our natural landscape. New environment friendly technologies, such as solar energy sources, pollution reducing nano-technologies, and recycled materials, can be adapted for implementation in bridges. Incorporating these types of technologies and materials provides sustainable benefits for the environment today and in the future. Through a series of bridge case studies, this presentation will examine how bridge design and construction is evolving with sustainable solutions to create model transportation systems in the United States. Preservation of sensitive environments below bridge structures through proper planning and execution of construction methods, eco-friendly materials, and innovations will be explored as we evaluate how bridges respect, enhance, and integrate harmoniously with their sites.

BIOGRAPHICAL SKETCH

Linda Figg is President/CEO and Director of Bridge Art for FIGG, an international firm that exclusively specializes in bridges. Linda has over 30 years of experience in leadership and management of world class bridges from concept through construction. FIGG bridges have received 348 awards for customers, recognizing economy, innovation, sustainability, and aesthetics, including three Presidential Awards through the National Endowment for the Arts. She was named as one of Engineering News Record's Top 22 Newsmakers in 1998 and Concrete Construction magazine named Linda as one of the 13 most influential people in the concrete industry in 2007. In 2010 Linda was inducted into the Alabama Engineering Hall of Fame and in 2011 was elected to the National Academy of Construction. The NAC noted her "vision behind new technologies in bridges that are important to the long - term viability of our nation's infrastructure." Linda received her Civil Engineering degree from Auburn University in 1981. Linda's passion for creating environment friendly and functional bridge sculptures has led her to focus on improving the quality of life in communities with landmark bridges.