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A QUIKRETE® COMPANY

Buried Bridges and Bridges at Grade

Tim Miller, Area Manager Structures
Brad Eberspecher, Bridge Consultant (MT/WY/ND)

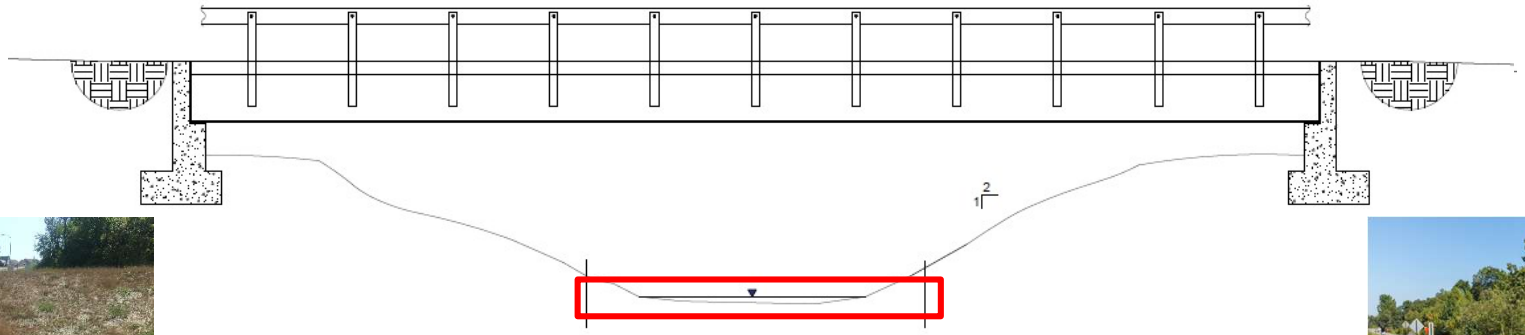
Contech Engineered Site Solutions

- Contech Introduction
- Structure Products
  - Bridge Plank
  - Buried Bridges
  - Bridges at Grade
- Design Center Tool



Contech Bridge Options

Plate. Precast. Truss. Girder.

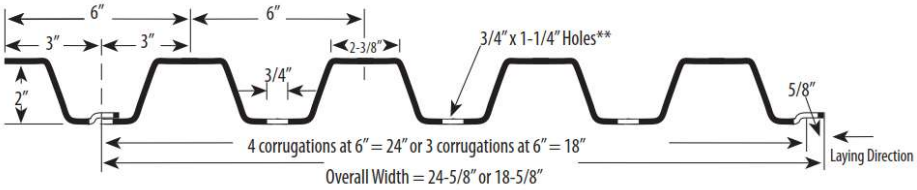


Multi Cell Culvert – Burke Cnty SD (120”)

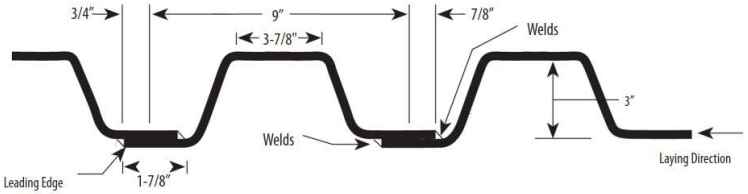
Structural Deck – Bridge Plank

STANDARD SIZES

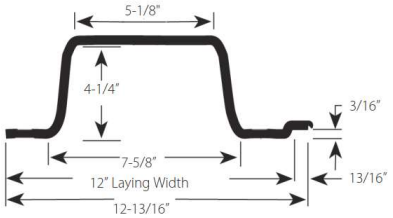
6″ x 2″ engineering details and design data



9″ x 3″ engineering details and design data



12″ x 4-1/4″ engineering details and design data



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Contech Structural Plate – Steel or Aluminum

