

ACEC/NCDOT Bridge Subcommittee Bridge Design Workshop Series

Integral End Bent Bridge Design
March 21, 2006





Introduction

Introduction

Goals of the Bridge Design Workshop Series

- Foster communication between NCDOT and PEFs.
- Attain greater consistency in bridge design for NCDOT.
- Build relationships among the NC bridge engineering community.

Introduction

Topics for Today's Workshop

- Range of methods for designing IEB bridges.
- Geotechnical aspects of IEB design and behavior.
- NCDOT IEB policy and suggested details.

Introduction

Today's speakers

- Rick Fauteux, HDR Engineering
- Brian Keaney, S&ME
- Gichuru Muchane, NCDOT

The background of the slide features a dark blue, semi-transparent overlay on a photograph of a modern building with a glass facade. A car is visible parked in front of the building. The text is centered on a light beige horizontal band.

Benefits to Using Integral End Bents

Benefits to Using Integral End Bents

- Elimination of expensive joints.
- Elimination of expensive bearings.
- Design efficiency – significant reduction to longitudinal and transverse forces to adjacent interior bents through load “sharing”.
- Eliminates need for enlarged seat widths and restrainers to account for seismic events.

Benefits to Using Integral End Bents

- Increased end span ratios.
- Improved protection for ends of weathering steel girders.
- Faster construction.
- Improved torsional rigidity at ends of curved girder bridges
- Reduced costs to owner.