



Aesthetic Modifications of Precast Bridge Girders

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Monday, September 24th, 2007

2007 Western Bridge Engineers' Seminar

Session 4A



Our Location....



**Western
Bridge
Engineers'
Seminar**

The complex block contains a map of the Western United States (Alaska, Washington, Oregon, California, Nevada, Idaho, and Montana) on the left. An orange arrow points from the Knife River logo to a specific location in central Oregon. To the right of the map is a large blue curved shape containing the text "Western Bridge Engineers' Seminar" in white, serif font.



Introduction

- Northwest Bridge Engineers are Blessed with many Precast Bridge Shapes.....
 - Voided Slab
 - Box Beam
 - Bulb I and Bulb T
 - Deck Bulb Tee



- Unique Shapes
 - Prestressed Tub
 - Post-tensioned Trapezoidal Tub
 - Dual Cell Box Beam (RR Application)
 - Segmental Specific Sections



Scope of Discussion

- Thinking Outside the “Form”....
 - Understand the Basic Precast Form.
 - Can the Form be Modified?
 - Can the Product be Stressed?
 - Can the Product be Handled and Shipped?
 - Can the Product be Erected?



Can the Form be Modified?





Can the Product be Stressed?

C.G. OF PRESTRESSING STRANDS





Can the Product be Stressed?





Knife River's MOAB



$P_{\text{Jack}} = 3 \text{ Million lbs. @}$
4 feet Eccentricity



“Build It and They
Will Come....”,
Session 6A.





Can the Product be Shipped?





Can the Product be Shipped?





Can the Product be Shipped?





Can the Product be Erected?





Can the Product be Erected?



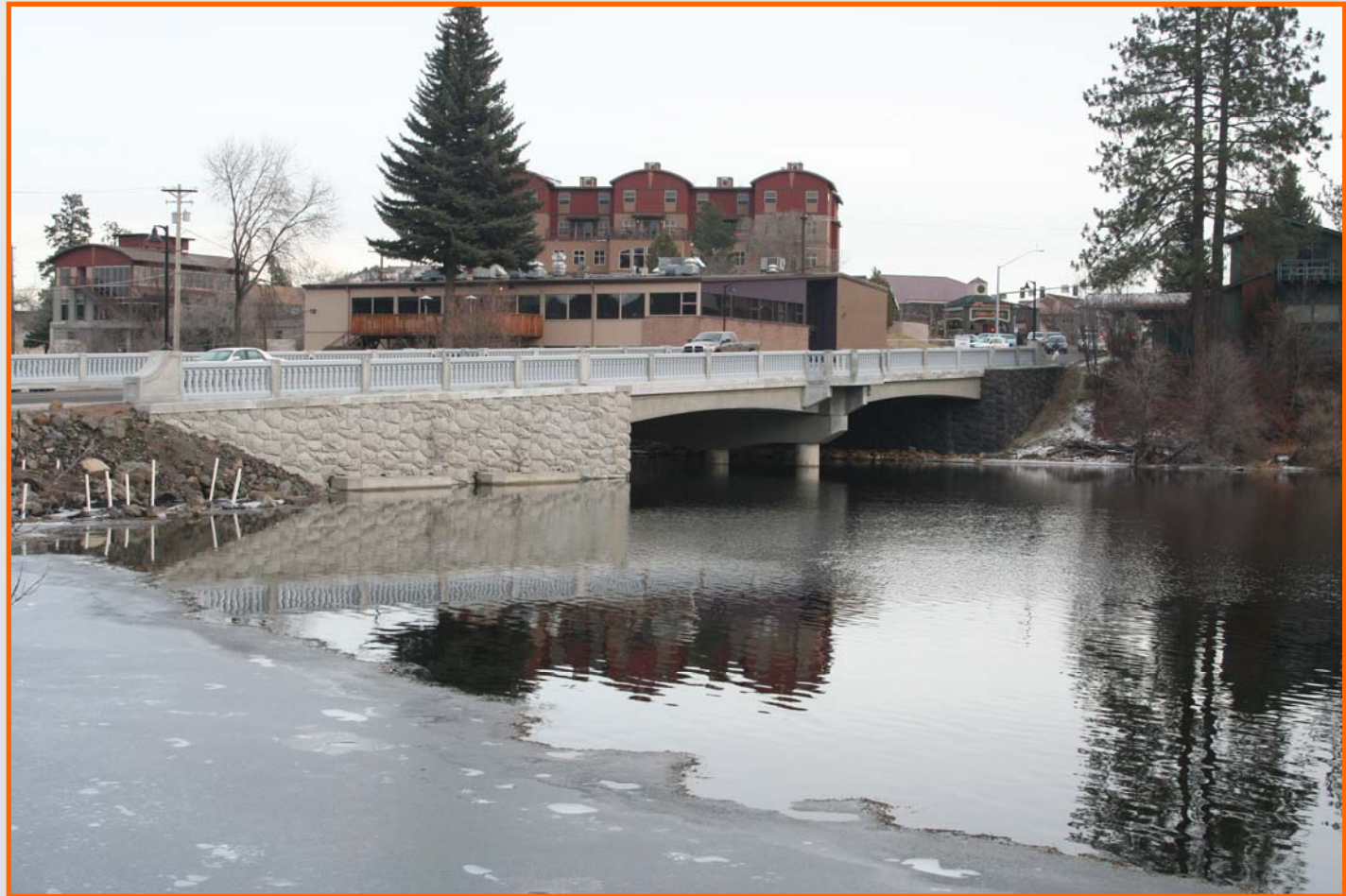


Case Study – Newport Ave.