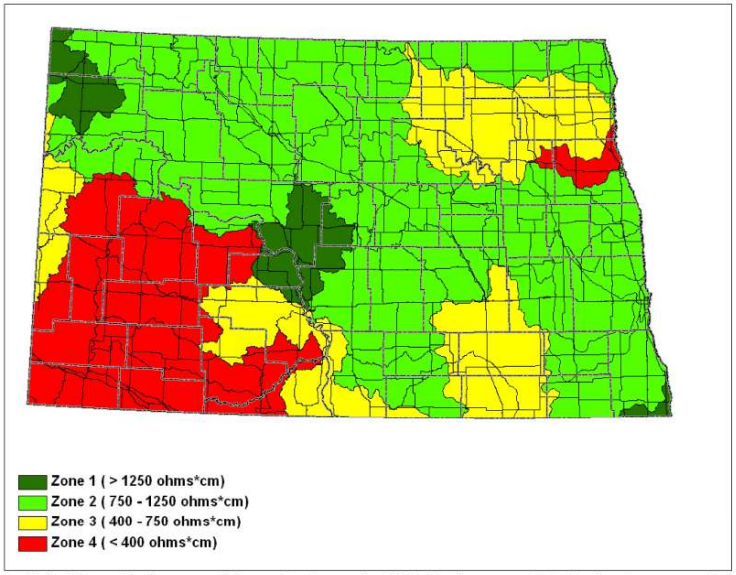
CONTECH® STRUCTURAL PLATE

BridgeCor®

NDDOT Corrosion Map and Select Backfill

Corrosion Zone Map & Tables

North Dakota Corrosion Zones (Map 1)
(Based on Soil Resistivity)



Data Source: United States Environmental Protection Agency's (EPA) Environmental Monitoring Assessment Program.

