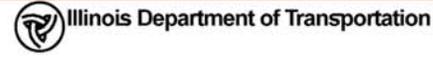
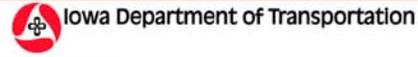




Bridge Types that were Dismissed



Tied Arch – Delta Pier



Unbraced Tied Arch Single Bridge with Delta Pier and Vertical Hangers



Modified Basket Handle Tied Arch Twin Bridges with Delta Pier and Network Hangers



Unbraced Tied Arch Twin Bridges with Delta Pier and Vertical Hangers



Modified Basket Handle Tied Arch Twin Bridges with Delta Pier and Vertical Hangers



Modified Basket Handle Tied Arch Single Bridge with Delta Pier and Vertical Hangers



Basket Handle Tied Arch Twin Bridges with Delta Pier and Vertical Hangers

Why the Tied Arch with Delta Pier bridge type was dismissed:

These Tied Arch bridges all have one thing in common, the Delta Pier. Initially considered a unique design feature, later analysis concluded that structural issues were significant. Initial construction costs and future maintenance costs were higher than similar bridge types without the Delta Pier. There were also concerns regarding construction of these piers due to design details and quality control.

Detailed study of the delta pier concept indicated the existence of significant structural and constructability issues related to the large concrete sections, the pier geometry and reinforcement congestion. Due to these constructability concerns and the overall cost of the delta pier, it was decided to include vertical piers as an alternate to the delta pier for several of the tied arch schemes.