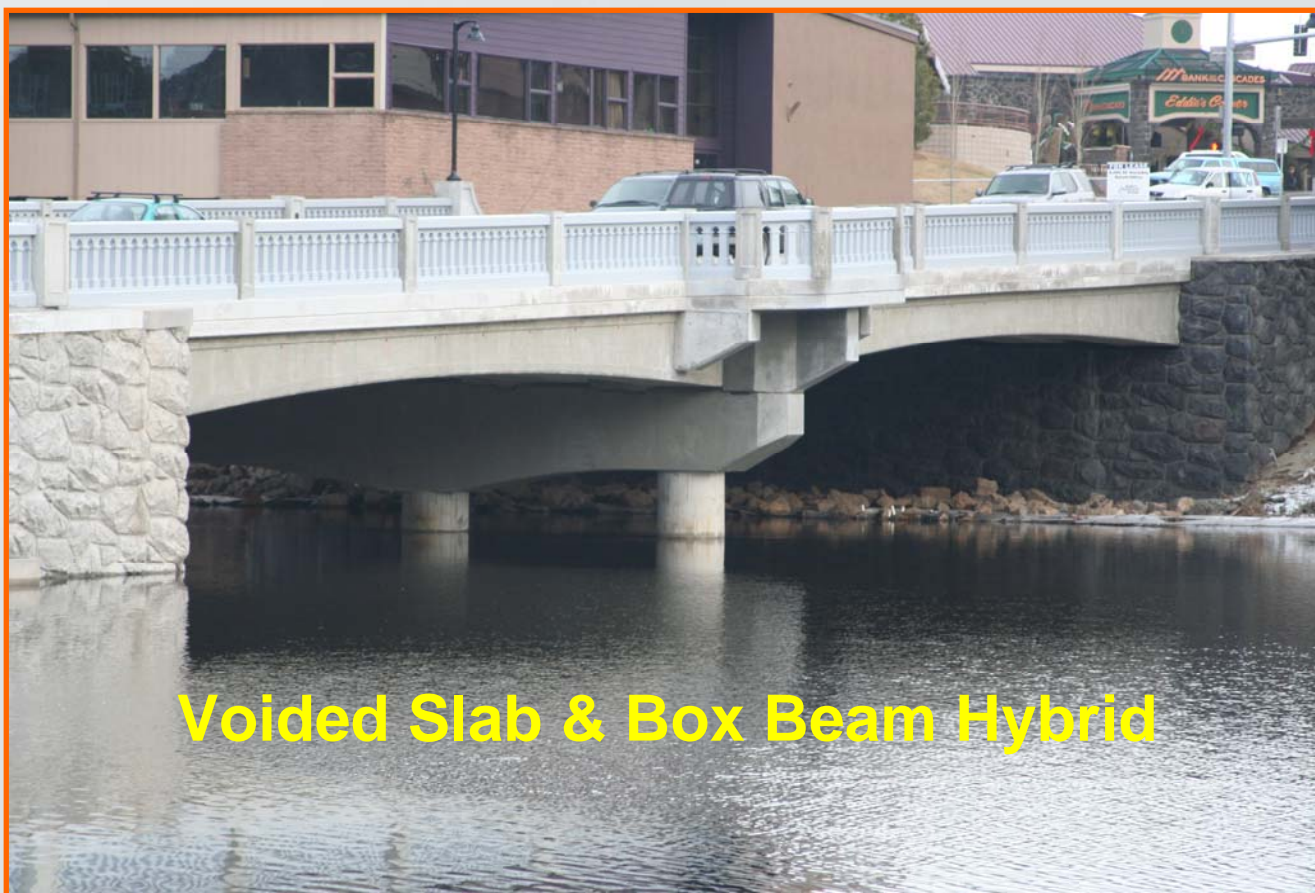


Case Study – Newport





Case Study – Newport Ave.



Voided Slab & Box Beam Hybrid





Case Study – Newport Ave.





Case Study – Newport Ave.





Case Study – Thomas Creek



Depth Varies 40-50 inches.