BACKFILL WITH SELECT Class 5

RECOMMENDED ENVIRONMENTAL RANGES

ALUMINUM

$4.0 \leq$ pH ≤ 9.0

RESISTIVITY > 500 OHM-CM

STEEL

$6.0 \leq$ pH ≤ 10.0

RESISTIVITY > 2,500 OHM-CM

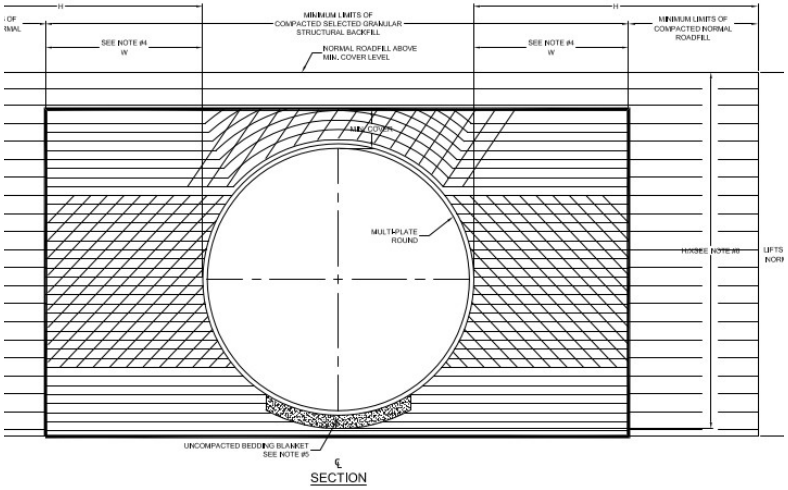
Aluminum Service Life Calculation

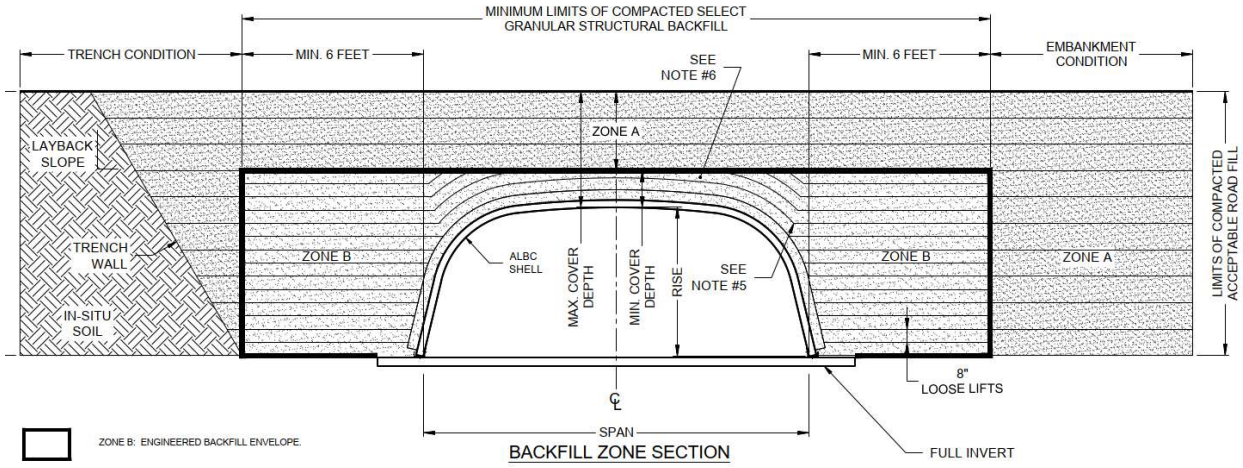
FHWA / TXDOT / NYDOT

0.0005" Pit Loss per Year (localized)
Service Life Years = Thickness/0.0005"
0.100" / 0.0005" = 200 year life

Plate Select Backfill

BACKFILL WITH SELECT Class 5





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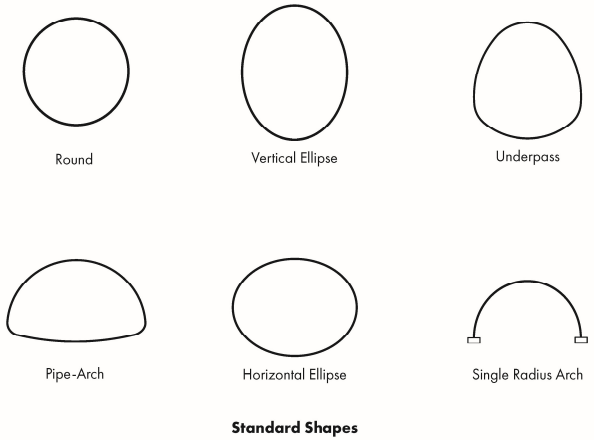
Structural Plate Shapes



Standard Shapes

Full Invert
(see page 72)

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PRECAST or Steel Express Foundations

CONTECH STRUCTURAL PLATE

Bugs Road (110’ Fill)
Manderee, ND

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Aluminum Box Structures – Bridge Removal