Case Study – Thomas Creek





Case Study – Thomas Creek

SITE PHOTO TO
BE ADDED

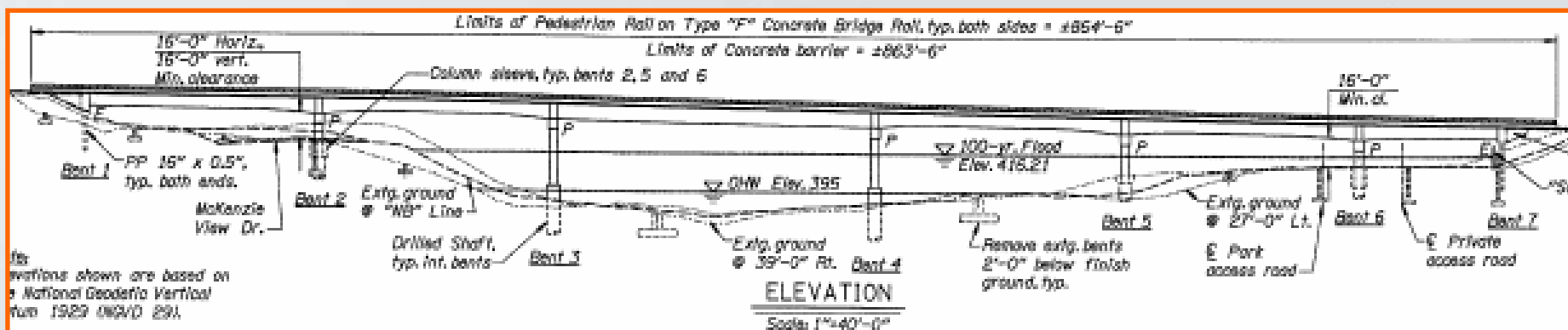


Case Study – McKenzie River Bridge





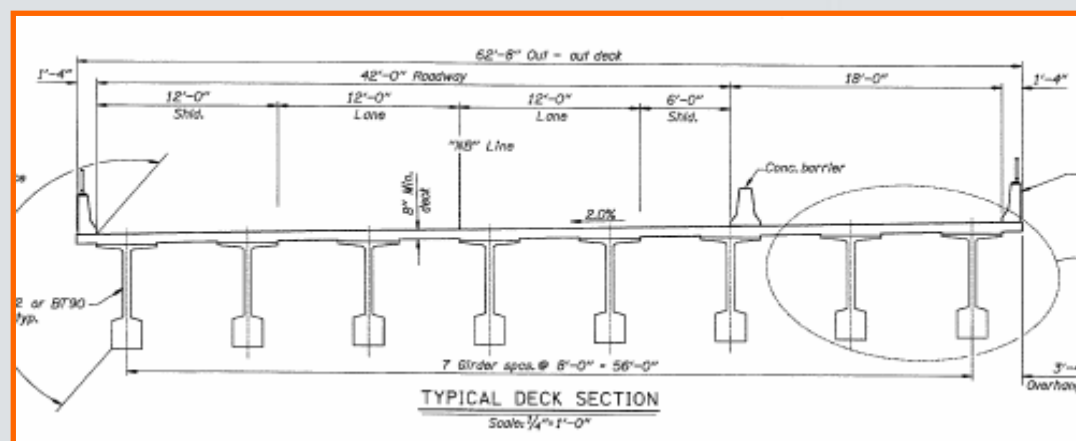
Case Study – McKenzie River Bridge



Project Criteria:

Parabolic Soffit Profile at Piers

20% Span and 1.3 *
Basic Depth





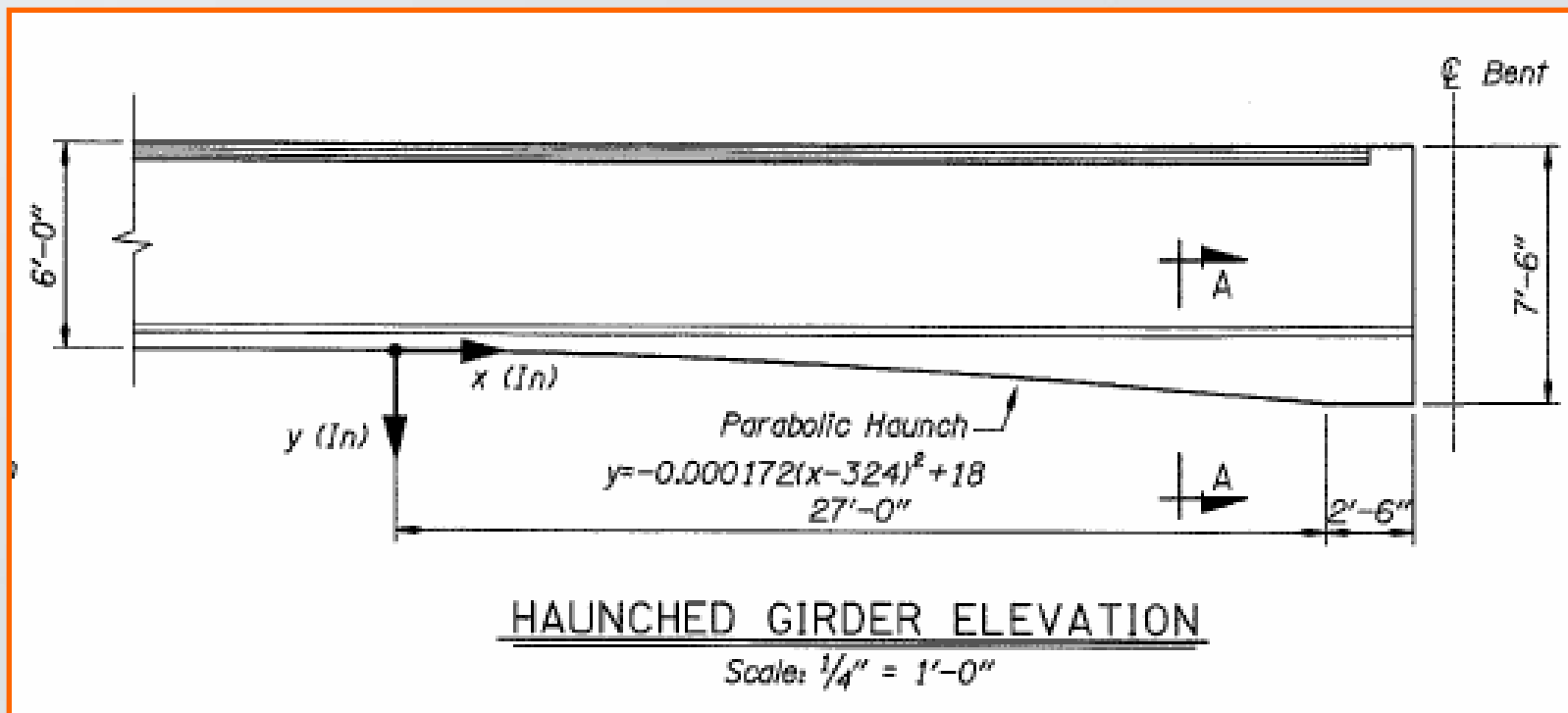
Segmental Spliced Girder



Dillard Bridge, OR – S. Umpqua River



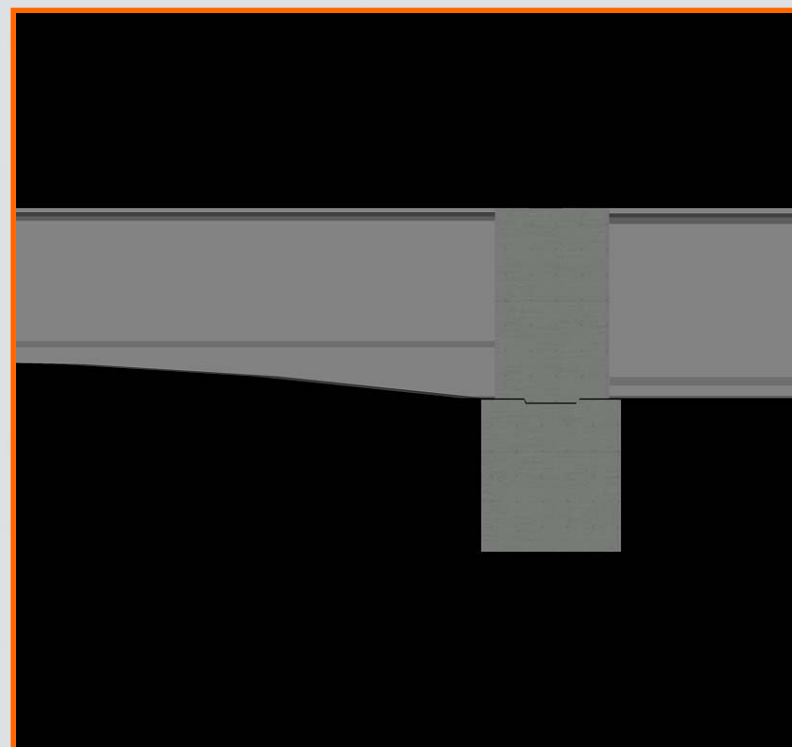
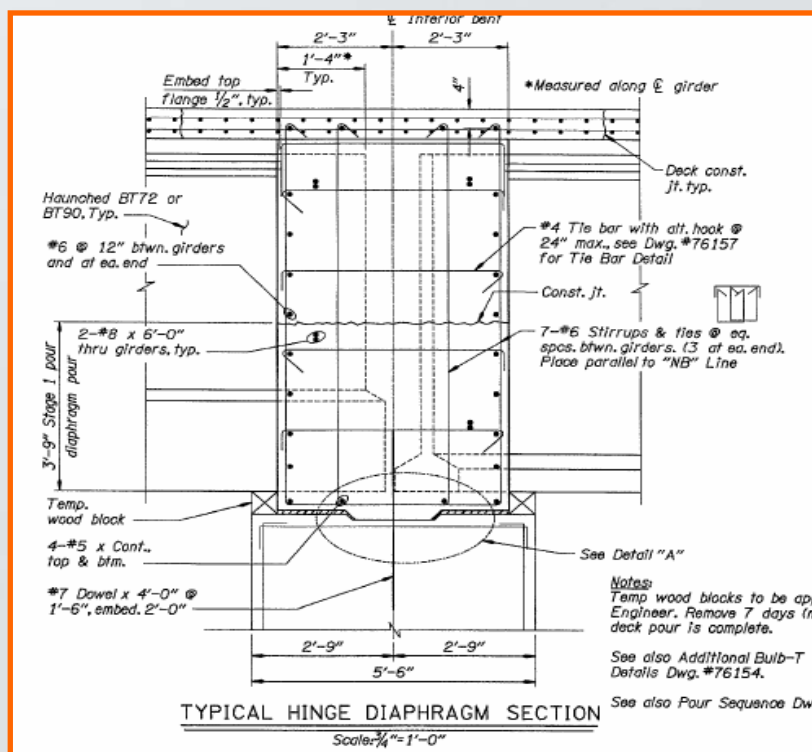
Case Study – McKenzie River Bridge





Case Study – McKenzie River Bridge

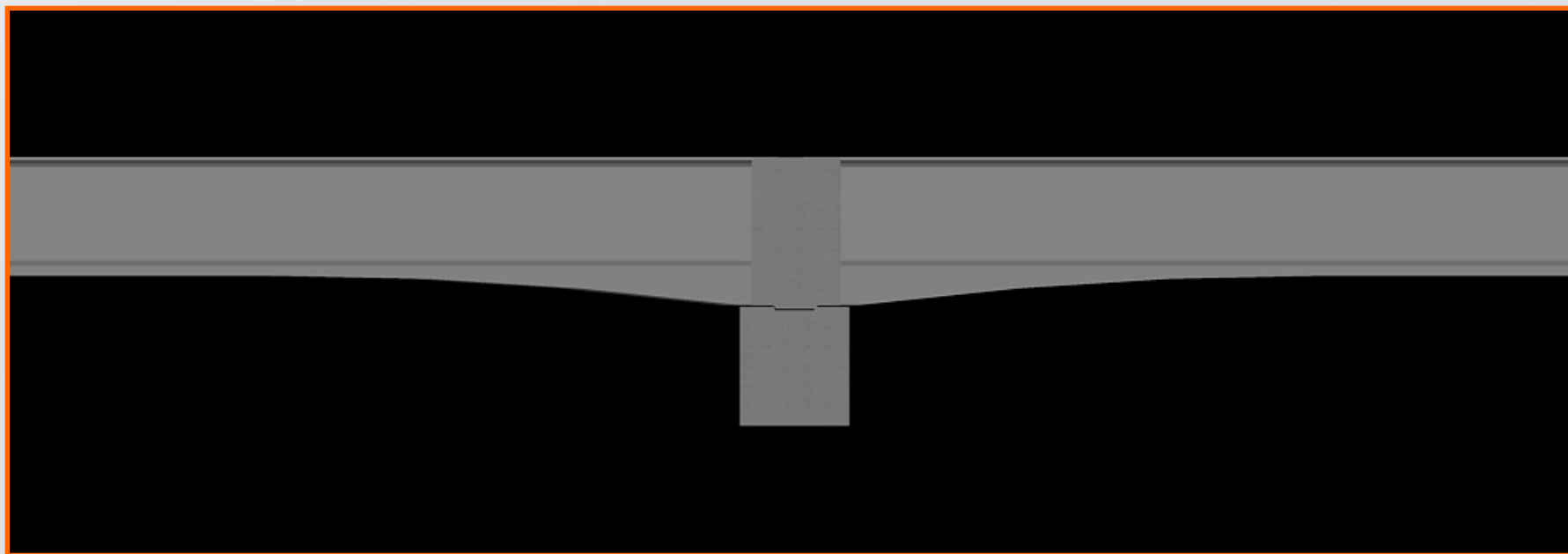
BT90 and BT72 at Pier





Case Study – McKenzie River Bridge

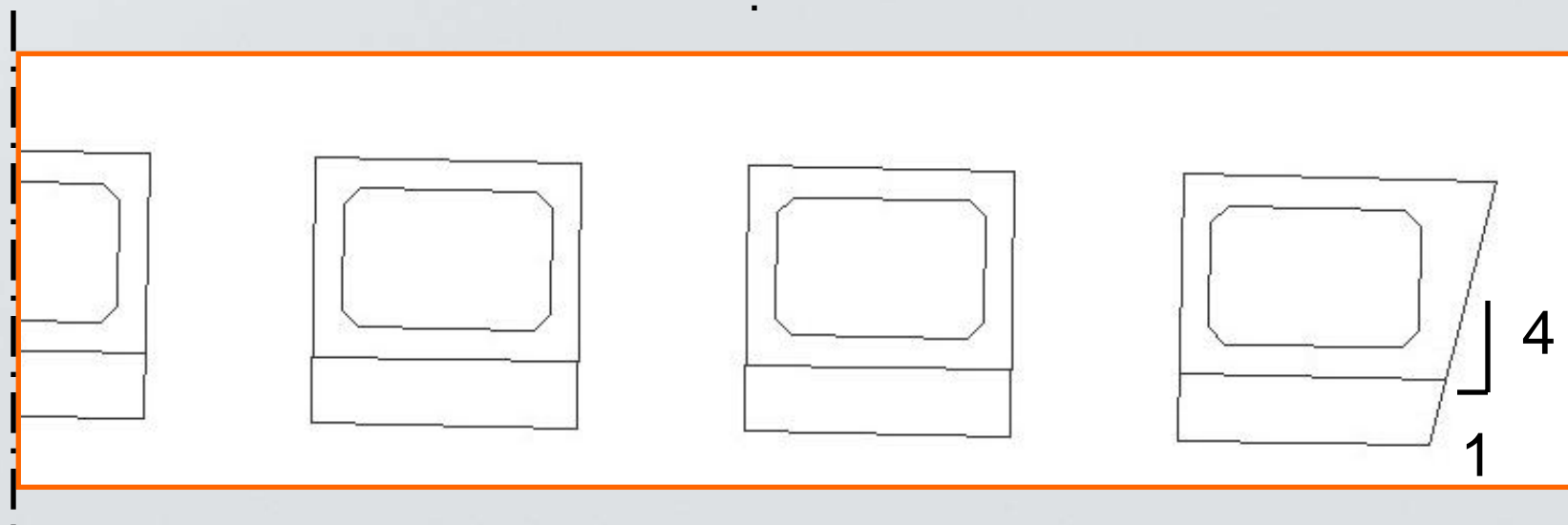
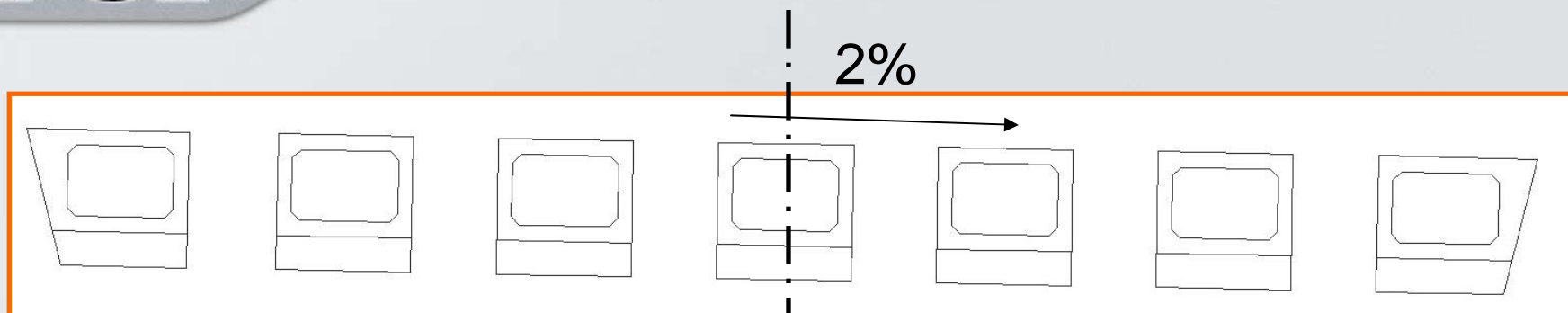
Modified BT72 at Pier