15’9” span x 8’ rise

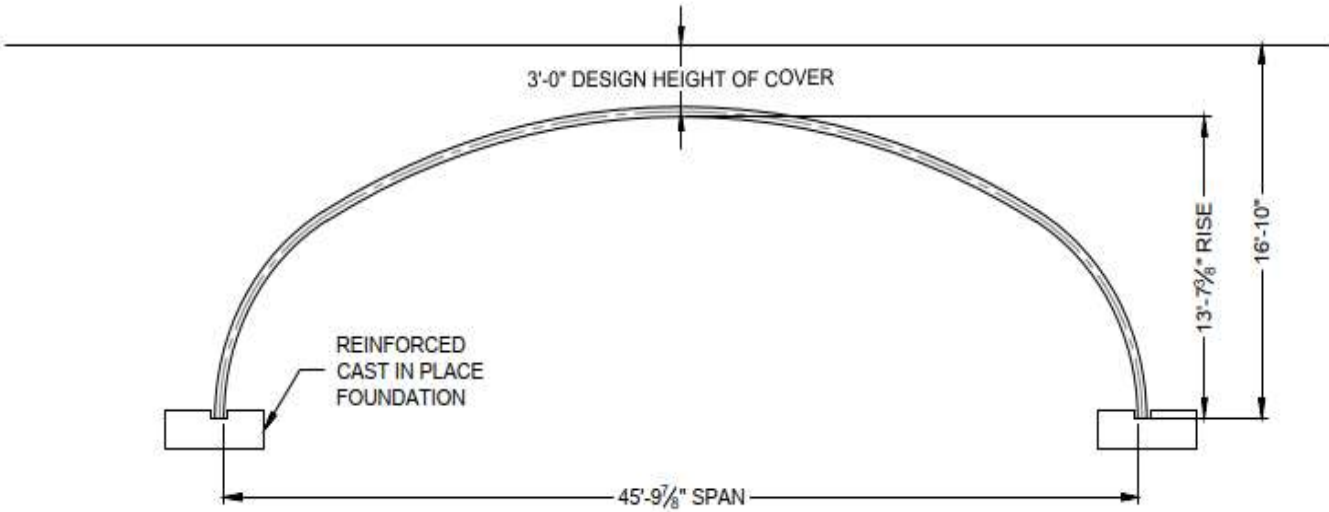
Solution Ovintiv Oil/Gas Site - ND

Original Design:

- 3 sided flat top box 36’ span
  - **Long Leadtime**
  - **Natural Bottom Requirement**

Contech Alternate Design:

- BridgeCor 45’9” span x 13’7” rise
- Vista Wall Steel Grid with Wire Façade
- Foundation, structure, MSE wall Design and load ratings by Contech



CROSS SECTION A-A

Solution Development – Design Center

Design Center Structure Overlay of Site – Wetland Clearance

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Ovintiv Development ND

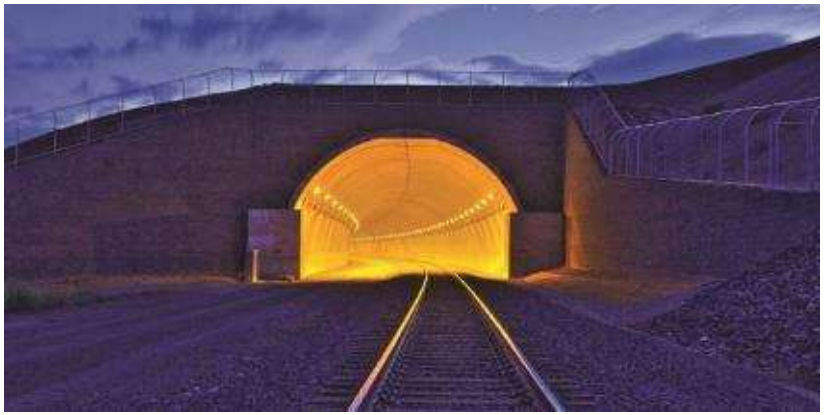
Contech Structural Plate Lead Times

From Approved Drawings:

- Multi Plate (Galvanized Steel) 4-6 weeks
- Aluminum Structure Plate 5-7 weeks
- BridgeCor (Deep Corrugated) 10-12 weeks (Gage Dependent)

Conspan and BEBO Arch Systems

Conspan 12’-87’ span and Bebo 12’-102’ span



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City Hall Fargo North Dakota

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Williston Airport

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NDDOT Long X Bridge Project

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NDDOT Long X Bridge Wildlife Underpass

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NDDOT Long X Bridge Wildlife Underpass

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Contech Precast Lead times

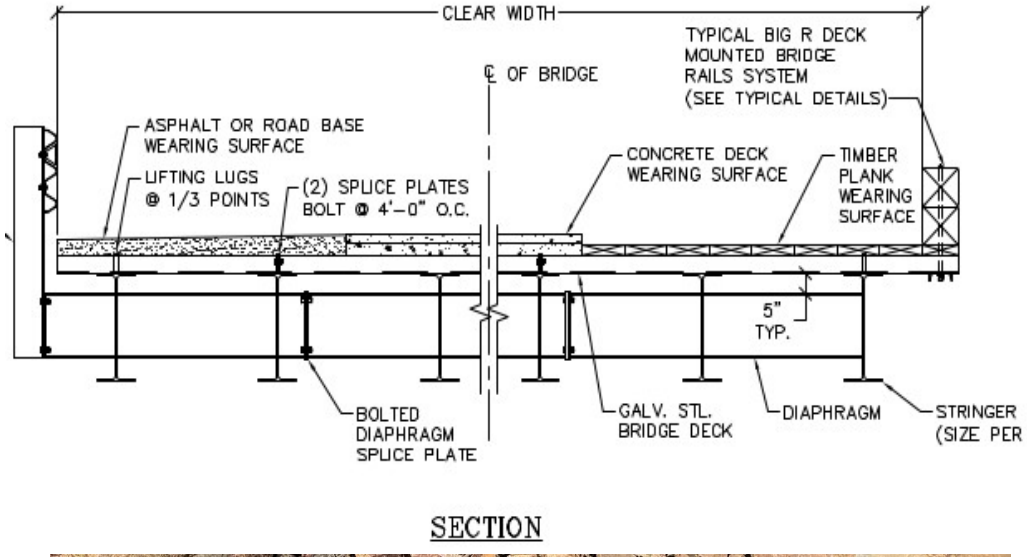
From Approved Shops:

- Conspan and Bebo Smaller (Less than 10 pieces) 5-6 months
- Larger Structures (More than 10 pieces) 6-9 months

CONSPAN BRIDGE SYSTEMS

Big R Modular Rolled Girder

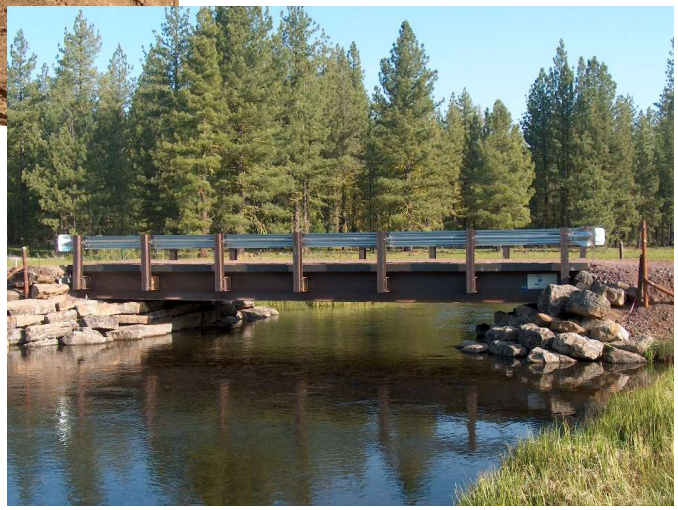
- Big R Rolled Girders
  - 20-120'+ span
  - Single lane or multi lane widths (12', 14', 16', 18' and 24' widths)
  - 12x4.25 Decking with wearing surface (gravel, asphalt, concrete, timber) and Guardrail TL-1, TL-2 and TL-3 (*Designed)
  - **(STOCK 40',50',60' SPAN X 16' WIDE)**



SECTION

Modular Rolled Girder - Delivery / Installation

- Modular components for quick installation
- Standard 8’ wide modules (>70’ span beam splice typically required)



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Rolled Girder Steel Express Pile Cap – Cooke City MT