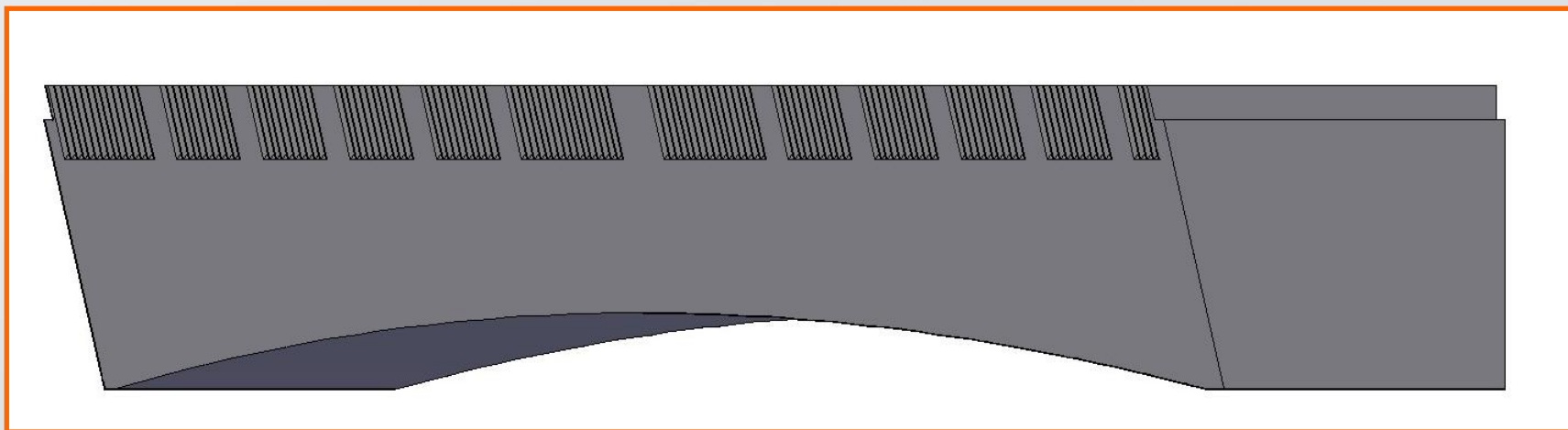
Case Study- MLK





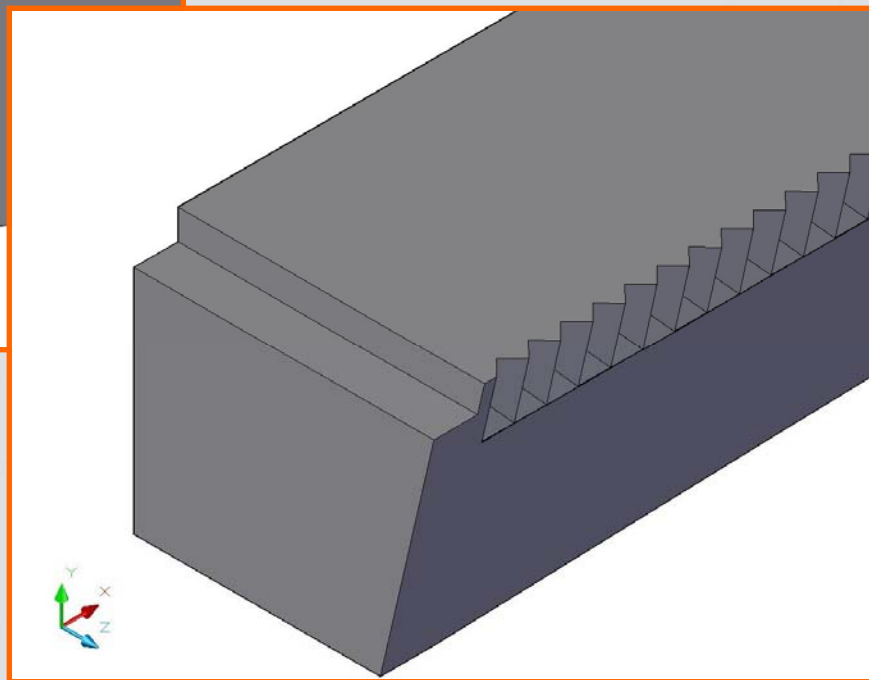
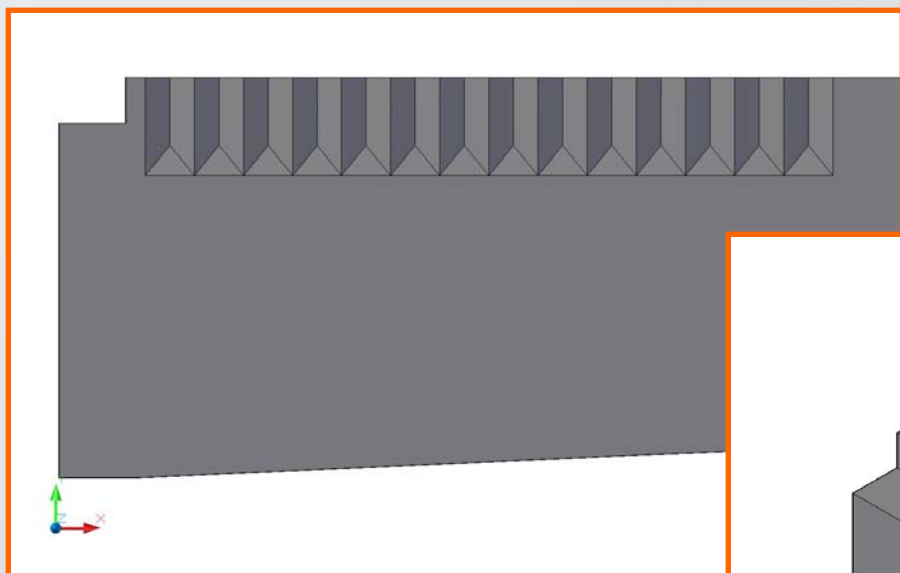