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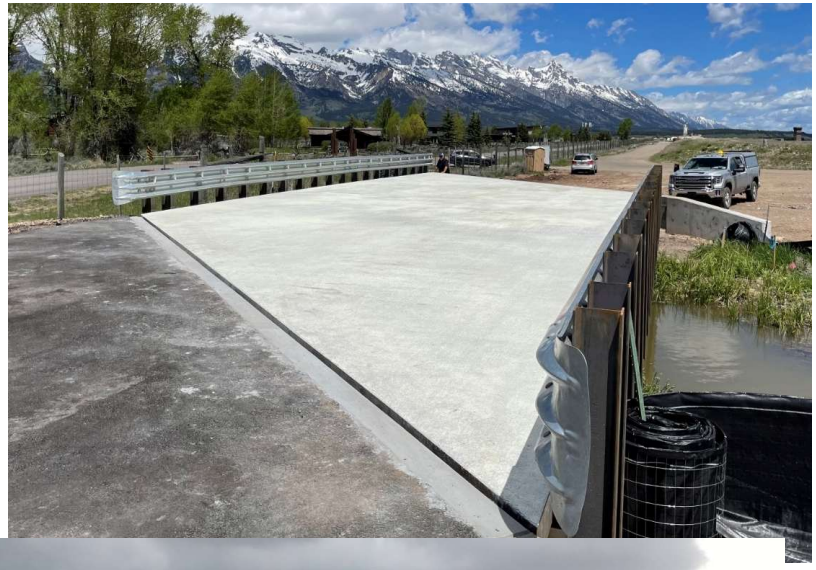
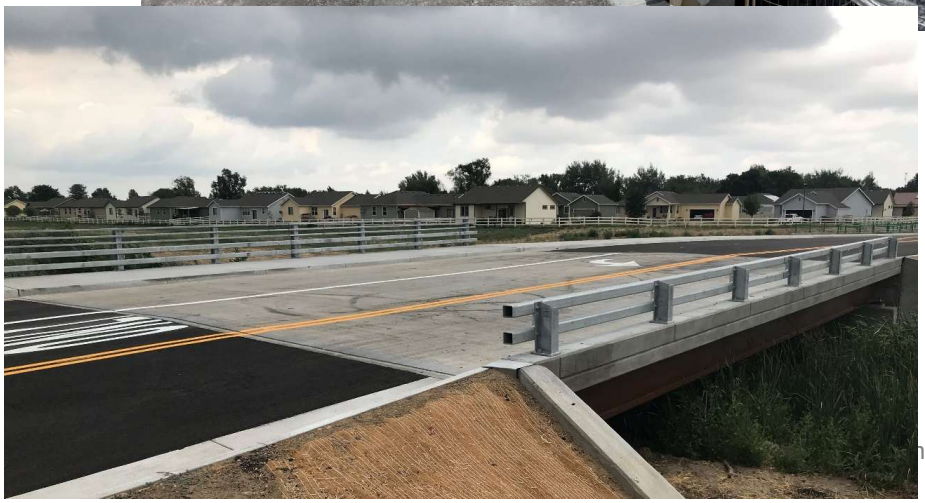
Rolled Girder Steel Express Pile Cap – Cooke City MT

Site Specific - Big R Modular Rolled Girder

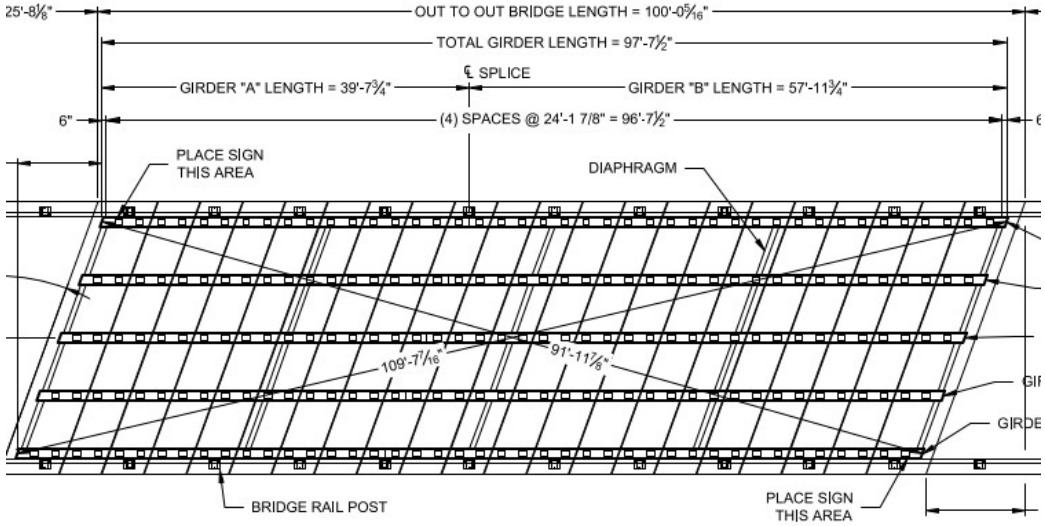
- 20-120’+ span
- Single lane or multi lane widths (12’-any width)
- Skews
- Custom or Crash Tested Rail with CIP Deck and Curb
- Wearing surface - CIP Concrete, asphalt, gravel, precast deck, timber, bar grate decking





Site Specific Modular – Wiggens Creek WY

- FHWA/HDR Design
- 100’ span x 24’ wide Rolled Girder skewed with precast deck and Crash Tested Rail
- Winter Install before Spring Runoff