Case Study- MLK



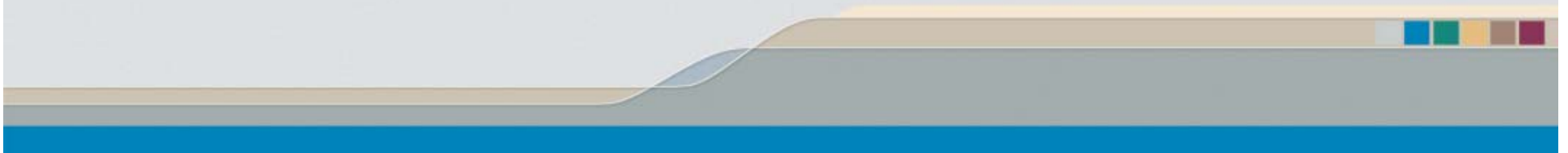
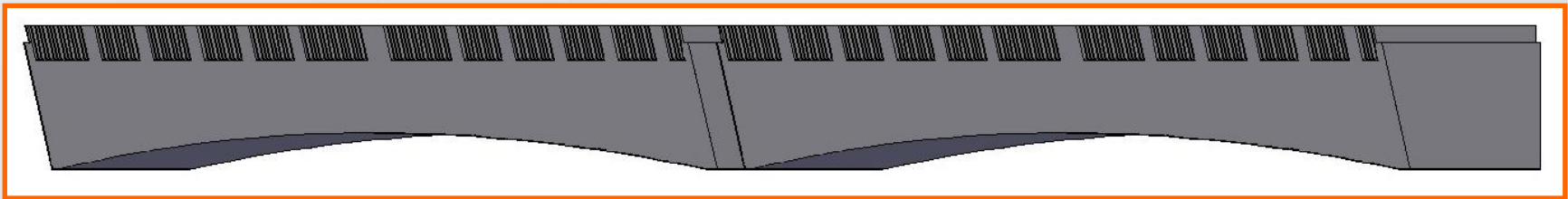


Case Study- MLK





Case Study- MLK



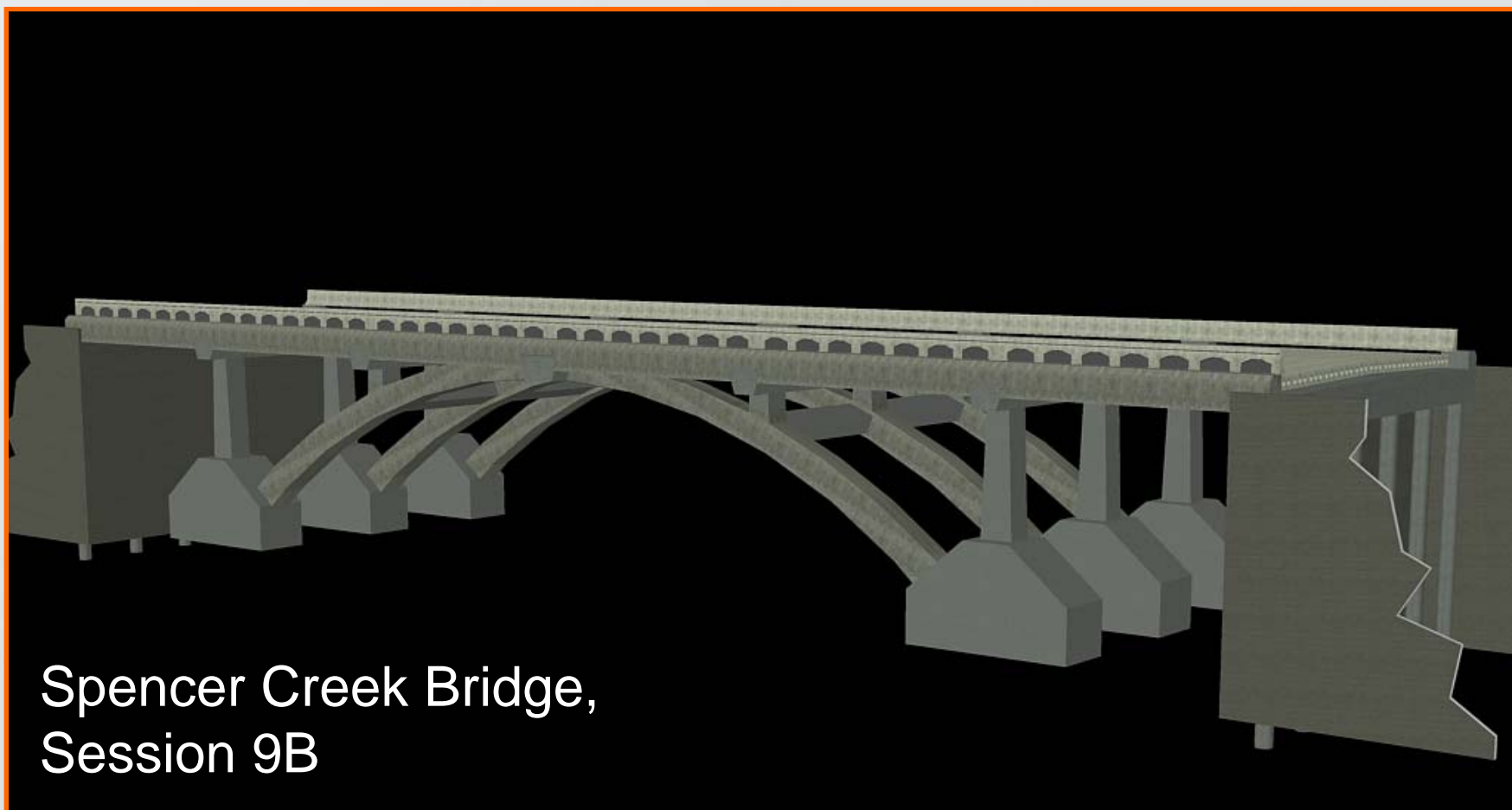


Case Study – Cooks Chasm





Case Study – Spencer Creek





Trapezoidal Tub – Chenoweth, OR





Weiser, Idaho





Thank you...

What Can Precast Do For You?
Contact Your Local Precaster.

Thank You!

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