Vehicular Truss – Carbella Bridge MT (Park Cnty)

- Park County / Stahly
- 210’ span x 24’ wide Vehicular Truss
- Yellowstone Flood 2022 – Bridge reopen Fall 2024
- No PIER in RIVER or TEMP Bridge

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Contech Truss and Rolled Girder Lead times

From Approved Shops:

- Big R Rolled Girder Express 5-6 months
- Custom Rolled Girders 6-9 months
- Pedestrian and Vehicular Truss 10-12 months

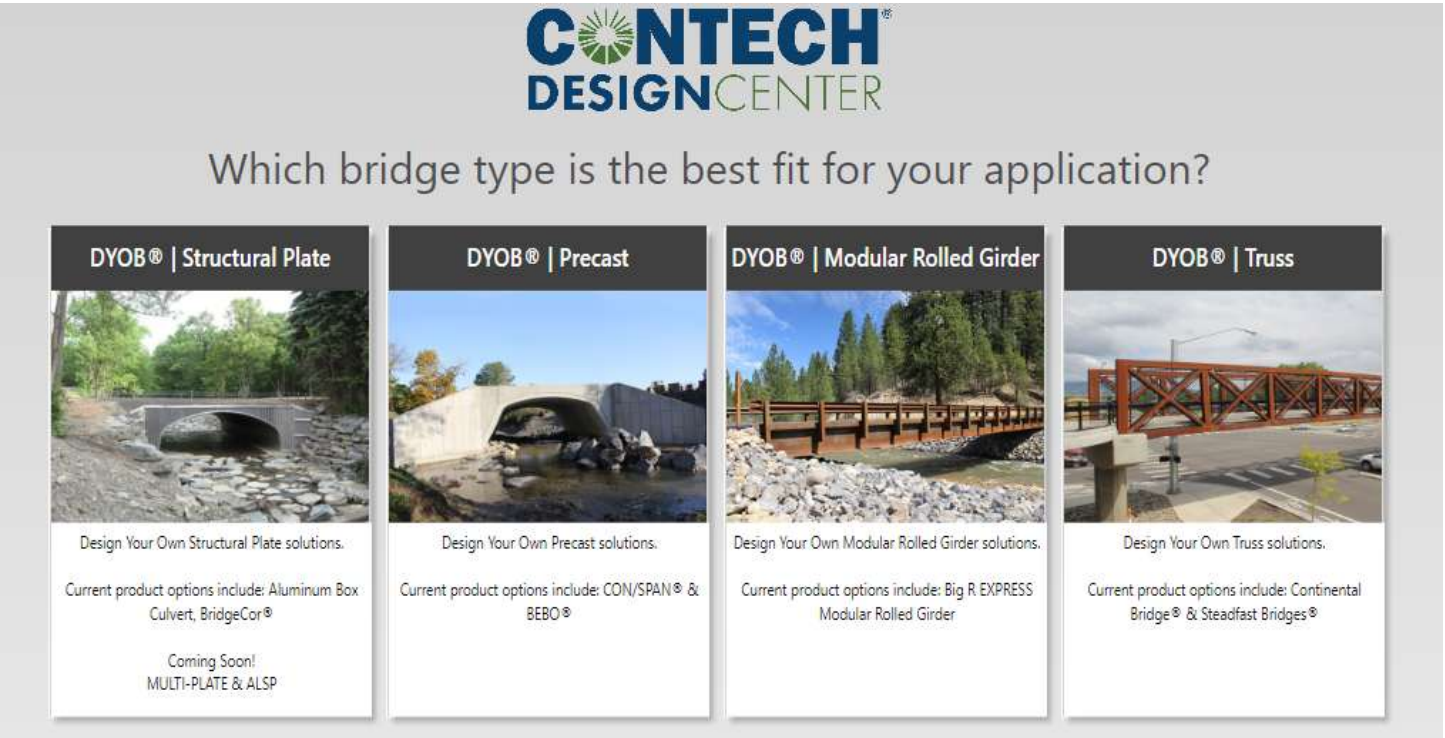
BIG R BRIDGE

CONTINENTAL BRIDGE

STEADFAST BRIDGES

Working with Contech - Design Center

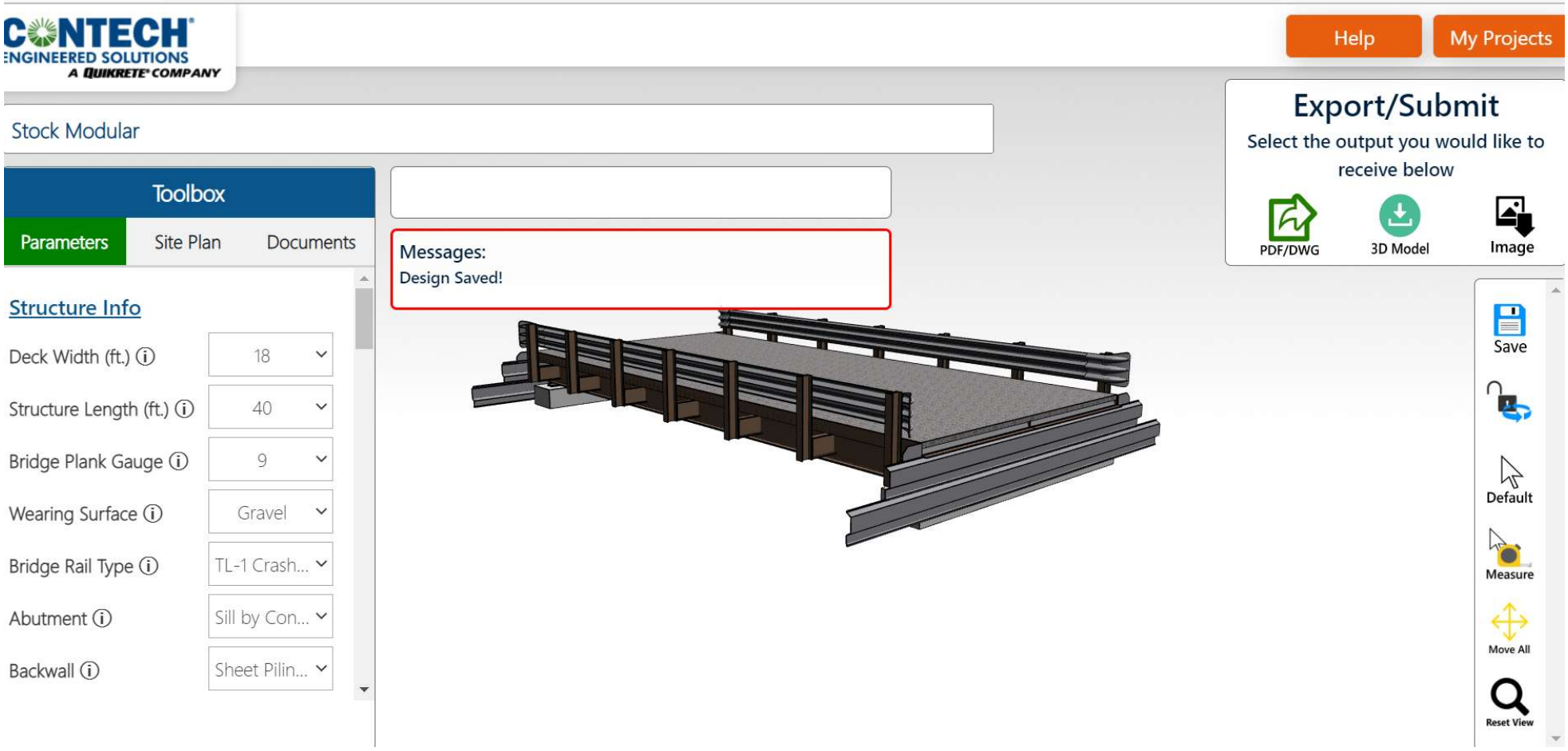
Solution Development | Design Support | Installation



https://www.conteches.com/start-a-project/contech-design-center

Design Center - Plan or Google Earth Input

Design Center – Big R Rolled Girder



Working with Contech – Installation Support

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Questions?

CROSSINGS. CULVERTS. BRIDGES. CONTECH.